



Evaluation Report

Technology Opportunities Program 1996 Projects

Study Conducted by
Westat

for
U.S. Department of Commerce
National Telecommunications and Information Administration

Technology Opportunities Program 1996 Projects

Report prepared under
contract # 50SBNT7C1049

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March 2000

Executive Summary

This report presents the findings of the second year of an evaluation of the U.S. Department of Commerce's Technology Opportunities Program (TOP).¹ Administered by the National Telecommunications and Information Administration, TOP is designed to help communities make use of new and emerging telecommunications and information technologies. The evaluation study was designed to assess the activities and achievements of grant recipients that received funding in Fiscal Year 1996, the program's third year.

The results presented here provide a comprehensive look at the impacts of the TOP investment in terms of the nature and degree of the effects on the organizations implementing the projects, other organizations that were involved with the projects, the individuals and communities that were served by the projects, and the specific value added by the TOP funds. This report follows, and builds upon, findings from two previous reports, *Evaluation of the Telecommunications and Information Infrastructure Assistance Program for the 1994 and 1995 Grant Years* (Westat, February 1999) and *Telecommunications and Information Infrastructure Assistance Program, Collected Case Study Evaluations* (Westat, October 1999).

OVERVIEW OF THE TECHNOLOGY OPPORTUNITIES PROGRAM

In 1994, the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) initiated the Tele-

communications and Information Infrastructure Assistance Program, now known as the Technology Opportunities Program. TOP provides matching grants to a wide range of nonprofit organizations—schools, libraries, hospitals, public safety entities, and state and local governments—to make use of innovative telecommunications and information technologies. A primary purpose is to bring these technologies and their benefits to inner-city and rural underserved areas, and to others that have difficulty accessing the information infrastructure.²

Grants are used to fund projects that intend to improve the quality of (and the public's access to) education, health care, public safety, and other community-based services. In 1996, awards were made in three categories: access grants, demonstration grants, and planning grants. Grant recipients can use their awards to (1) purchase equipment for connection to networks, including computers, video-conferencing systems, and network routers; (2) buy software for organizing and processing all kinds of information, including computer graphics and databases; (3) train staff and others in the use of equipment and software; (4) purchase communications services, such as Internet access; and (5) support project management and evaluation.³

¹ On January 5, 2000, the National Telecommunications and Information Administration changed the name of the Telecommunications and Information Infrastructure Assistance Program (TIAP) to the Technology Opportunities Program (TOP).

² TOP defines "information infrastructure" as telecommunication networks, computers, other end-user devices, software, standards, and skills that collectively enable people to connect to each other and to a vast array of services and information resources.

³ TOP does *not* support projects that are designed to (1) construct or augment one-way networks; (2) enhance or expand the internal communication needs of a single organization; or (3) replace or upgrade existing facilities. Nor does TOP support projects whose primary purpose is to develop content, hardware, or software, or to provide training on the use of the information infrastructure. TOP will, however, support projects that include elements of content development, training, and hardware and software development so long as they are integral to a broader strategy for using the information infrastructure to address community problems.

STUDY OVERVIEW

In 1997, TOP initiated a study to assess the effects that the funded projects are having at the local level and, over the long term, at the national level. The study—conducted by Westat, a Rockville, Maryland research and consulting firm—was also intended to provide a basis for program improvements and to lay the groundwork for continued and improved collection of program data in future years.

During the first year of the study, Westat conducted a mail survey of all projects funded by TOP in 1994 and 1995 and prepared comprehensive case studies for a representative sample of 1994 and 1995 TOP projects. The data obtained through these two activities were used to prepare a report that assessed the implementation and impact of the TOP projects (see *Evaluation of the Telecommunications Information Infrastructure Assistance Program for the 1994 and 1995 Grant Years*).

In Year 2 of the study, Westat conducted a mail survey of the 49 projects funded by TOP in 1996 that were no longer receiving grant monies as of January 1, 1999.⁴ The rationale for excluding sites that were still operating as TOP projects in 1999 was that not enough time would have elapsed to survey active (or recently closed) projects on topics such as extent of implementation, outcomes, spinoffs, and sustainability.

⁴ During the second year of the study, Westat also prepared case studies for 12 TOP projects in urban and rural settings (see *Telecommunications and Information Infrastructure Assistance Program, Collected Case Study Evaluations*). The projects that participated in the Year 2 site visits were not randomly selected—that is, they were visited because they had implemented potentially promising practices that were targeted toward underserved populations. Because these projects were not representative of the survey sample, findings from the 12 case studies are not included in this report.

SUMMARY OF FINDINGS

Characteristics of Grant Recipients

While the 1996 TOP grants were awarded to a wide variety of organizations, we found that, as with the 1994 and 1995 projects, education organizations represented the most common category of grant recipients.⁵ Education organizations also represented the most common category of partner organizations.

A variety of organizations served as grant recipients. Overall, three-fifths of access and demonstration grant recipients were education organizations. The remaining grant recipients were evenly spread out among community organizations, health care organizations, and government organizations (with a small percentage of public safety organizations).

TOP projects involved multiple partnerships. Grant recipients in access and demonstration projects established new (or continued existing) partnerships with an average of 11 organizations. The most frequently reported organization types serving as partners were education organizations, community organizations, private sector entities, and government agencies.

The primary contributions of project partners involved human resources. A majority of partner organizations provided personnel, and almost half provided expertise or intellectual capital.

Project Implementation

As was the case with the 1994 and 1995 projects, the 1996 TOP projects in the survey sample used a wide range of strategies to address barriers to telecommunications access. In addition, the

⁵ “Education organizations” refers to a broad variety of organizations and must not be confused with K-12 schools. In fact, the most common type of education organizations to receive grants were higher education institutions or consortia. Of the 36 access and demonstration grants awarded, only 4 were awarded to K-12 schools or school districts.

majority of projects in the survey sample reported meeting or exceeding their original implementation objectives.

The barriers to access addressed by the projects in the study sample continued to be consistent with the program's emphasis on reaching the underserved. The vast majority of the 1996 access and demonstration projects were designed to address multiple barriers to using telecommunications technologies, with three-quarters or more indicating their efforts were designed to ameliorate geographic, technological, and economic barriers.

The 1996 access and demonstration projects used a wide range of strategies to increase telecommunications access. The most common strategies used by access and demonstration projects included providing onsite education and training, establishing access sites for reaching the information infrastructure, and providing computer hardware for education and training.

The access and demonstration projects in the study sample successfully achieved their implementation objectives. The vast majority of projects either met or exceeded their implementation strategies. Equally important, for any given implementation activity, very few projects reported that the extent of implementation was "less than planned."

The evaluation activities undertaken by the 1996 access and demonstration projects in the study sample tended to rely on more rigorous methods than had been used by the 1994 and 1995 projects. In addition, projects tended to rely on more than one strategy to evaluate their efforts. The Year 2 mail survey also found that the 1996 projects tended to collect the same types of data (e.g., satisfaction of end users, satisfaction of project staff) as had been collected in 1994 and 1995.

Insufficient planning continued to pose the greatest obstacle to implementation. As was the case with the 1994 and 1995 projects, the 1996

access and demonstration projects included in the survey sample indicated that their greatest barrier was having underestimated the amount of effort/time required to complete their implementation activities.

Among planning projects, respondents generally indicated that they met or exceeded their planning activities. The survey also found a number of planning projects reported that the following activities were implemented "less than planned": developing an evaluation plan, identifying sites for accessing the planned network, and conducting a needs assessment of the population to be served.

Accomplishments and Impacts

Overall, 1996 TOP projects met or exceeded their own expectations, implemented replicable projects, and made significant impacts upon underserved end users.

The 1996 access and demonstration projects ranked their technology-related contributions—i.e., demonstrating technology and its uses, providing access, and addressing community communications and telecommunications needs—as being their most significant outcomes. In the majority of cases where these outcomes were anticipated, projects indicated they exceeded their own expectations.

The 1996 access and demonstration projects continued to reach end users and other beneficiaries from underserved populations. As with the 1994 and 1995 projects, the majority reached rural and geographically isolated end users, as well as end users in poverty.

The majority of 1996 access and demonstration projects continued to work with their partners after the grant ended. Over half reported that their participation in the TOP program served to strengthen their relationship with at least one of their partners.

TOP funding was critical to the implementation of the 1996 grants. Two-thirds of the 1996 access and demonstration projects reported their project would not have occurred without TOP funding. Of the others, most indicated they would have reached fewer end users, experienced delays in implementation, and provided fewer services. Among planning projects, half of the respondents credited TOP with their success in winning further awards.

The majority of 1996 access and demonstration projects indicated that their approach represented innovative improvements that could be replicated in other communities. In fact, all but one of the respondents indicated that their approach was replicable—and the vast majority indicated that their approaches could be easily documented and shared with other interested parties.

Projects supported by TOP have continued to serve as practical models for other communities seeking to enhance their access to and use of the information infrastructure. Projects reported responding to 2,061 unsolicited requests for information and providing tours or technology demonstrations to 1,146 organizations. Further, 17 respondents indicated that a total of 139 organizations had adopted ideas from their projects.

The 1996 planning projects indicated that feasibility assessment, relationships with partners, and developing community awareness were their most significant areas of impact. As would be expected from planning grants, their greatest impact was felt in areas that previous work with TOP projects has shown to be central to ensuring later success.

Sustainability and Project Expansion

As with the 1994 and 1995 projects, nearly all of the 1996 grants were still in operation at the time of the Year 2 survey, and many had, in fact, expanded.

Over 90 percent of the 1996 access and demonstration projects included in the study sample were still in operation at the time of the Year 2 survey. Specifically, 28.1 percent of the access and demonstration projects that had closed by January 1, 1999, were still in full operation; 37.5 percent were serving a function that had changed, grown, or expanded; 18.8 percent were serving fewer end users than intended; 6.2 percent were providing a limited range of services; and 9.4 percent were no longer operational.

Increased user base, financial contributions from partners, and partner buy-in were factors that facilitated continuation or growth of access and demonstration projects. The most commonly cited impediments to full operation were personnel changes (7 projects), not enough users (6 projects), no funding available for operations (5 projects), and no funding available for maintenance (5 projects).

More than half of the access and demonstration projects in the survey sample had expanded to serve additional end users in locations or organizations beyond those targeted in their original TOP proposal. In addition, the majority had generated spinoff activities or services. The mean and median dollar amounts associated with the equipment or resources resulting from these spinoff activities were reported to be \$836,023 and \$327,293, respectively. The total value of equipment and resources associated with spinoff activities was estimated to be \$21,736,585.

Just over half of the planning grants in the survey sample had implemented the activities outlined in their telecommunications plan. Strength of leadership and strong partners were factors that contributed to projects' ability to implement their planning grant activities. Three of the four projects that had *not* taken any steps to implement their telecommunications plan identified two primary obstacles—lack of available funds for maintenance, and lack of available funding for operations.

I. Introduction

This report summarizes findings from a survey of projects funded by the Technology Opportunities Program (TOP)⁶ in 1996 that were no longer receiving grant monies as of January 1, 1999. The survey obtained information about the implementation, impact, and sustainability of the program.

OVERVIEW OF THE TECHNOLOGY OPPORTUNITIES PROGRAM

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- To increase awareness in the public and nonprofit sectors about emerging telecommunications and information technologies and their benefits.
- To stimulate public and nonprofit organizations to examine the potential benefits of investments in emerging telecommunications and information technologies.
- To provide a variety of model technology-based projects for public and nonprofit organizations to follow.
- To educate public and nonprofit organizations about best practices in implementing a variety of projects using emerging telecommunications and information technologies.
- To help reduce disparities in access to, and use of, emerging telecommunications and information technologies.

Grants are used to fund projects that intend to improve the quality of (and the public's access to) education, health care, public safety, and other community-based services. Grant recipients can use their awards to (1) purchase equipment for connection to networks, including computers, video-conferencing systems, and network routers; (2) buy software for organizing and processing all kinds of information, including computer graphics and databases; (3) train staff and others in the use of equipment and software; (4) purchase communications services, such as Internet access;

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and (5) support project management and evaluation.⁸

To create a synergy of funding among public and nonprofit entities, TOP requires grant recipients to obtain matching funds from partner organizations. Specifically, TOP provides up to 50 percent of the total project cost. In some cases, the program will support up to 75 percent of program costs.

Since its inception, TOP has identified a variety of application areas that define the program's funding priorities. For the purposes of this report, all of the 1996 projects were assigned to one of the following application areas that were in use in the 1999 fiscal year:

- **Community Networking.** This application area focuses on multipurpose projects that enable a broad range of community residents and organizations to communicate, share information, promote community economic development, and participate in civic activities.
- **Education, Culture, and Lifelong Learning (ECLL).** Projects in this application area seek to improve education and training for learners of all ages. They can also provide cultural enrichment through the use of information infrastructure in both traditional and nontraditional settings. In 1996, ECLL comprised three distinct areas: higher education, library and lifelong learning, and preschool and K-12 education.
- **Health.** Projects in this application area seek to use the information infrastructure to enhance the delivery of health and home

health care services and the performance of core public health functions.

- **Public Safety.** Projects in this application area seek to increase the effectiveness of law enforcement agencies, emergency, rescue, and fire departments, and other entities involved in providing safety and crisis prevention services.
- **Public Services.** Projects in this application area aim to improve the delivery of services to people or organizations with a range of social service needs, e.g., housing, child welfare, food assistance, and employment counseling.

In addition, during the 1996 fiscal year, the program had three grant categories: access, demonstration, and planning.

- **Access.** These grants, initiated in 1995, help communities increase their capacity to access the information infrastructure. Special emphasis is placed on increasing the access of traditionally underserved populations and narrowing the gap between the information haves and have-nots.
- **Demonstration.** These grants help projects use telecommunications and the information infrastructure to solve problems within their communities. Special emphasis is placed on developing successful models that could be replicated by other communities.
- **Planning.** These grants enabled communities to develop strategic plans for improving the telecommunications and information infrastructure in a particular area.

For the purposes of this report, findings for access and demonstration projects are discussed together. Separate analyses are provided for the planning projects that were funded by TOP in 1996.

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STUDY OVERVIEW AND METHODOLOGY

In 1997, TOP initiated a study to assess the effects that the funded projects are having at the local level and, over the long term, at the national level. The study—conducted by Westat, a Rockville, Maryland, research and consulting firm—was also intended to provide a basis for program improvements and to lay the groundwork for continued and improved collection of program data in future years. The broad evaluation questions addressed by the study are summarized below.

- To what extent are the projects accomplishing their implementation objectives?
- What are the factors at the Federal level and at the local project level that influence the extent of implementation?
- Are the needs of end users being met?
- How are projects changing the way organizations provide services and how individuals work?
- How are the individuals and families served by projects affected?
- Are these changes temporary or likely to be sustained?
- What are some of the important contextual differences in projects that need to be taken into account in tailoring a project within a particular site?
- What difference have Federal grants had in the creation, scale, and scope of projects?
- Where project goals have been surpassed, what factors or unexpected opportunities served to enhance project impacts?
- To what extent are the projects accomplishing their evaluation objectives?
- To what extent are the projects accomplishing their dissemination objectives?

- Are the projects receiving requests for information or technical assistance from organizations planning similar activities?
- What is the nature and extent of any spillover benefits to organizations and communities not directly served by the projects?
- Are demonstration projects, in particular, achieving their objectives as replicable models and strategies for other communities and nonprofit sectors to follow?

During the first year of the study, Westat conducted a mail survey of all projects funded by TOP in 1994 and 1995 and prepared comprehensive case studies for a representative sample of 1994 and 1995 TOP projects. The data obtained through these two activities were used to prepare a report that assessed the implementation and impact of the TOP program (see *Evaluation of the Telecommunications Information Infrastructure Assistance Program for the 1994 and 1995 Grant Years*, Westat, February 1999).

In Year 2 of the study, Westat conducted a mail survey of the projects funded by TOP in 1996 that were no longer receiving grant monies as of January 1, 1999.⁹ The rationale for excluding projects that were still operating under TOP in 1999 was that not enough time would have elapsed to survey active (or recently closed) projects on topics such as extent of implementation, outcomes, spinoffs, and sustainability.

At the time the survey was administered (August 1999), TOP staff determined that 49 (73.1 percent) of the 67 projects that received funding in 1996 were completed on or before the January 1, 1999, target date. After the data had been collected,

⁹During the second year of the study, Westat also prepared case studies for 12 TOP projects in urban and rural settings (see *Telecommunications and Information Infrastructure Assistance Program, Collected Case Study Evaluations*, Westat, October 1999). The projects that participated in the Year 2 site visits were not randomly selected—that is, they were visited because they had implemented potentially promising practices that were targeted toward underserved populations. Because these projects were not representative of the survey sample, findings from the 12 case studies are not included in this report.

TOP staff discovered that four demonstration/access projects that were still operating as TOP projects in 1999 had inadvertently been included in the Year 2 survey sample. Findings from these four surveys are included in the discussion of demonstration/access projects. However, these four projects are *not* included in the analysis of longer term sustainability of TOP-funded activities—since their operational status (i.e., sustainability) was potentially affected by their continued participation in the TOP program in 1999. In addition, due to the small number of 1996 projects that were eligible to respond to the Year 2 survey, this report does not compare findings from the Year 1 and Year 2 surveys. Nor are the findings presented for specific application areas.

Two different versions of the survey questionnaire were used in Year 2 of the study. Version A (Appendix A) focused on implementation issues and outcomes and was completed by access and demonstration projects. Version B (Appendix B) focused on planning issues and progress toward implementation and was completed by planning projects.

CHARACTERISTICS OF THE 1996 TOP PROJECTS

The response rate for the survey was 98.0 percent; that is, 48 of the 49 eligible projects completed the survey. However, due to a coding error in a TOP database, one of the demonstration projects erroneously received Version B (planning) of the mail survey. As a result, data from this survey were not used to conduct any of the analyses for this report. The number of respondents for the final analysis was therefore 47—including 11 planning projects (23.4 percent), 20 access projects (42.6 percent), and 16 demonstration projects (34.0 percent). Almost two-fifths (38.3 percent) of the survey respondents were education, culture, and lifelong learning projects (ECLL). Community networking accounted for 27.7 percent of respondents, followed by health (17.0 percent), public services (10.6 percent), and public safety (6.4 percent).

Table 1-1
Number of survey respondents, by application area: 1996 grants

Grant type	Application area					Total
	Community networking	ECLL	Health	Public safety	Public services	
Access.....	7	11	2	0	0	20
Demonstration.....	2	5	3	2	4	16
Planning.....	4	2	3	1	1	11
Total.....	13	18	8	3	5	47

Source: TOP database.

As shown in Table 1-2, the 47 projects were awarded a total of \$11.3 million in TOP funding—or an average of \$239,493 per project. On average, access (\$199,153) and demonstration (\$406,227) grants tended to be larger than planning grants (\$70,316). The total financial match for these 47 projects was \$20.1 million—or an average of \$428,637 per project. Once again, the average access (\$289,737) and demonstration (\$833,536) financial match tended to be larger than for planning (\$92,239) projects. Combining the TOP awards and financial matches, the total project amount across all 47 projects was \$31.4 million—or an average of \$668,130 per project. TOP award amounts by application area are indicated in Table 1-3.

STRUCTURE OF THE REPORT

The remainder of this report provides findings from the Year 2 mail survey. The results are organized as follows:

- Chapter II—Characteristics of Grant Recipients and Project Partners
- Chapter III—Project Implementation
- Chapter IV—Accomplishments and Impacts
- Chapter V—Sustainability and Project Expansion
- Chapter VI—Summary and Conclusions

Table 1-2
Total and mean TOP award amounts and financial matches among survey respondents: 1996 grants

Grant type	TOP award amount		Financial match		Total project amount	
	Total	Mean	Total	Mean	Total	Mean
Access.....	\$3,983,052	\$199,153	\$5,794,747	\$289,737	\$9,777,799	\$488,890
Demonstration.....	6,499,628	406,227	13,336,581	833,536	19,836,209	1,239,763
Planning.....	773,465	70,316	1,014,632	92,239	1,788,107	162,555
Average across project types.....	11,256,155	239,493	20,145,960	428,637	31,402,115	668,130

Source: TOP database.

Table 1-3
Mean TOP award amounts among survey respondents, by application area: 1996 grants

Grant type	Application area					Average across application areas
	Community networking	ECLL	Health	Public safety	Public services	
Access.....	\$178,636	\$204,288	\$242,717	\$0	\$0	\$199,153
Demonstration.....	391,487	520,000	411,866	399,994	270,267	406,227
Planning.....	85,088	68,825	46,496	75,522	80,463	70,316
Average across project types.....	182,598	276,934	232,565	291,837	232,306	239,493

Source: TOP database.

II. Characteristics of Grant Recipients and Project Partners

This chapter describes the organizations involved in developing and implementing the 1996 demonstration, access, and planning projects. These organizations include the direct grant recipients' partners that assumed primary responsibility for project management and administration, and the partner organizations that provided support for the project within the community.

KEY FINDINGS

While the 1996 TOP grants were awarded to a wide variety of organizations, we found that, as with the 1994 and 1995 projects, education organizations represented the most common category of grant recipients.¹⁰ Education organizations also represented the most common category of partner organizations.

- **A variety of organizations served as grant recipients.** Overall, three-fifths of access and demonstration grant recipients were education organizations. The remaining grant recipients were evenly spread out among community organizations, health care organizations, and government organizations (with a small percentage of public safety organizations).
- **TOP projects involved multiple partnerships.** Grant recipients in access and

¹⁰“Education organizations” refers to a broad variety of organizations and must not be confused with K-12 schools. In fact, the most common type of education organizations to receive grants were higher education institutions or consortia. Of the 36 access and demonstration grants awarded, only 4 were awarded to K-12 schools or school districts.

demonstration projects established new (or continued existing) partnerships with an average of 11 organizations. The most frequently reported organization types serving as partners were education organizations, community organizations, private sector entities, and government agencies.

- **The primary contributions of project partners involved human resources.** A majority of partner organizations provided personnel, and almost half provided expertise or intellectual capital.

GRANT RECIPIENT ORGANIZATIONS

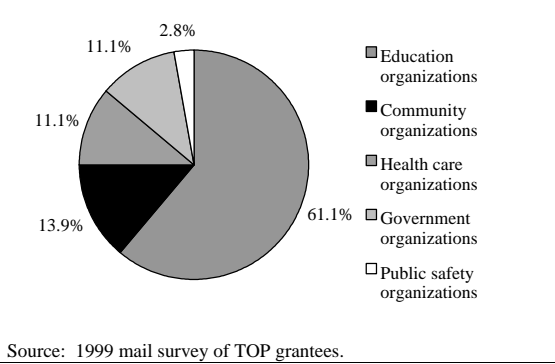
State, local, and tribal governments, colleges and universities, and nonprofit entities are eligible to apply for TOP funding; individuals and for-profit organizations are not. Grant recipients are responsible for ensuring that matching funds are provided toward the total project cost.

Types of Organizations Receiving TOP Access and Demonstration Grants

Figure 2-1 shows the distribution of 1996 access and demonstration grants by type of organization serving as grant recipient. Education organizations served as grant recipients for well over half of the projects (61.1 percent). It should be noted, however, that the education organizations served as grant recipients projects across the application areas: 68.1 percent of ECLL projects, 33.3 percent of community

networking projects, and 75.0 percent of public services projects.

Figure 2-1
Distribution of 1996 demonstration and access grants, by type of organization (n = 36)



Among the 22 education organizations receiving grants, 10 were higher education institutions or consortia, 4 were K-12 schools or school systems, 1 was an adult education organization, and the remaining 7 were other education entities (Table 2-1). These included regional education service agencies, an education association, and a local education fund, among others. Education organizations were most likely to serve as grant recipients for ECLL projects (93.7 percent). Three-quarters (75.0 percent) of public services grants were awarded to education organizations.

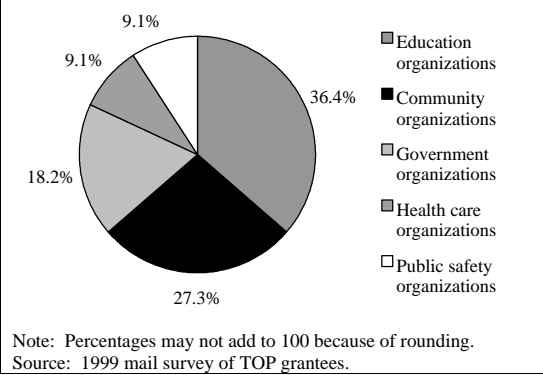
Community organizations were the next most frequent type of grant recipient (13.9 percent). Of the five community organizations, two were community development organizations, one was a museum or other cultural entity, and two were other community organizations or entities. Community organizations were awarded 80 percent of the grants in the community networking application area.

Among the government organizations serving as grant recipients (11.1 percent), there were three city or municipal governments and one tribal government. Among health care organizations (11.1 percent), there was one medical school and three other health care entities. The only public safety organization (2.8 percent) was classified as an other public safety entity. There were three city government grant recipients: one a community networking project, one a public services project, and one a public safety project.

Types of Organizations Receiving TOP Planning Grants

Figure 2-2 shows the distribution of 1996 planning projects by grant recipient organization type. As with the access and demonstration grants, educational organizations were the most common recipients (36.4 percent). Among the 11 planning projects, 4 grantees were education organizations—2 were higher education institutions or consortia, and 2 were K-12 schools or school systems (Table 2-2).

Figure 2-2
Distribution of 1996 planning grants, by type of organization (n = 11)



**Table 2-1
Organizational representation among grant recipients, by application area: 1996 demonstration and access grants**

Organization type	Application area					Total (n = 36)
	Community networking (n = 9)	ECLL (n = 16)	Health (n = 5)	Public safety (n = 2)	Public services (n = 4)	
Education organizations	3	15	1	0	3	22
Higher education institution or consortium	1	5	1	0	3	10
Other education entity	2	5	0	0	0	7
K-12 school or school system	0	4	0	0	0	4
Adult education organization	0	1	0	0	0	1
Local education agency	0	0	0	0	0	0
Community organizations	4	1	0	0	0	5
Community development organization	2	0	0	0	0	2
Other community organization or entity	2	0	0	0	0	2
Museum or other cultural entity	0	1	0	0	0	1
Library	0	0	0	0	0	0
Public broadcasting station	0	0	0	0	0	0
Social service agency	0	0	0	0	0	0
Government organizations	2	0	0	1	1	4
City or municipal government	1	0	0	1	1	3
Tribal government	1	0	0	0	0	1
County government agency	0	0	0	0	0	0
Other government entity	0	0	0	0	0	0
State government agency	0	0	0	0	0	0
Health care organizations	0	0	4	0	0	4
Other health care entity	0	0	3	0	0	3
Medical school	0	0	1	0	0	1
Hospital	0	0	0	0	0	0
Clinic, medical center, or specialized practice	0	0	0	0	0	0
Professional association	0	0	0	0	0	0
Public health agency	0	0	0	0	0	0
Public safety organizations	0	0	0	1	0	1
Other public safety entity	0	0	0	1	0	1
Emergency agency or department	0	0	0	0	0	0
Fire and rescue agency or department	0	0	0	0	0	0
Law enforcement agency or department	0	0	0	0	0	0
Professional association	0	0	0	0	0	0

Source: 1999 mail survey of TOP grantees.

Table 2-2
Organizational representation among grant recipients: 1996 planning grants (n = 11)

Organization type	Total
Education organizations	4
Higher education institution or consortium	2
K-12 school or school system	2
Adult education organization	0
Early childhood organization	0
Local education agency	0
Other education entity	0
Community organizations	3
Community development organization	1
Other community organization or entity	1
Public broadcasting station	1
Library	0
Museum or other cultural entity	0
Social service agency	0
Government organizations	2
State government agency	1
Other government entity	1
City or municipal government	0
County government agency	0
Tribal government	0
Health care organizations	1
Medical school	1
Clinic, medical center, or specialized practice	0
Hospital	0
Professional association	0
Public health agency	0
Other health care entity	0
Public safety organizations	1
Other public safety entity	1
Emergency agency or department	0
Fire and rescue agency or department	0
Law enforcement agency or department	0
Professional organization	0
Total	11

Source: 1999 mail survey of TOP grantees.

Three of the planning grants were awarded to community organizations (27.3 percent), comprising a community development organization, a public broadcasting station, and an other community organization or entity. In addition, one state government agency and one other government agency received planning awards. The two remaining planning awards were made to a medical school and a public safety entity.

PARTNER ORGANIZATIONS

In accordance with TOP's emphasis on widespread community involvement, grant recipients are encouraged to establish partnerships with diverse sectors of the community that will complement their own talents and resources and actively contribute to the planning, implementation, and long-term sustainability of the project. Partner organizations provide advice, leverage financial support, and serve as community advocates for the project.

Types of Organizations Serving as Project Partners

Access and demonstration projects were asked to indicate how many organizations served as partners in their TOP project. Survey respondents listed a total of 407 partners, or an average of 11 partners organizations per project. The maximum number reported was 45 partners for a single project.

Survey findings demonstrate the diversity of the partnerships forged as a result of TOP. Consistent with our findings about grant recipient organizations, the most frequently represented type of organization to serve as a project partner to 1996 grantees was education organizations (e.g., higher education institutions, K-12 schools, adult education organizations). Almost three-quarters (72.2 percent) of the projects reported having one or more education organizations as partners. A total of 147 education organizations were reported as partners (Table 2-3), comprising 36.1 percent of all partners reported. About two-fifths (41.7 percent) of projects reported having community organizations as project partners, and 41.7 percent also reported having government agencies as partners. The total number of partners that were community organizations and government agencies were 77 and 32, respectively.

Table 2-3
Percentage of TOP projects reporting
partnerships with each organization type and
total number of partners involved: 1996
demonstration and access grants

Organization type	Percentage of projects (n = 36)	Total partners
Education organization	72.2	147
Community organization	41.7	77
Government agency	41.7	32
Other private business or commercial vendor	33.3	39
Health care organization	30.6	42
Computer hardware company	25.0	11
Computer software company	19.5	8
Regional Bell Operating Company	19.4	8
Internet service provider	16.7	8
Independent telephone company	13.9	5
Other	13.9	6
Private foundation or institute	11.1	4
Public safety organization	11.1	14
Broadcast media organization	8.3	4
Cable company	5.6	2
No partners	2.8	0
Total		407

Note: Percentages do not add to 100 percent because respondents could select more than one item. Some "other" organization types were reclassified according to the organization specified.

Source: 1999 mail survey of TOP grantees.

Although private sector organizations are not eligible to receive TOP funds, they do serve as important partners in many projects. In fact, 58.3 percent of projects reported establishing partnerships with private businesses. This includes computer hardware companies (11 projects), computer software companies (8 projects), Regional Bell Operating Companies (8 projects), independent telephone companies (5 projects), and cable companies (2 projects); 39 projects partnered with other private businesses or commercial vendors. The most frequently reported category of private sector organization was other private business or commercial vendor (33.3 percent); as specified by respondents, these included banks, technology consultants, and chambers of commerce, among others. Computer

hardware and computer software companies served as partners for 25.0 percent and 19.5 percent of projects, respectively. Regional Bell Operating Companies served as partners for 19.4 percent of projects.

The 11 TOP planning projects reported a total of 102 partners, for an average of 9 partners per project (see Table 2-4). The maximum reported by a single project was 22. Among planning projects, 5 reported having education organizations as partners, and community organizations and government organizations were each reported as partner types by 4 projects. Government agencies represented the biggest portion of partners with 35 planning grant partners, followed by education organizations with 20.

Table 2-4
Number of TOP projects reporting
partnerships with each organization type and
total number of partners involved: 1996
planning grants

Organization type	Number of projects (n=11)	Total partners
Education organizations	5	20
Government organizations	4	35
Community organizations	4	5
Health care organizations	3	11
Regional Bell Operating Company	3	4
Cable company	3	3
Other	3	3
Public safety organizations	2	9
Broadcast media organization	2	6
Computer software company	2	2
Other private business or commercial vendor	2	2
Computer hardware company	1	1
Internet service provider	1	1
Independent telephone company	0	0
Private foundation or institute	0	0
Total		102

Source: 1999 mail survey of TOP grantees.

Prior Working Relationships Among Grant Recipients and Partners

Grant recipients were also asked whether they had prior working relationships with their project partners. Among access and demonstration projects, 86.1 percent of grantees reported having a prior working relationship with at least one of their partners (Table 2-5). Over half (52.3 percent) of the 407 partners were reported to have worked previously with the grant recipient.

Table 2-5
Percentage of grant recipients and partners indicating they had prior working relationships: 1996 demonstration and access grants (n = 36)

Organization	Yes	No
Percent of grant recipient organizations that had a prior relationship with at least one partner	86.1	13.9
Percentage of partner organizations that had a prior relationship with grant recipient	52.3	47.7

Source: 1999 mail survey of TOP grantees.

These figures were magnified for planning grants. All planning grant recipients indicated having a prior working relationship with at least one of their partners (Table 2-6). Almost three-quarters (112 of 152) of the planning grant partners had worked previously with the grant recipient.

Table 2-6
Number of grant recipients and partners indicating they had prior working relationships: 1996 planning grants (n = 11)

Organization	Yes	No
Number of grant recipient organizations that had a prior relationship with at least one partner.....	11	0
Number of partner organizations that had a prior relationship with grant recipient.....	87	15

Source: 1999 mail survey of TOP grantees.

Contributions of Partner Organizations

Partner organizations contributed to TOP projects in many ways (Table 2-7). Their primary contributions to access and demonstration projects involved human resources. A majority of partner organizations (62.4 percent) provided personnel who assumed a specific, ongoing staff assignment throughout the project period. Almost half provided expertise or intellectual capital on an as-needed basis outside the parameters of a formalized staff position.

Table 2-7
Percentage of partner organizations providing contributions to the project: 1996 demonstration and access grants (n = 36)

Contribution	Total (n = 407)
Provided personnel.....	62.4
Provided space or facilities.....	51.4
Provided expertise or intellectual capital	44.2
Provided funding	35.4
Provided data access.....	23.3
Provided in-kind or reduced rates for services.....	20.9
Provided equipment or equipment discounts	13.0
Provided other contribution.....	4.9

Note: Percentages do not add to 100 percent because respondents could select more than one item.

Source: 1999 mail survey of TOP grantees.

Partner organizations often provided material resource and capital contributions as well. Just over half of project partners provided space or facilities. Over one-third provided funding to the project. About one-fifth of partners provided data access and in-kind or reduced rates for services. Thirteen percent provided equipment or equipment discounts.

For the most part, planning partners' contributions followed similar trends as access and demonstration partners; a smaller percentage of planning than of access and demonstration partners provided contributions in all but two categories (Table 2-8). In fact, far more access and demonstration partners than planning partners

provided space and facilities (51.4 percent compared to 11.8 percent). This could reflect the fact that planning projects may not yet have had a need for space or facilities. More planning partners than access and demonstration partners provided expertise or intellectual capital (58.8 percent compared to 44.2 percent) and in-kind or reduced rates for services (35.3 percent compared to 20.9 percent).

About half of access and demonstration projects (52.8 percent) reported having subrecipients of TOP funds. Projects had an average of 4 subrecipients per project (6.8 percent among those who reported having subrecipients) for a total of 130 subrecipients of TOP funds. Only 3 planning projects had subrecipients: 1 had 1 subrecipient, and 2 had 3 subrecipients.

Table 2-8
Percentage of partner organizations providing contributions to the project: 1996 planning grants (n = 11)

Contribution	Total (n = 102)
Provided expertise or intellectual capital	58.8
Provided personnel	44.1
Provided in-kind or reduced rates for services	35.3
Provided funding	11.8
Provided space or facilities	11.8
Provided equipment or equipment discounts	4.9
Provided other contribution	4.9
Provided data access	3.9

Note: Percentages do not add to 100 percent because respondents could select more than one item.

Source: 1999 mail survey of TOP grantees.

III. Project Implementation

This chapter addresses the barriers to access that the 47 projects in the survey sample were designed to address, the range of strategies that were used to overcome these barriers, and the factors that affected the degree to which these activities were successfully implemented. For some issues, planning grants are discussed separately since they tended to have different goals and implementation strategies than access and demonstration projects.

KEY FINDINGS

As was the case with the 1994 and 1995 projects, the 1996 TOP projects in the survey sample used a wide range of strategies to address barriers to telecommunications access. In addition, the majority of projects in the survey sample reported meeting or exceeding their original implementation objectives.

- **The barriers to access addressed by the projects in the study sample continued to be consistent with the program's emphasis on reaching the underserved.** The vast majority of the 1996 access and demonstration projects were designed to address multiple barriers to using telecommunications technologies, with three-quarters or more indicating their efforts were designed to ameliorate geographic, technological, and economic barriers.
- **The 1996 access and demonstration projects used a wide range of strategies to increase telecommunications access.** The most common strategies used by access and demonstration projects included providing onsite education and training, establishing access sites for reaching the information infrastructure, and providing computer hardware for education and training.
- **The access and demonstration projects in the study sample successfully achieved their implementation objectives.** The vast majority of projects either met or exceeded their implementation strategies. Equally important, for any given implementation activity, very few projects reported that the extent of implementation was "less than planned."
- **The evaluation activities undertaken by the 1996 access and demonstration projects in the study sample tended to rely on more rigorous methods than had been used by the 1994 and 1995 projects.** In addition, projects tended to rely on more than one strategy to evaluate their efforts. The Year 2 mail survey also found that the 1996 projects tended to collect the same types of data (e.g., satisfaction of end users, satisfaction of project staff) as had been collected in 1994 and 1995.
- **Insufficient planning continued to pose the greatest obstacle to implementation.** As was the case with the 1994 and 1995 projects, the 1996 access and demonstration projects included in the survey sample indicated that their greatest barrier was having underestimated the amount of effort/time required to complete their implementation activities.
- **Among planning projects, respondents generally indicated that they met or exceeded their planning activities.** The survey also found a number of planning projects reported that the following activities were implemented "less than planned": developing an evaluation plan, identifying sites for accessing the planned

network, and conducting a needs assessment of the population to be served.

IMPLEMENTATION STRATEGIES OF ACCESS AND DEMONSTRATION PROJECTS

BARRIERS TO ACCESS

Respondents were asked to identify any barriers to using telecommunications that their projects were designed to overcome. As shown in Table 3-1, the vast majority of access and demonstration projects identified more than one obstacle to access—with geographic (94.4 percent), technological (91.7 percent), and economic (75.0 percent) barriers being cited most frequently. Among planning projects, 10 of 11 survey respondents (90.9 percent) indicated that their projects were designed to address a technological barrier—although planning projects also addressed geographic (7 projects; 63.6 percent) and economic (6 projects; 54.5 percent) barriers. Taken together, these findings suggest that the barriers to access addressed by the projects in the study sample were consistent with the program’s emphasis on reaching the underserved.

The 1996 access and demonstration projects included in the study sample used a wide range of strategies to increase telecommunications access. The most common strategies included providing onsite education and training, establishing access sites for reaching the information infrastructure, providing computer hardware for education and training, interviewing potential end users, developing an alliance for better access to technology, and evaluating an existing information/communications system.

The survey also found that access and demonstration projects in the study sample were generally able to successfully achieve their implementation objectives. In fact, the vast majority of projects either met or exceeded their implementation strategies. Equally important, for any given implementation activity, very few projects reported that the extent of implementation was “less than planned.” Finally, the activities that were implemented less than expected were those that have typically been difficult for access and demonstration projects to implement.

Table 3-1
Percentage of TOP projects addressing barriers to access: 1996 grants

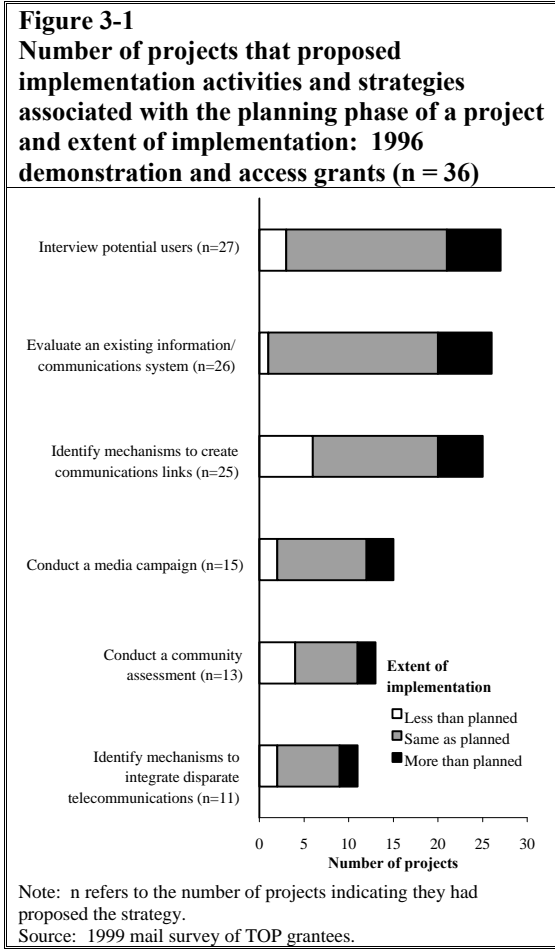
Barrier type	Demonstration and access grants (n = 36)	Planning grants (n = 11)
Geographic.....	94.4	63.6
Technological.....	91.7	90.9
Economic.....	75.0	54.5
Cultural.....	41.7	45.5
Physical.....	41.7	27.3
Linguistic.....	16.7	18.2
Other.....	2.8	0.0

Note: Percentages do not add to 100 percent because respondents could select more than one item.

Source: 1999 mail survey of TOP grantees.

Planning Phase. As shown in Figure 3-1, a number of strategies were employed by access and demonstration projects during the planning phase of their projects. The most common planning strategies included interviewing potential end users (75.0 percent), evaluating an existing information/communications system (72.2 percent), and identifying mechanisms to create communications links (69.4 percent). In addition, one-third (36.1 percent) of the projects reported that they conducted a community assessment as part of their planning phase. The prominent use of planning activities is especially noteworthy, given our previous finding that successful TOP projects tend to recognize the benefit of involving end users and other stakeholders in the development of their telecommunications ventures (see *Telecommunications and Information Infrastructure Assistance*

Program, Collected Case Study Evaluations, Westat, October 1999).

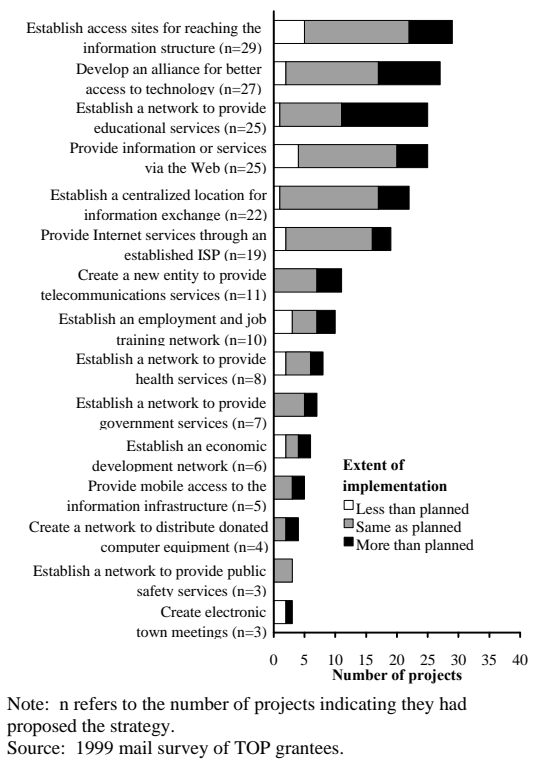


Overall, the 1996 access and demonstration projects in the study sample successfully completed their planning activities. The vast majority of projects indicated that they met or exceeded their objectives for the following planning tasks: evaluating existing communications systems (96.1 percent), interviewing potential users (88.9 percent), and conducting a media campaign (86.6 percent). The planning activities that were implemented “less than planned” included identifying mechanisms to create communications links (6 of 25 projects) and conducting a community assessment (4 of 13 projects).

Activities Promoting Access. Activities to promote access fell into four categories: access to connectivity, access to general information, access to specific information or services, and the development of the telecommunications infrastructure. Across the 36 access and demonstration projects in the survey sample (see Figure 3-2):

- The most commonly reported access activities were those that focused on connectivity. This included establishing access sites (80.5 percent), developing alliances for better access (75.0 percent), and providing mobile access to the information infrastructure (13.9 percent).
- Other projects planned to increase access through the provision of information directly to the users. For example, 69.4 percent of projects planned to provide information via the World Wide Web, while 61.1 percent attempted to establish a centralized location for information exchange.
- Some projects reported access activities aimed at developing a network designed to serve a specific purpose. The most commonly reported activities included the development of networks to provide educational services (69.4 percent), employment and job training (27.8 percent), and health services (22.2 percent).
- A number of projects reported activities aimed at contributing to the development of the telecommunications infrastructure. For example, 52.7 percent of projects planned to provide Internet access through an established ISP. In addition, four projects (11.1 percent) planned to develop networks for the distribution of donated computer equipment.

Figure 3-2
Number of projects that proposed implementation activities and strategies promoting access and extent of implementation: 1996 demonstration and access grants (n = 36)

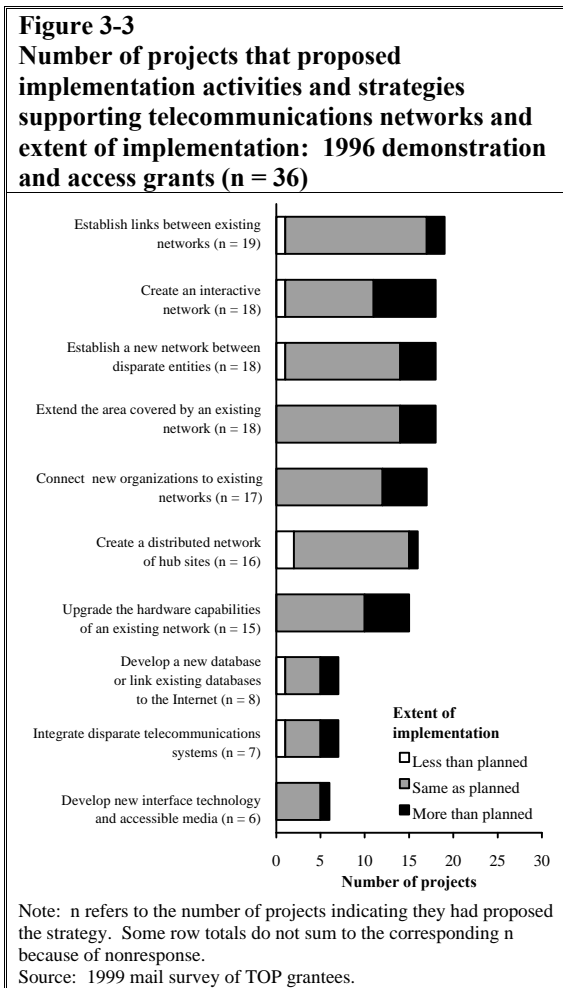


Once again, the majority of access and demonstration projects in the study sample reported that they met or exceeded their expectations regarding their efforts to promote access. For example, among the 29 projects that attempted to establish access sites for reaching the information infrastructure), 58.6 percent reported that they met their original implementation objectives—and 24.1 percent reported exceeding their original implementation goals. However, a sizable number (5 of 29—or 17.2 percent) reported that their efforts to establish access sites for reaching the information infrastructure was less successful than originally planned. In addition:

- Among access and demonstration respondents, 37.0 percent (10 of 27 projects) reported exceeding their original implementation objectives for developing an alliance for better access to technology. Another 55.6 percent (15 projects) reported meeting their original expectations for this activity.
- Of these respondents, 56.0 percent (14 of 25 projects) reported exceeding their original implementation objectives for establishing an educational network for providing educational services. Another 40.0 percent (10 projects) reported meeting their original expectations for this activity.
- Among respondents, 20.0 percent (5 of 25 of projects) reported exceeding their original implementation objectives for providing information or services to meet community needs via the World Wide Web. Another 64.0 percent (16 projects) reported meeting their original expectations for this activity.
- Of these respondents, 22.7 percent (5 of 22 projects) reported exceeding their original implementation objectives for establishing a resource center or centralized location for information exchange. Another 72.7 percent (16 projects) reported meeting their original expectations for this activity.

It is also worth noting that—for several access activities—projects were as likely to fall short of their initial expectations as they were to exceed their original goals. This was the case for projects planning to establish an economic development network, establish a network to provide employment and job training, and establish a network to provide health services. Finally, two of the three projects that attempted to create electronic town meetings indicated that they failed to meet their original implementation objectives.

Activities Supporting the Development or Expansion of Telecommunications Networks. Many projects indicated that at least one of the activities they undertook was to improve an existing network.



As shown in Figure 3-3, the majority of network-related activities involved the expansion of existing networks. Nineteen projects (52.8 percent) attempted to establish links between existing networks, while half (50.0 percent) attempted to extend the area covered by an existing network. Additionally, 17 projects (47.2 percent) planned to

connect new organizations to existing networks. In addition,

- A number of access and demonstration projects conducted activities designed to develop new networks. For example, half of the projects (50.0 percent) undertook activities to establish new networks between disparate entities, 16 projects (44.4 percent) planned to create a distributed network based upon a number of hub sites, and 7 projects (19.4 percent) attempted to integrate disparate telecommunications systems.
- Some projects conducted activities aimed at connecting networks in new ways. For example, half of the projects (50.0 percent) indicated plans to create an interactive network and 8 projects (22.2 percent) planned to develop a new database or use the Internet to link existing databases. Only 6 projects (16.7 percent) planned to develop new interface technologies and media to increase accessibility.

Overall, the vast majority of projects met or exceeded their network-related goals. The percentage of projects exceeding their network-related goals was highest for creating an interactive network (38.9 percent, or 7 of 18 projects), upgrading the hardware capabilities of an existing network (33.3 percent, or 5 of 15 projects), and connecting new organizations to an existing network (29.4 percent, or 5 of 17 projects).

Activities Supporting Training. Most access and demonstration projects had activities related to instruction, either through direct training or through activities designed to enhance long-term training capabilities. As shown in Figure 3-4, the vast majority of projects (86.1 percent) planned to provide onsite education and training in the use of telecommunications technologies, while 77.8 percent planned to provide computer hardware to support training and education. In addition,

- A significant number of projects planned activities that would enhance their longer term capacity to train personnel beyond the grant period. For example, 66.7 percent planned on

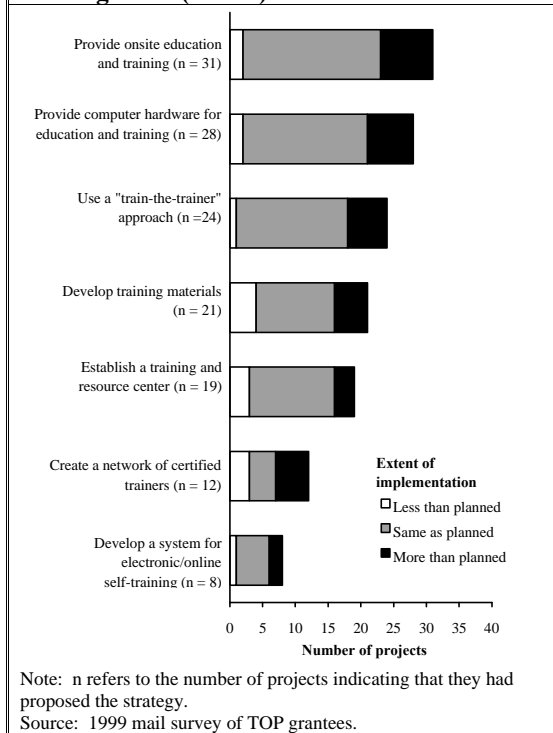
using a “train the trainer” approach,¹¹ while 33.3 percent planned to create a network of certified trainers.

- Projects also developed physical resources that were designed to promote training after the grant period ended—58.3 percent planned to develop training materials, while 52.8 percent planned to develop a training and resource center. Finally, 22.2 percent planned to develop systems for online self-training.

The vast majority of projects met or exceeded their planned education and training activities. However, three activities that may be considered “training infrastructure” activities had mixed results.

- While 23.8 percent of the projects developing training materials exceeded the planned implementation, four (19.0 percent) achieved less than planned.
- Three projects planning to establish training resource centers exceeded the planned level of implementation, although three (15.8 percent) achieved less than planned.
- Among the 12 projects intending to develop a network of certified trainers, 41.7 percent exceeded the planned implementation, while 3 (25.0 percent) achieved less than planned.

Figure 3-4
Number of projects that proposed implementation activities and strategies supporting training and extent of implementation: 1996 demonstration and access grants (n = 36)

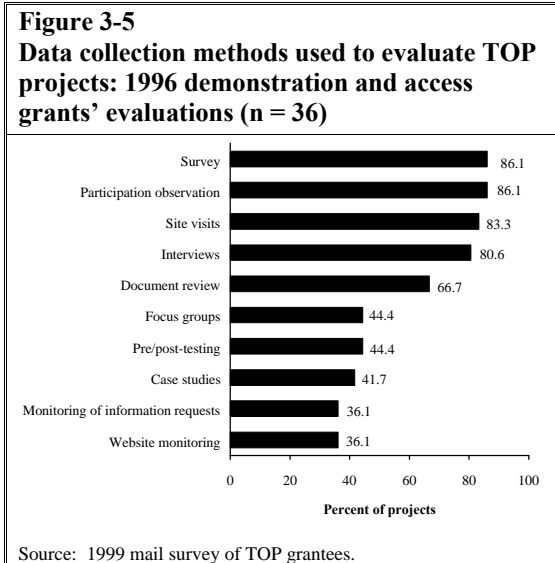


Activities to Evaluate Project Success. The role of evaluation has evolved throughout the history of the TOP program. In 1994 and 1995, projects were not required to submit a formal evaluation plan. By 1996, however, grant recipients were required to delineate the specific steps they would take to evaluate the success of their projects. As such, the awards made in 1996 placed considerably higher expectations on grant recipients regarding the rigor and quality of their evaluation activities.

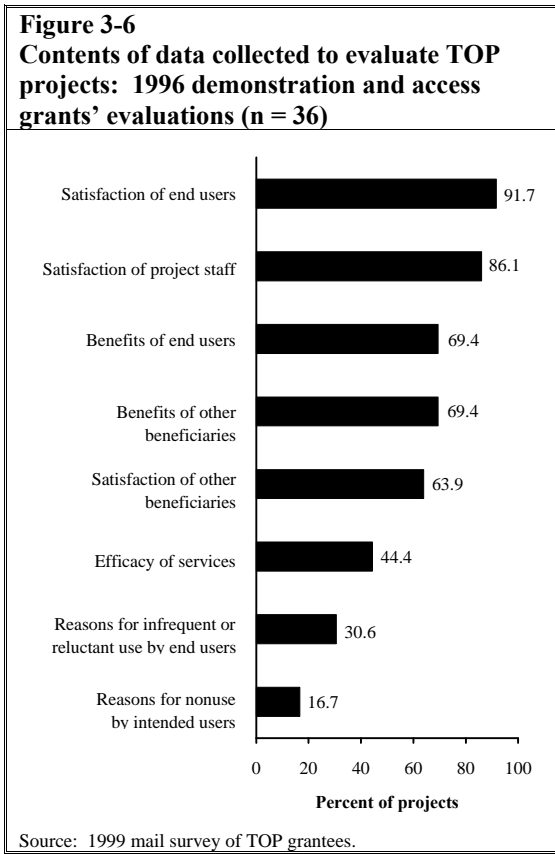
Findings from the Year 2 mail survey suggest that these expectations were generally met. Most projects relied on more than one strategy to evaluate their efforts. As shown in Figure 3-5, four of the strategies identified on the survey were widely used by the access and demonstration projects in the survey sample: participant observation (86.1 percent), survey (86.1 percent), site visits (83.3 percent), and interviews (80.6 percent). Equally significant, two-fifths of the projects reported using such rigorous evaluation strategies as focus groups (44.4 percent), pre/post-testing (44.4 percent), or case studies (41.7 percent). These findings suggest that some projects were able to combine relatively economical strategies for gathering general information from large numbers of respondents (e.g., surveys) with more time-consuming and expensive

¹¹“Train the trainer” is a technique used to maximize the knowledge of a few in order to enhance the onsite training capability of a project. In this instance, projects would provide training sessions in the use of telecommunications technologies and training approaches to selected individuals who would become the onsite trainers for the end users of their projects.

strategies (e.g., site visits) that can be used to gather highly detailed information from a subset of the larger community.



Respondents were also asked to provide information about the types of data they gathered as part of their evaluation activities. As shown in Figure 3-6, these data generally fell into two categories: summative (collected by most of the projects) and formative. The most commonly collected data concerned satisfaction with the project—from the perspective of end users (91.7 percent) and project staff (86.1 percent). Significantly, 63.9 percent of projects collected data on the satisfaction of other beneficiaries. In addition, more than two-thirds of the projects gathered data pertaining to benefits experienced by end users or other beneficiaries (69.4 percent each). Finally, it should also be noted that 16 projects (44.4 percent) gathered data about the efficacy of the services offered, while 11 projects (30.6 percent) examined reasons for infrequent use by end users. This is roughly similar to what was reported by the 1994 and 1995 projects.



Taken together, these data suggest that the 1996 projects relied on more rigorous evaluation methods than did their predecessors. Especially significant is that the 1996 projects appeared to emphasize the benefits received by end users and other beneficiaries. However, while there was evidence of increased attention being paid to summative evaluation, activities focused on formative evaluation did not appear to have increased.

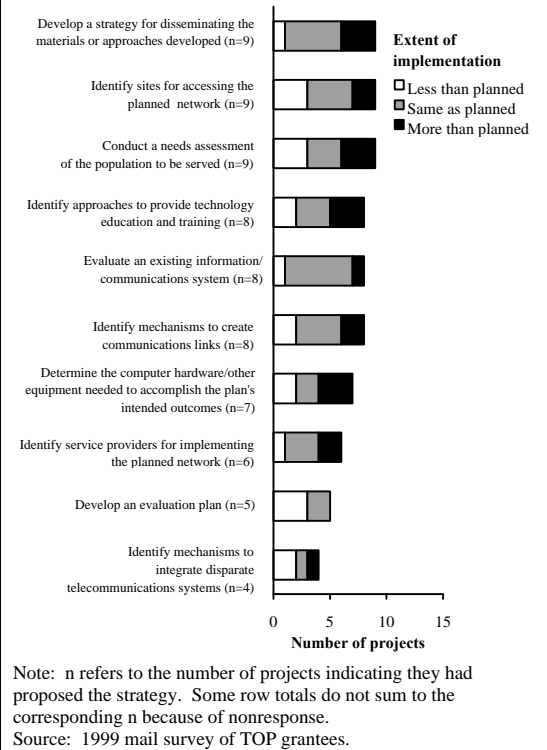
IMPLEMENTATION STRATEGIES OF PLANNING PROJECTS

Planning projects were designed to help communities undertake activities related to the development of technology plans—e.g., developing implementation schedules, making technological choices, and developing community support for the project. They differed from access and demonstration projects in that they were not intended to deliver services so much as develop the capacity for the eventual delivery of services.

As shown in Figure 3-7, the most common strategies reported by the 11 planning projects in the survey sample were developing a strategy for disseminating the materials or approaches developed (9 projects), identifying sites for accessing the planned network (9 projects), and conducting a needs assessment of the population to be served (9 projects). In keeping with the previously discussed emphasis on evaluation, 5 of the projects developed an evaluation plan.

Planning projects generally indicated that they met or exceeded their planning activities. However, a considerable proportion of planning projects reported that the following activities were implemented “less than planned”: developing an evaluation plan (3 of 5 planning projects), identifying sites for accessing the planned telecommunications network (3 of 9 planning projects), and conducting a needs assessment of the population to be served (3 of 9 planning projects). These findings suggest areas in which future TOP projects may benefit from additional technical assistance—e.g., best practices for conducting needs assessments or developing evaluation plans.

Figure 3-7
Number of projects that proposed implementation activities and strategies associated with the planning phase of a project and extent of implementation: 1996 planning grants (n = 11)



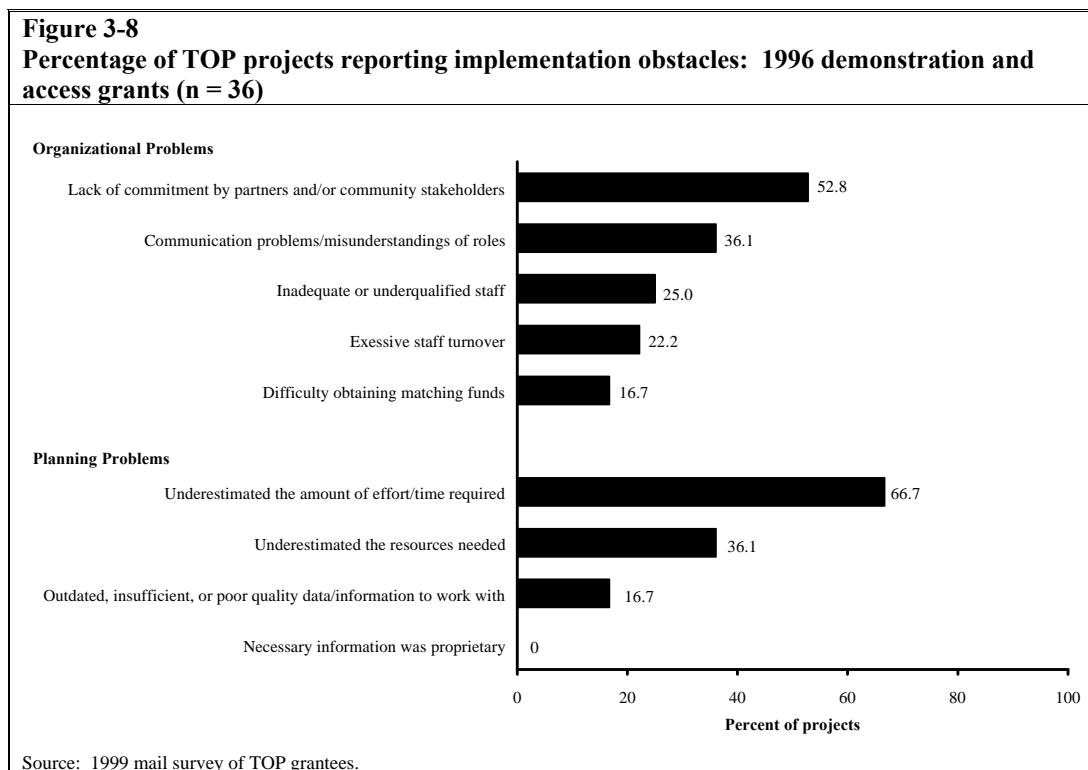
FACTORS INFLUENCING THE EXTENT OF IMPLEMENTATION

As indicated in the previous sections of this chapter, the majority of projects implemented their planned activities to the degree they anticipated or better. However, in some cases the activities were not implemented to the extent planned, and in other cases it is possible that although a project achieved its goal for implementation, obstacles may have extended the time required to complete a given activity and/or prevented the project from achieving

even more extensive implementation of its activities.¹² In either case, it is important to understand the range of obstacles that hindered projects' efforts to implement their approach.

As discussed below, the obstacles identified by the 1996 projects reflected the same type and magnitude of problems identified in the Year 1 described by project staff during the Year 1 and Year 2 site visits.

Access and Demonstration Projects. As shown in Figure 3-8, projects generally reported two types of obstacles: organizational problems that reflected difficulties with partners or staff, and planning problems that reflected failures to anticipate the time or resources required to complete a given task. As was the case with the 1994 and 1995 projects, the 1996 access and demonstration projects indicated that their greatest barrier was having underestimated the amount of effort/time required to complete their



¹² Because of the small sample size for the Year 2 mail survey, we were not able to replicate the analyses performed on responses to the 1994 and 1995 surveys regarding the extent to which obstacles affected projects' ability to implement their telecommunications approaches.

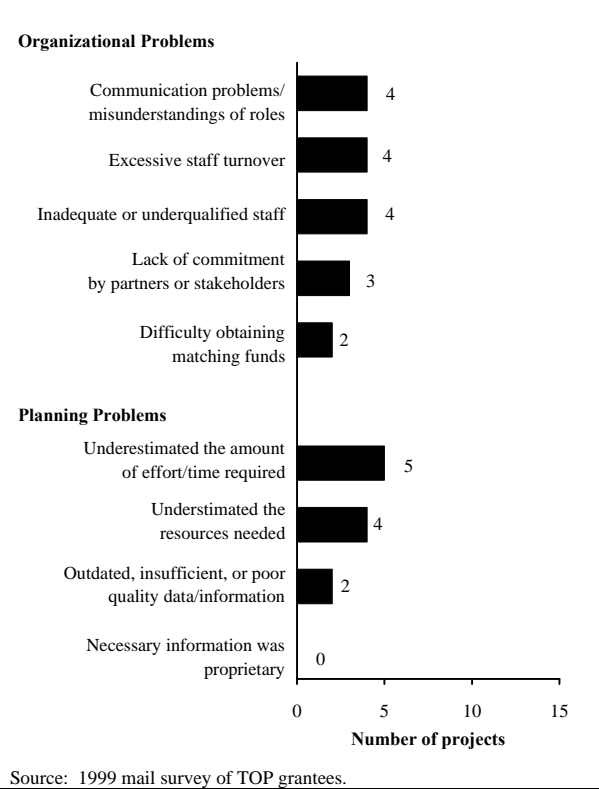
implementation activities (66.7 percent). In addition, 52.8 percent of access and demonstration respondents cited lack of commitment on the part of partners and/or community stakeholders as being an obstacle that prevented their projects from carrying out their implementation activities as originally intended.

Staffing problems—an issue that was emphasized during many of the Year 1 and Year 2 site visits—were reported by approximately one-fourth of the projects. Specifically, 25.0 percent of projects reported problems with inadequate or underqualified staff, while 22.2 percent indicated that they experienced excessive staff turnover during the grant period.

Planning Projects. Like the access and demonstration projects, the planning projects were largely successful in meeting or exceeding the goals set for their activities. However, respondents also reported a range of obstacles that potentially hindered their ability to complete their planning activities in a timely or effective manner.

As shown in Figure 3-9, the obstacles most prominently cited by the 11 planning projects were having underestimated the amount of effort/time required to complete their implementation activities (5 planning projects), communication problems/misunderstanding of roles (4 planning projects), excessive staff turnover (4 planning projects), and inadequate or underqualified staff (4 planning projects).

Figure 3-9
Number of TOP projects reporting implementation obstacles: 1996 planning grants (n = 11)



IV • Accomplishments and Impacts

Projects funded by TOP have as a common goal providing some benefit to the communities they serve. While the specific benefits expected and realized vary across projects, TOP-funded projects tend to have an impact on the community and end users within it, as well as the grant recipient and partnering organizations. In cases where the project has realized its goals, replicating that project in other communities and disseminating information about the project have the potential to broaden the impact of a given approach. This chapter addresses the types of impacts that TOP projects have had, and concludes with a discussion of the role of the TOP grant in contributing to these impacts.

KEY FINDINGS

Overall, 1996 TOP projects met or exceeded their own expectations, implemented replicable projects, and made significant impacts upon underserved end users.

The 1996 access and demonstration projects ranked their technology-related contributions—i.e., demonstrating technology and its uses, providing access, and addressing community communications and telecommunications needs—as being their most significant outcomes. In the majority of cases where these outcomes were anticipated, projects indicated they exceeded their own expectations.

The 1996 access and demonstration projects continued to reach end users and other beneficiaries from underserved populations. As with the 1994 and 1995 projects, the majority

reached rural and geographically isolated end users, as well as end users in poverty.

The majority of 1996 access and demonstration projects continued to work with their partners after the grant ended. Over half reported that their participation in the TOP program served to strengthen their relationship with at least one of their partners.

TOP funding was critical to the implementation of the 1996 grants. Two-thirds of the 1996 access and demonstration projects reported their project would not have occurred without TOP funding. Of the others, most indicated they would have reached fewer end users, experienced delays in implementation, and provided fewer services. Among planning projects, half of the respondents credited TOP with their success in winning further awards.

The majority of 1996 access and demonstration projects indicated that their approach represented innovative improvements that could be replicated in other communities. In fact, all but one of the respondents indicated that their approach was replicable—and the vast majority indicated that their approaches could be easily documented and shared with other interested parties.

Projects supported by TOP have continued to serve as practical models for other communities seeking to enhance their access to and use of the information infrastructure. Projects reported responding to 2,061 unsolicited requests for information, and providing tours or technology demonstrations to 1,146 organizations. Further, 17 respondents indicated that a total of 139

organizations had adopted ideas from their projects.

The 1996 planning projects indicated that feasibility assessment, relationships with partners, and developing community awareness were their most significant areas of impact. As would be expected from planning grants, their greatest impact was felt in areas that previous work with TOP projects has shown to be central to ensuring later success.

IMPACT OF ACCESS AND DEMONSTRATION PROJECTS

Access and demonstration projects were funded to implement specific activities with the goal of having a direct impact on end users as well as on the broader community. While the previous chapter described TOP-related activities and outputs, this chapter addresses the broader community outcomes associated with the 1996 access and demonstration projects.

Respondents' Perceptions of Their Primary Outcome

The survey asked projects to indicate, in their own words, the single most important outcome realized through their project. When examined as a group, several themes emerged.

Technology and its Uses. Fourteen of the 36 access and demonstration projects indicated that the biggest outcome to result from their grant was a change in how members of the community viewed technology and its many uses. In some cases, this change was evident in how policies were developed for using technology; in other cases, the change was on a more individualized basis:

It [the TOP project] opened up the idea of using the world of telecommunications to preserve culture.

TOP grant represented the first schools and community based organizations in Boston to be networked. The BPS modeled the networking of all other schools on the TOP model.

A wide area network was established as a model for the school district.

The work of the project revealed a world of technologic-based improvements that have raised our expectations of new possibilities and increased our capacity to achieve them. Every institutional plan for improvement now includes and, in some cases, relies on the use of new technology.

Providing Access. Twelve projects indicated that providing access was the biggest impact their project had on the community. There was considerable variety in who was provided access, as well as the content of the materials that were accessed.

Access to specialty health care and informational systems.

The establishment of infrastructure through or by which education can be offered to rural portions of the state.

We were able to bring Internet services into economically depressed area; we brought services to the community.

The major outcome was technologically connecting three rural areas of southeastern Kentucky. This has provided access to education and training programs.

Enhanced Service Delivery. Seven projects used their response to this item to indicate that the TOP grant enabled them to offer higher quality services in a number of areas.

Improved public safety by more information and faster response.

Also, having specialty medical consultations to the rural areas so the citizens didn't have to leave their communities.

Individual Empowerment and Esteem. Three projects noted that their efforts to provide telecommunications access to previously underserved populations ultimately improved individuals' feelings of empowerment or self-esteem. To the extent that the barriers to technology had been limiting the potential of these underserved populations, these three projects indicated that their end users tended to feel more capable as a result of having access to TOP-funded telecommunications.

The most important outcome has been bringing families to the table as information technology decisions are being made in the health and human services bureaucracy...Secondly, the families who used the system felt more empowered and supported in their advocacy for their children.

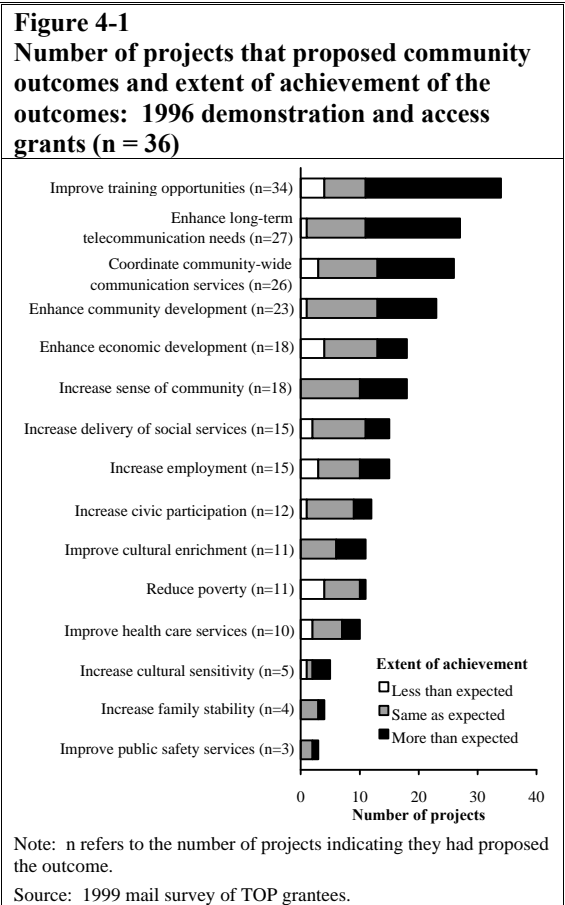
Substantial improvement in self-esteem and academics among youth involved in the TOP project as a result of computer literacy and competency.

Improved student outcomes in disadvantaged schools and communities.

Community Improvement Outcomes

Although TOP grants were designed to implement specific activities, these activities had at their core the intention of significantly improving the

community within which the project occurred. The 1996 access and demonstration grants had as their goals a broad range of community outcomes (Figure 4-1).



Survey respondents were provided a list of community outcomes and asked to select the specific goals that pertained to their project. On average, respondents selected approximately 6 community outcomes that their TOP projects were designed to achieve (some projects identified only a single outcome, while one selected 13 of the 15 goals contained on the list). The most commonly cited community outcomes were improving training opportunities (94.4 percent), enhancing long-term telecommunication needs (75.0 percent), coordinating community-wide

communication services (72.2 percent), and enhancing community development (63.9 percent).

The survey also obtained information on the extent to which projects were able to achieve their community outcomes. The vast majority of respondents reported that they either met or exceeded their initial expectations in meeting a specified outcome. Information for selected community outcomes is provided below.

- **Improving training opportunities.** More than two-thirds (67.6 percent) of the projects intending to improve training opportunities in the community exceeded their expectations, and only 11.8 percent reported that they had achieved less impact than they had planned.
- **Enhancing long-term telecommunications needs.** All but one of the projects (96.3 percent) intending to enhance long-term telecommunications needs met or exceeded their proposed goals. More than half (59.3 percent) exceeded their goals.
- **Coordinating community-wide communications.** Of the 26 projects intending to coordinate community-wide communications services, 50.0 percent exceeded their expected goals; 11.5 percent achieved less than they expected.
- **Enhancing community development.** Of the 23 projects intending to enhance community development, 22 met or exceeded their goal; 43.5 percent exceeded their expectations.

As was evident among the 1994 and 1995 grant recipients, the 1996 projects appeared to have their greatest success in areas directly related to technology (e.g., enhancing long-term telecommunications needs). Similarly, projects that had as their goal improving the delivery of services (health care, public safety, social services) tended to meet or exceed their goals. For some of the other community outcomes, especially those that are broad and defined by a large number of factors (such as poverty and employment rates), the 1996 projects showed remarkable success,

meeting or exceeding their goals in more than half of the cases.

Impacts on End Users and Other Community Members

Because a central goal of TOP is providing access to traditionally underserved individuals, it is important to assess whether these individuals were ultimately reached by the projects that received funding. Additionally, determining the number of community members impacted by the TOP project—either as direct end users or as other beneficiaries—though difficult, allows for an estimate of the scope of impact of TOP projects.

Disadvantaged and Underserved Populations Affected by TOP Projects. Nearly all (94.7 percent) of the 1996 access and demonstration projects indicated that their TOP-related activities were designed to affect disadvantaged or underserved segments of their communities. As shown in Table 4-1,

- Nearly three-quarters (74.3 percent) of the projects reported serving end users in rural areas. (The same percentage reported serving end users who were geographically isolated.) Nearly two-thirds (62.9 percent) reported reaching end users in extreme poverty, and more than half (54.3 percent) reported reaching disabled end users.
- Members of four disadvantaged populations were served by more projects as indirect beneficiaries than as direct end users: extreme poverty (68.6 percent), limited English speaking (60.0 percent), disabled (57.1 percent), and illiterate (51.4 percent).

Table 4-1
Percentage of TOP projects benefiting underserved community groups as end users and indirect beneficiaries: 1996 demonstration and access grants (n = 35)

Underserved group	End users	Indirect beneficiaries
Rural.....	74.3	60.0
Geographically isolated	74.3	62.9
Extreme poverty.....	62.9	68.6
Disabled	54.3	57.1
Limited English speaking	45.7	60.0
Inner city	37.1	31.4
Illiterate.....	37.1	51.4
Tribal.....	31.4	28.6
Mexican-border communities	2.9	0.0

Note: Percentages do not add to 100 because respondents could select more than one item. One respondent did not complete the item.

Source: 1999 mail survey of TOP grantees.

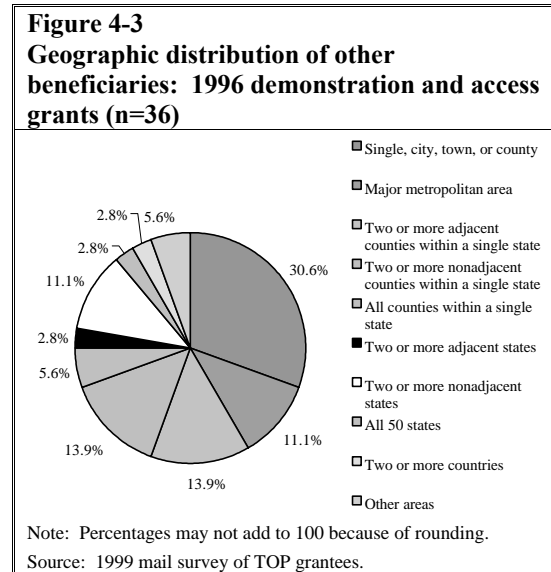
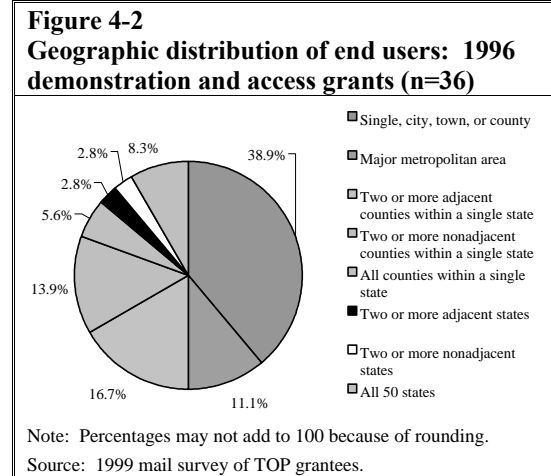
Geographic Regions Affected by TOP Projects.

Survey respondents were asked to describe the geographic reach of their projects—as indicated by the geographic distribution of their projects’ end users and other beneficiaries.

As shown in Figure 4-2, more than two-thirds of the projects reported that their end users were in a concentrated area—e.g., a single city, town, or county (38.9 percent), a major metropolitan area (11.1 percent), or two or more adjacent counties (not associated with a metropolitan area) within a single state (16.7 percent). The remaining projects served end users who were more dispersed—e.g., over two or more nonadjacent counties (13.9 percent), or across all counties within a single state (5.6 percent). Finally, five projects (13.9 percent) indicated that they had reached end users in multiple states—with three projects reporting end users in all 50 states.

As shown in Figure 4-3, just over half (55.6 percent) of projects reported that their other beneficiaries were located in a concentrated area—e.g., a single city, town, or county (30.6 percent), a major metropolitan area (11.1 percent), or two or more adjacent counties (not associated with a metropolitan area) within a single state (13.9 percent). The remaining 44.4 percent reported that

their beneficiaries were more dispersed, with seven projects (19.5 percent) indicating that they had reached beneficiaries in multiple states.



Magnitude of Impact. One measure of the impact that TOP has on communities is the number of individuals who ultimately use or benefit from project equipment or resources.

However, as noted in previous reports, it can be difficult for survey respondents to quantify the precise number of end users and other beneficiaries—especially since grant recipients were not required to keep track of the number of individuals directly and indirectly affected by their projects. Absent a program requirement, the majority of projects are not likely to devote scarce resources to maintaining an unduplicated count of individuals using—and benefiting from—TOP-sponsored activities.

Despite these difficulties, it is important to obtain a sense of the overall magnitude of a project’s impact. Survey respondents were asked to estimate the approximate number of people who had been reached as either end users or as other beneficiaries. In total, the 36 access and demonstration projects indicated a total of 42,492 end users and 897,281 other beneficiaries. The total number of end users served by an individual project ranged from a low of 17 (two projects) to a high of 8,000. The majority of projects, however, reported serving between 200 to 900 end users. For other beneficiaries, projects estimates ranged from a low of 25 (five projects reported no other beneficiaries) to a high of 500,000. The majority of projects, however, reported reaching between 200 to 4,500 other beneficiaries.

Types of Community Segments Affected by TOP Projects. Survey respondents were also asked to indicate whether or not their end users and other beneficiaries were consumers or providers of information or services in a variety of community segments (Table 4-2).

- Most projects reported reaching individuals in various educational settings (e.g., K-12 schools, higher education institutions, local education agencies) as end users (80.6 percent) and/or other beneficiaries (66.7 percent).
- Half of the projects (50.0 percent) reached end users in government settings, while 33.3 percent reached other beneficiaries in government.

- Just under half (47.2 percent) of projects reached end users in human service settings.

Table 4-2
Percentage of TOP projects benefiting key community segments as end users and other beneficiaries: 1996 demonstration and access grants (n = 36)

Community segment	End users	Other beneficiaries
Education.....	80.6	66.7
Government.....	50.0	33.3
Human service.....	47.2	36.1
Cultural.....	33.3	30.6
Health care.....	30.8	27.8
Public safety.....	22.2	22.2
Other.....	13.9	11.1

Source: 1999 mail survey of TOP grantees.

Impacts on Grant Recipients and Project Partners

An open-ended question on the survey allowed respondents to reflect on the relationships they had with partners and how the relationships had changed as a result of the TOP project. The responses were predominantly positive about working with partners, conducting projects jointly, and extending relationships into the future. A number of respondents indicated they had closer and stronger working relationships with their partners. Many also reported that more joint projects are underway. Several respondents commented that the TOP project allowed for more open and ongoing communications between agencies that traditionally do not communicate as well. Others said that their TOP partnerships had spawned new partnerships with other organizations.

One project director’s comments summarize what many respondents reported:

After working together with the large scope of the...project dealing with business, community and civic/service groups, there is

a better understanding of what each group offers and their goals and achievements. Continued partnerships have been established for future projects.

About two-thirds (63.9 percent) of respondents indicated that their relationships with partners had changed as a result of their TOP grant. These projects reported that the grant had one of three impacts on the recipient's relationships with the project partners.

A majority of projects (56.5 percent) indicated their relationships with partners had grown stronger and that they have continued to work together on the same types of activities and goals. For example:

Partnerships have gotten stronger, shown the ability to execute on an idea.

Enhanced and solidify relationships—built up the value of the alliance.

We share each other's health care system—resources and goals.

Just under one-third (30.4 percent) of the projects indicated that their relationships with partners had expanded to include new activities and roles:

We've shared resources, are collaborating on an international project, have collaborated on a family heritage festival, co-sponsor classes.

With a number of organizations we have established extremely close partnerships—we now carry out extensive planning and joint decision making.

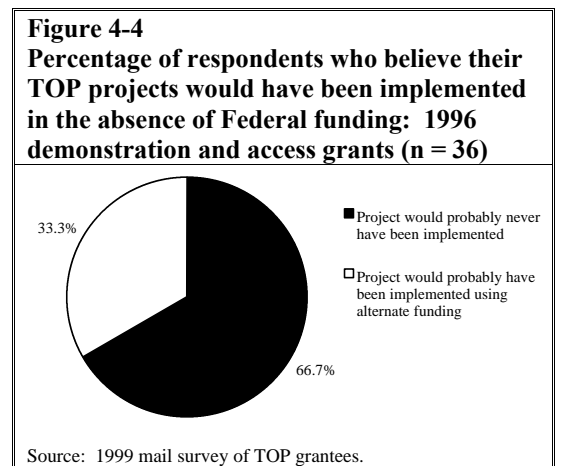
The state to state partnerships have remained as cooperative while in-state the activities formerly described grew out of the original TOP project.

Three projects (13.1 percent) indicated that they no longer work with partners from the project.

One respondent reported that the relationship ended after decisions made at a higher level prohibited implementation of an activity. Another indicated that project staff are generally more cautious in working with other groups.

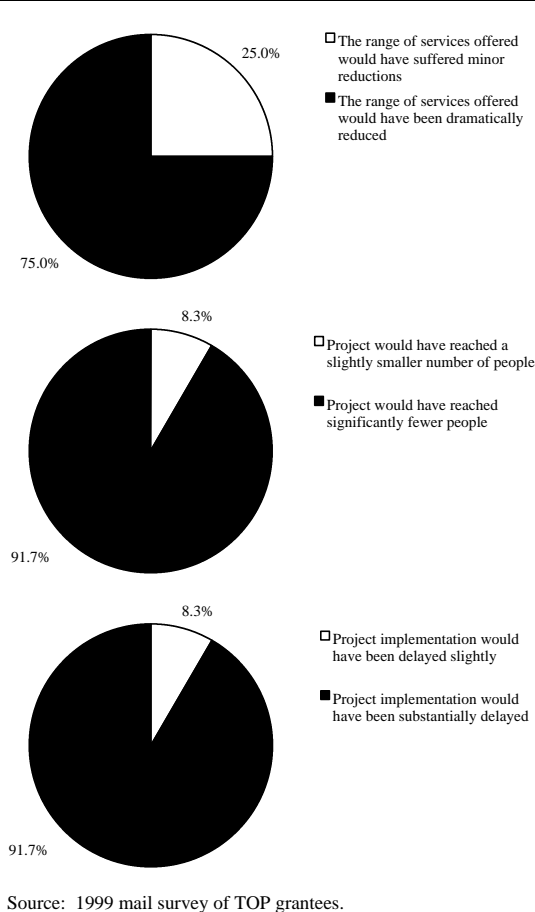
Impacts of TOP Support

Survey respondents were asked to hypothesize what would have happened if their project had not received TOP funding. Twenty-four (66.7 percent) of the access and demonstration respondents indicated that their projects would never have been implemented without their TOP grant award (Figure 4-4).



The remaining 12 projects (33.3 percent) indicated that their project would probably have been implemented using an alternative funding source. However, as shown in Figure 4-5, the majority of these 12 projects indicated that without TOP funding their projects would have offered dramatically fewer services (9 of 12 projects), would have reached significantly fewer people (11 projects), and would have suffered substantial delays in their implementation schedule (11 projects).

Figure 4-5
Percentage of projects believing the absence of TOP funding would have affected their projects: 1996 demonstration and access grants (n = 12)



Project Replication and Dissemination

An important objective of the TOP program is to support telecommunications activities and approaches that can serve as models for communities that want to increase their access and use of the information infrastructure. As such, an important outcome of any TOP project is the extent to which its approach is eventually replicated or adapted by other communities. This

section provides data regarding access and demonstration projects’ perception of their own replicability and innovation, as well as data regarding dissemination activity.

Project Replication and Innovation. As shown in Figure 4-6, all but 1 of the 36 access and demonstration projects (97.2 percent) indicated that they considered their project to be a model worthy of replicating. Respondents were also asked to provide their assessment regarding the level of innovation present in their projects. As shown in Table 4-3, respondents strongly or moderately agreed with the statement that their projects provided innovations that were marked improvements over alternatives (80.6 percent) and that these innovations were easily documented and communicated to others (83.4 percent). In addition, projects viewed their technologies as nonthreatening and not intimidating (80.6 percent) and indicated that their projects had made the information infrastructure easier to use (72.3 percent). Finally, 75.0 percent strongly or moderately agreed with the statement that the innovations brought about by their projects could be easily implemented by others with reasonable effort and expense—although five projects disagreed moderately or strongly with this conclusion.

Figure 4-6
Percentage of TOP projects considered a replicable model to follow: 1996 demonstration and access grants (n = 36)

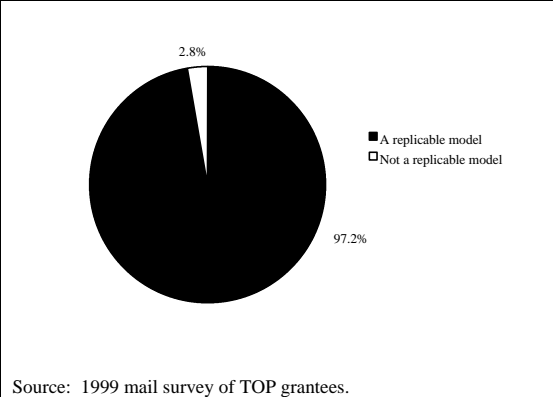


Table 4-3
Projects' ratings of innovation: 1996 demonstration and access grants (n = 36)

Innovation item	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Not applicable
The innovation brought about by this project provides a marked advantage over alternative ways to provide similar services.....	41.7%	38.9%	11.1%	2.8%	0.0%	5.6%
The advantages of the innovation introduced in this project are easily documented, demonstrated, and communicated to others.....	30.6	52.8	8.3	2.8	2.8	2.8
Project equipment and resources are not threatening or intimidating to use.....	30.6	50.0	11.1	5.6	0.0	2.8
The project's innovation makes the information infrastructure easier to understand and use than it would be otherwise	41.7	30.6	25.0	2.8	0.0	0.0
The innovation brought about by this project can be easily implemented by others with a reasonable amount of effort and expense	36.1	38.9	11.1	11.1	2.8	0.0

Note: Figures reported are estimates made at the time the survey was completed. Percentages may not add to 100 because of rounding.

Source: 1999 mail survey of TOP grantees.

Dissemination. As noted above, most of the access and demonstration projects were confident that their approaches were innovative, worthy of replication, and that any such replication would not require an unreasonable effort. To assess the extent to which other communities were learning about—and adapting ideas from—the 1996 access and demonstration activities, respondents were asked to estimate the number of organizations that had received information and/or technical assistance relating to their project.

All respondents indicated that they had shared information about their projects with other organizations. As shown in Table 4-4, projects reported responding to 2,061 unsolicited requests

for information.¹³ Respondents also indicated that they had provided tours or technology demonstrations to 1,146 organizations. In addition:

- The single largest body of organizations to receive information from TOP projects did so via the Internet, either through a specific website (4,690 organizations) or through casual Internet correspondence (2,674

¹³While these data are informative, they must be viewed with caution for several reasons. First, although the survey item is intended to delineate only those organizations that contacted a project with the intent of gaining project information, it is not clear that respondents actually responded in this manner. For example, projects may have indicated the number of hits to a website, which would likely have included interested organizations as well as project end users and staff, and other causal contacts. Additionally, the data reported in Table 4-4 are totals that may be overly influenced by a small number of projects claiming a very large number of contacts. Thus, the total number reported does not indicate the "typical" number reached. For example, although projects indicated reaching 4,690 organizations through their Internet website, 78 percent of projects reported reaching 100 or fewer organizations this way. Similarly, projects reported reaching a total of 3,824 organizations through publications, but half of the projects reported reaching 15 or fewer organizations this way.

organizations) or other electronic media (896 organizations).

- Typical dissemination activities, such as published articles or reports (3,824 organizations) or meeting or conference presentations (2,933), were the second most frequently used channel.
- More aggressive, proactive activities, such as marketing and advertising (3,004 organizations) and technology fair or community presentations (1,535 organizations) were also commonly used.

Table 4-4
Number of organizations receiving project information through key dissemination channels: 1996 demonstration and access grants (n = 36)

Dissemination channel	Number of organizations
Internet website.....	4,690
Article, report, or other written publication.....	3,824
Marketing efforts and advertising.....	3,004
Meeting, conference, or other event.....	2,933
Casual conversation.....	2,719
Casual Internet correspondence.....	2,674
Responses to unsolicited requests.....	2,061
Technology fairs, job fairs, or other community events.....	1,535
Site visits, tours, or technology demonstrations.....	1,146
Listservs, newsgroup, or electronic bulletin board.....	896

Source: 1999 mail survey of TOP grantees.

Just under half (47.2 percent) of the access and demonstration projects provided an estimate of the number of outside organizations that had taken steps to replicate or adapt their approach. These 17 respondents indicated that a total of 139 organizations had adopted ideas from their projects. This finding suggests that the projects supported by TOP have continued to serve as practical models for other communities seeking to enhance their access to and use of the information infrastructure.

IMPACT OF PLANNING PROJECTS

Unlike access and demonstration projects that have as their goal implementing specific activities directed at users, planning grants tended to implement activities that lay the foundation for future activities. Thus, planning grant activities tended to be motivated by different goals in the short term, and the impact they had reflected this reality. Although they may have intended to ultimately affect a community in one way (i.e., outcome), their immediate goal was to complete preparations for larger projects (i.e., output).

Respondents' Perceptions of Their Primary Outcome

Planning project activities were largely directed toward developing capabilities that would later be utilized to directly impact users. As a result, planning projects noted advances in their developing plans as their biggest impact. Their responses to an open-ended item regarding their most noteworthy outcome suggested three general themes.

The first theme—described by 6 of the 11 planning projects—recognized the importance of establishing the feasibility of the approach a project was developing, as well as the ability to leverage the TOP planning grant for additional funding.

TOP enabled our organization to develop a replicable, scaleable and reasonably cheap method of expanding educational opportunity to a geographically isolated rural area. Additional funding from public & private sources have followed the completion of our TOP project. This was money well spent.

Greater understanding of what other institutions in state are doing or planning to do in the arena of telecommunications services/distance learning.

The most important outcome was to establish a detailed project plan that was used as the basis to obtain a second TOP grant which allowed for project implementation.

Three planning projects indicated that their biggest outcome was bringing awareness to a community need—and proposing a solution for addressing that need.

This project has effectively raised the issue of access to affordable telecommunication resources. Although the results will not be felt in all communities immediately.... The wheels have begun to turn & the positive momentum generated by this project will forever change the telecommunications landscape in N.H.

Increased awareness, especially among public television's web site managers, of issues regarding access to the web for people who are deaf or blind.

Increased knowledge about how telehealth can improve health care access to large segments of Hawaii. Most important—legislature passed on telehealth.

The remaining two planning projects indicated that the development of partnerships and forging of relationships that may eventually lead to additional outcomes was their biggest outcome.

Learning the needs of each agency, what information is available, and available through technology.

In reviewing these three themes, it is worth noting that while many of these projects succeeded in attaining additional funding after the TOP grant, the leveraging of additional funds was not cited as a primary outcome. Rather, projects identified important *steps that may lead to further funding* as their biggest impact, not the *funding* itself.

Community Improvement Outcomes

Although projects were designed to implement particular activities, these activities had at their core the intention of significantly impacting the community within which the project occurred. Planning projects outlined their community outcome goals as part of their overall telecommunications plan (Table 4-5).

Table 4-5
Number of projects indicating that the community improvement outcome was outlined in the telecommunications plan: 1996 planning grants (n = 11)

Outcome	Number of projects (n = 11)
Enhance coordination of community-wide communication services.....	9
Improve training opportunities.....	9
Enhance community development.....	7
Enhance long-term telecommunication needs.....	7
Enhance economic development.....	6
Increase sense of community.....	6
Improve delivery of social services.....	5
Improve cultural enrichment.....	4
Increase participation in civic affairs.....	4
Improve the quality of health care.....	4
Increase cultural sensitivity.....	3
Increase employment.....	2
Reduce poverty.....	2
Improve public safety services.....	2
Other.....	2
Increase family stability.....	0

Source: 1999 mail survey of TOP grantees.

The planning projects each indicated between 3 and 11 community outcomes, with an average of 6.5. The most frequently cited outcomes were improving training opportunities (9 projects) and coordinating community-wide communication services (9 projects). More than half of the projects also planned to enhance community development, enhance long-term telecommunications needs, or enhance economic development.

Impacts on End Users and Other Community Members

Among the activities undertaken by planning projects was the identification of end users for the projects' proposed services and activities. TOP planning grants, like demonstration or access grants, were intended to provide access to emerging telecommunications and information technologies to individuals who are traditionally underserved. Planning projects were asked to indicate whether or not such groups were targeted for the services and activities they were planning (Table 4-6).

Table 4-6
Number of TOP projects benefiting underserved community groups as end users and other beneficiaries: 1996 planning grants (n = 10)

Underserved group	Number of projects
Geographically isolated	7
Rural.....	7
Disabled.....	5
Limited English speaking	5
Extreme poverty.....	2
Illiterate.....	2
Inner city.....	2
Other.....	2
Mexican-border communities.....	1
Tribal.....	0

Note: One project indicated it was not designed to serve disadvantaged or underserved community groups.

Source: 1999 mail survey of TOP grantees.

Seven of the 11 planning projects (63.6 percent) targeted geographically isolated individuals or those in rural areas, while 5 targeted those with disabilities and/or spoke limited English (45.5 percent). Two of the planning grants (18.2 percent) identified inner-city residents as end users, and one project (9.1 percent) identified Mexican-border communities as end users.

Planning grants were also asked to indicate which community agencies were intended to benefit from their proposed approach (Table 4-7). The most commonly cited community segment to be served

by the planning grants was a government agency (7 of 11 planning projects) or health agency (6 projects). Half of the grants intended to reach human service groups, and 5 projects planned to reach cultural and/or education groups (e.g., higher education, adult education, K-12 schools). Four projects served public safety organizations.

Table 4-7
Number of TOP projects benefiting key community segments: 1996 planning grants (n = 11)

Community segment	Total
Government.....	7
Health.....	6
Human service.....	6
Education.....	5
Cultural.....	5
Public safety.....	4
Other.....	1

Source: 1999 mail survey of TOP grantees.

Impacts of TOP Support

Planning grants awarded by TOP were intended to fund projects that were developing plans for future activities and services. Because of their specialized nature, it is likely that such projects would not have occurred without the support of TOP. Further, it was expected that TOP funding of the planning grant would ultimately result in a grant to fund specific telecommunications activities—with funding provided by TOP or some other source.

Respondents were asked to assess the impact of their planning grant, as well as the extent to which their project outlined in the TOP-supported telecommunications plan had been implemented by the time the survey was administered. Only 1 of the 11 planning projects indicated that it would have been able to develop its telecommunications plan without TOP funding, and in that case, the respondent noted that the plan would have been substantially delayed.

Five of the 11 projects indicated that the TOP grant was helpful in securing additional funds to implement their telecommunications plans. A number of these projects indicated that the TOP grant had allowed them to bring clarity of purpose when developing partnerships. This clarity—several projects noted—led to an enhanced ability to raise matching funds from partners. In fact, 3 of these 5 respondents subsequently received a TOP access or demonstration grant.

V. Sustainability and Project Expansion

The TOP program has always emphasized the need for its grant recipients to develop projects that can be sustained—and, if possible, expanded to serve additional segments of the community—beyond the period of the grant award. This chapter assesses the extent to which the 1996 projects in the survey sample were able to secure ongoing funding and expand their reach. It also examines factors that facilitated and hindered projects' efforts to maintain services after the grant period had ended.

KEY FINDINGS

As with the 1994 and 1995 projects, nearly all of the 1996 grants were still in operation at the time of the Year 2 survey, and many had, in fact, expanded.

Over 90 percent of the 1996 access and demonstration projects included in the study sample were still in operation at the time of the Year 2 survey. Specifically, 28.1 percent of the access and demonstration projects that had closed by January 1, 1999, were still in full operation; 37.5 percent were serving a function that had changed, grown, or expanded; 18.8 percent were serving fewer end users than intended; 6.2 percent were providing a limited range of services; and 9.4 percent were no longer operational.

Increased user base, financial contributions from partners, and partner buy-in were factors that facilitated continuation or growth of access and demonstration projects. The most commonly cited impediments to full operation were personnel changes (7 projects), not

enough users (6 projects), no funding available for operations (5 projects), and no funding available for maintenance (5 projects).

More than half of the access and demonstration projects in the survey sample had expanded to serve additional end users in locations or organizations beyond those targeted in their original TOP proposal. In addition, the majority had generated spinoff activities or services. The mean and median dollar amount associated the equipment or resources resulting from these spinoff activities were reported to be \$836,023 and \$327,293, respectively. The total value of equipment and resources associated with spinoff activities was estimated to be \$21,736,585.

Just over half of the planning grants in the survey sample had implemented the activities outlined in their telecommunications plan. Strength of leadership and strong partners were factors that contributed to projects' ability to implement their planning grant activities. Three of the four projects that had *not* taken any steps to implement their telecommunications plans identified two primary obstacles—lack of available funds for maintenance, and lack of available funding for operations.

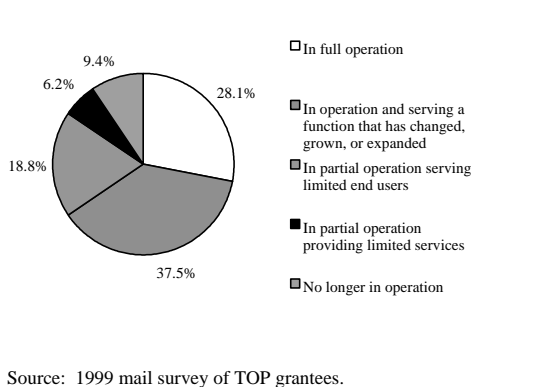
STATUS OF ACCESS AND DEMONSTRATION PROJECTS AT THE TIME OF THE SURVEY

As shown in Figure 5-1, nearly all (90.6 percent) of the 1996 access and demonstration projects included in the study sample were still in operation

at the time the Year 2 survey was administered.¹⁴ Specifically:

- Nine (28.1 percent) projects were still in full operation.
- Twelve (37.5 percent) were in operation *and* serving a function that had changed, grown, or expanded considerably from what had been outlined in the original proposal to TOP.
- Six (18.8 percent) were serving the full range of services—but affecting fewer end users than intended.
- Two (6.2 percent) were serving the full scope of end users—but providing a limited range of services.
- Three (9.4 percent) were no longer in operation.

Figure 5-1
Current status of TOP projects: 1996 demonstration and access grants (n = 32)



The 21 projects that were still fully operational at the time of the mail survey were asked to describe the factors that facilitated their sustainability and growth. Several themes cut across the projects' open-ended responses.

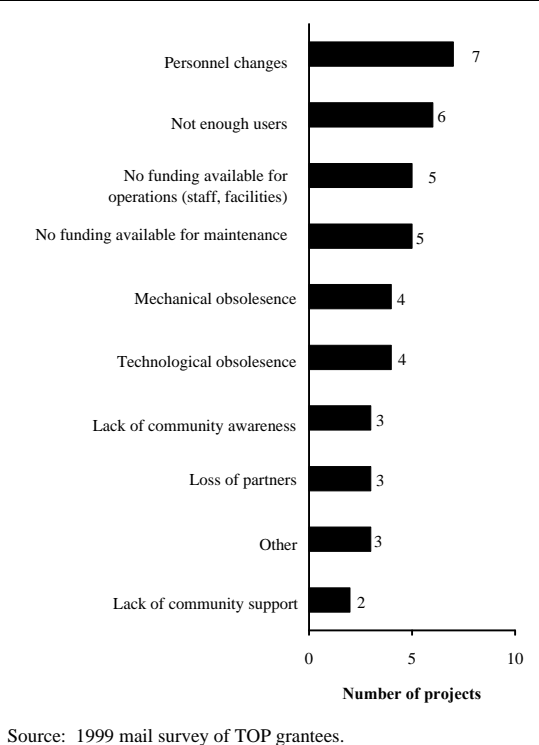
- Increased user base resulted from word-of-mouth from project participants or through advertising.
- Increased financial support was provided by partners, state or local agencies, or Federal funders.
- Increased support from partners resulted from individuals and organizations buying into the project as it was implemented and proved successful.
- Communities developed or recognized more need for project services.
- Individuals' motivation, leadership, or skills was translated into project activities. Whether the result of the project director providing leadership, staff volunteers, or communities working together, the contributions of individuals were frequently cited as being responsible for the project's success.

The eight projects that were no longer operating at full capacity and the three projects that had closed were asked to identify the factors that served to impede their progress. As shown in Figure 5-2, the most commonly cited impediment—reported by seven projects—concerned personnel changes.¹⁵ In addition, 6 of the 11 projects indicated that there were not enough end users for their project to continue. Five projects cited lack of funding for operations and/or ongoing maintenance. Other factors cited included mechanical obsolescence (four projects), technical obsolescence (four projects), lack of community awareness (three projects), loss of partners (three projects), and lack of community support (two projects).

¹⁴As discussed in Chapter I, the four access and demonstration projects in the survey that were still operating as TOP projects in 1999 are *not* included in the analysis of longer term sustainability of TOP-funded activities since their operational status (i.e., sustainability) was potentially affected by their continued participation in the TOP program in 1999.

¹⁵The survey responses could not be used to determine whether these changes involved administrative or technical staff.

Figure 5-2
Number of TOP projects reporting
impediments to full operation: 1996
demonstration and access grants no longer
operating at full capacity (n = 11)



Source: 1999 mail survey of TOP grantees.

Three projects used the survey to provide more specific information about factors that hindered their ability to maintain operations at a desired level. Two of these comments concerned partners—one project indicated that one of its significant partners was undergoing a reorganization; the other indicated that the project had become outdated because its partners had not updated their information. The third project had closed, indicating that all of its objectives had been met.

EXPANSION AND SPINOFF ACTIVITIES AMONG ACCESS AND DEMONSTRATION PROJECTS

Access and demonstration respondents were asked to provide information on the extent to which their projects had expanded to serve additional end users or generated spinoff activities that provide additional services not included in their TOP proposal.

Project Expansions that Serve Additional End Users

Nearly two-thirds (61.1 percent) of the projects reported that they were reaching more end users than had originally been envisioned. Respondents were also asked to provide a brief description of their expansion. Their responses generally fit into three types of expansions:

- Reaching more of the same type of end user, in the same general setting, generally in the same communities (e.g., connecting five more schools to a wide area network than expected);
- Reaching the same type of end users, but in settings outside of the community (e.g., other schools within a state); and
- Reaching end users of different types, either within the same general organizational setting or community (e.g., patients with ailments other than those initially treated through a telemedicine project).

Project Spinoffs that Provide Additional Services

Almost three-quarters (72.2 percent) of projects indicated that they had generated spinoff activities that were providing additional services not included in their TOP proposal. These 26 projects were asked to briefly describe their spinoff activities. These descriptions suggested that while

many of the spinoff activities were similar to the previously described expansions (offering same services to more users, or reaching users in additional settings or locations), some did represent unique undertakings. Examples of activities described by survey respondents included:

- Established a community center focused around technology;
- Worked with students and teachers from two reservations to create a web page and CD on cultural language preservation; and
- Spearheaded Brooklyn’s knowledge network, an advanced telecommunications network linking Brooklyn’s major cultural organizations, 2 school districts, Brooklyn’s public access facility, and 35 community-based organizations.

The mean and median dollar amount associated with the equipment or resources associated with these spinoff activities were reported to be \$836,023 and \$327,293, respectively. Four projects reported dollar amounts of \$2.1 million or higher—with one project reporting \$6,040,000 in resources and equipment associated with their spinoff activities. The total value of equipment and resources associated with spinoff activities was estimated to be \$21,736,585. The most frequent funding sources were education organizations (cited by 15 projects), government organizations (15 projects), and private sector organizations (11 projects).

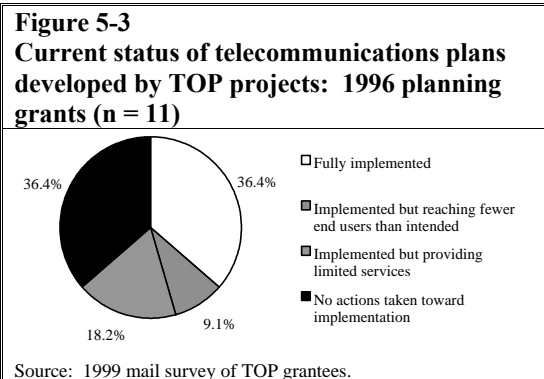
STATUS OF PLANNING PROJECTS AT THE TIME OF THE SURVEY

As shown in Figure 5-3, two-thirds of the planning grants (7 of 11) in the survey sample had implemented the activities outlined in their telecommunications plans. Specifically:

- Four of the 11 planning projects had fully implemented the activities outlined in their original telecommunications plans.
- One project had implemented a version of the plan that was outlined in the original telecommunications plan, but these activities were affecting fewer end users than intended.
- Two projects were providing fewer services than originally envisioned to the full scope of end users.

These seven projects identified several factors that contributed to their ability to implement their telecommunications plans. Specifically:

- Three of the projects credited the strength of their partners.
- Three projects credited the leadership of key players in the project or community.
- One project credited the clarity of the plan developed through the TOP grant.



Significantly, 4 of the 11 planning projects (36.4 percent) reported that they had not implemented the activities outlined in their telecommunications plan. None of these projects indicated that they would be implementing their plans in the near future. As shown in Table 5-1, most of the projects indicated that the impediments preventing implementation of their telecommunications plans were financial—e.g., a lack of funding for

maintenance (three projects) and a lack of funding for operations of their planned project (three projects). In addition, two projects cited lack of community support, while two projects indicated that they had not been able to secure the required personnel. One project indicated that they did not have enough end users for the project, and one cited difficulty securing required partners.

It is worth noting that the principal obstacles encountered by these four projects reflected a lack of funding—as opposed to technical obsolescence or a lack of partners and end users. Further, six of the seven planning grants that had been fully or partially implemented indicated that they were able to secure funds to implement their plan *as a result of the TOP planning grant*—while three of the four planning grants that had not taken steps to full implementation of their telecommunications vision cited a lack of funds as a major impediment. This suggests that the ability—or inability—to secure ongoing funding was a primary determinant in the longer term success of the 1996 planning projects.

Table 5-1
Number of TOP projects reporting obstacles to full implementation: 1996 planning grants that have not been implemented (n = 4)

Obstacle	Total
Lack of available funding for maintenance	3
Lack of available funding for operations	3
Lack of community support	2
The required personnel have not been secured	2
Lack of community awareness	1
Not enough users	1
The required partners have not been secured	1
The technology specified in the plan has become obsolete	0
Other	0

Note: Respondents could select more than one item.

Source: 1999 mail survey of TOP grantees.

VI. Summary and Conclusions

The results of the Year 2 survey show that the TOP program has continued to achieve its mission of improving the nation's knowledge of and access to the information infrastructure. In addition, the 1996 projects included in the survey sample built upon the most prominent accomplishments of the 1994 and 1995 projects by (1) allowing disadvantaged and underserved communities to gain access to the information infrastructure, (2) enabling grant recipients to dramatically change the way in which they interact with influential stakeholders in their communities, (3) helping to expand the universe of teachers and learners of all ages, (4) fostering increased collaboration at both the local and global levels, and (5) demonstrating the value of investing relatively modest amounts of Federal seed money in innovative technology applications.¹⁶

As discussed in Chapter 1, the small number of projects included in the Year 2 survey sample precludes us from making precise comparisons between the 1996 projects and those funded in 1994 and 1995.¹⁷ Nonetheless, an assessment of responses to the Year 1 and Year 2 surveys suggests some universal trends that cut across the 3 years that have been the focus of our ongoing analyses. Specifically:

- Most projects reported that they met or exceeded their community improvement goals. In addition, almost all projects reported affecting disadvantaged or underserved community segments either as end users or other beneficiaries—with rural and geographically isolated end users being targeted most frequently. Finally, four-fifths of Year 1 and Year 2 respondents reported that their access and demonstration projects were designed to provide services to end users in the education community (e.g., K-12 schools, higher education, adult education).
- The majority of projects were able to successfully implement their proposed approach. In addition, projects tended to encounter two prominent implementation obstacles—that is, underestimating the amount of time/effort required, and lack of commitment on the part of partners and/or community stakeholders.
- Most access and demonstration projects had secured longer term funding and were still in operation 2.5 to 3 years after receiving their TOP grant awards—that is, at the time the Year 1 and Year 2 surveys were administered. In addition, approximately three-fourths of Year 1 and Year 2 respondents reported that their projects were still in full operation or serving a new/expanded function. Finally, at least three-fifths of Year 1 and Year 2 respondents reported that their access and demonstration projects had expanded to serve additional end users and/or generated spinoff activities.
- Most access and demonstration projects considered their projects to be worthy of replication. Findings from the Year 1 and Year 2 surveys suggest that grant recipients relied

¹⁶These accomplishments represent the five key areas in which the 1994 and 1995 projects made important impacts (see page IX of the *Evaluation of the Telecommunications Information Infrastructure Assistance Program for the 1994 and 1995 Grant Years*, Westat, February 1999).

¹⁷There were also changes in the way that some of the Year 2 survey items were structured. For example, changes in the way grant recipients provided information about their organizational partners may have resulted in a dramatic increase in the average number of project partners reported by the 1996 respondents.

on a wide variety of methods to disseminate information about their TOP-supported activities and innovations.

- Education organizations served as grant recipients more frequently than any other organization type.¹⁸
- The vast majority of access and demonstration projects were designed to address multiple barriers to using telecommunications technologies, with three-quarters or more of respondents indicating that their efforts were designed to ameliorate geographic, technological, and/or economic barriers.
- The majority of projects indicated that they would not have been implemented without the support they received from the TOP program. Most of the remaining projects indicated that while they would have been implemented using alternative funding sources, the lack of TOP funding would have affected the scope and impact of their efforts.

Finally, it is also worth noting an area in which the 1996 projects appear to have made significant advances over the projects that were funded in 1994 and 1995. As noted in our report summarizing findings from the Year 1 survey, few of the 1994 and 1995 projects collected any outcome data.¹⁹ We also noted, however, that

TOP had since revised its application and evaluation procedures to assure that future grant recipients placed greater emphasis on documenting how their activities had benefited the greater community. For example, the 1996 projects were required to describe in their application how their proposed project would be linked to specific problems within their community, as well as how their proposed solutions would relate to “clear and measurable outcomes or results” (Fiscal Year 1996 Notice of Availability of Funds). In addition, the 1996 projects were required to develop an evaluation plan with “specific criteria for measuring the effectiveness of the project in reaching its intended audience and in improving outcomes.”²⁰ Findings from the Year 2 survey indicate that these efforts paid off. As discussed in Chapter 3, over two-fifths of the 1996 projects reported using such evaluation methods as pre/post designs and/or case studies. Additionally, a higher proportion of Year 2 respondents used their open-ended responses to describe a community-oriented outcome that had resulted from their efforts. These projects were able to cite the impact that technology access has had on individuals—as opposed to viewing the provision of access as an end in and of itself. Taken together, these findings suggest that projects are becoming more skilled in their ability to assess and articulate the impact that technology is having at the community level.

¹⁸“Education organizations” refers to a broad variety of organizations and must not be confused with K-12 schools. In fact, the most common type of education organizations to receive grants were higher education institutions or consortia. Of the 36 access and demonstration grants awarded, only 4 were awarded to K-12 schools or school districts.

¹⁹Page 32 of the *Evaluation of the Telecommunications Information Infrastructure Assistance Program for the 1994 and 1995 Grant Years*.

²⁰The Fiscal Year 1996 Notice of Availability of Funds further instructed applicants to develop an evaluation plan that distinguished “how you will monitor the progress of the project against the time line...from how you will evaluate the usage of technology you will deploy (e.g., how many users use the system each week and for what do they use it?), from how you will evaluate the outcomes to be affected by the project (e.g., have childhood immunization rates increased?).”

APPENDIX A

MAIL SURVEY OF DEMONSTRATION AND ACCESS PROJECTS

U.S. Department of Commerce National Telecommunications and Information Administration EVALUATION OF THE TELECOMMUNICATIONS AND INFORMATION INFRASTRUCTURE ASSISTANCE PROGRAM Survey of 1996 Grant Recipients Version A: <i>Demonstration and Access Projects</i>	FORM APPROVED O.M.B. No.: 0660-0013 EXPIRATION DATE: 05/31/2001
This survey is authorized by law (20 U.S.C. 1221e-1). While you are not required to respond, your cooperation is needed to make the results of this survey comprehensive, accurate, and timely.	

INSTRUCTIONS FOR THIS SURVEY:

The U.S. Department of Commerce is conducting an evaluation of the Telecommunications and Information Infrastructure Assistance Program (TIIAP). The purposes of this survey are to evaluate the impact of TIIAP and to identify ways the program might be improved.

We ask that the requested information be provided by the current principal investigator (PI) or, if this is not possible, by the person who is most knowledgeable about the history and current status of the project. The PI name, contact information, and other descriptive information about the project appear below. Please correct the label if any of the information is incorrect.

AFFIX LABEL HERE

IF ANY OF THE ABOVE INFORMATION IS INCORRECT, PLEASE UPDATE DIRECTLY ON LABEL.

RETURN COMPLETED FORM BY September 10, 1999 TO: TIIAP Evaluation Westat RA1105F 1650 Research Boulevard Rockville, Maryland 20850-9973	IF YOU HAVE ANY QUESTIONS, CALL: Kyle Snow 1-800-937-8281, ext. 2285 <div style="text-align: right;">or</div> Vickie Carlson 1-800-937-8281, ext. 3802
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Public reporting burden for this collection of information is estimated to average 60 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Linda Engelmeier, Acting Departmental Forms Clearance Officer, Department of Commerce—Room 5327, 1401 Constitution Avenue, NW, Washington, D.C. 20230; and to the Office of Management and Budget, Paperwork Reduction Project 0660-0013, Washington, D.C. 20503. Notwithstanding any other provision of law, no person is required to respond unless the survey displays a valid OMB control number.

I. PROJECT OUTCOMES

1. Listed below are outcomes that are commonly achieved through the application of information infrastructure technology. In column A, indicate whether your project was striving to achieve a given outcome.

For those marked "Yes" in column A, use column B to indicate how successful your TIAP project has been in achieving the specified outcome.

Outcome	A. Outcome?		B. Extent of Achievement		
	Yes	No	Less than expected	Same as expected	More than expected
a) Improve delivery of social services	1	2	1	2	3
b) Increase sense of community and focus on the common good	1	2	1	2	3
c) Increase family stability.....	1	2	1	2	3
d) Increase cultural sensitivity and social tolerance	1	2	1	2	3
e) Increase participation in civic affairs.....	1	2	1	2	3
f) Increase employment	1	2	1	2	3
g) Reduce poverty	1	2	1	2	3
h) Enhance economic development	1	2	1	2	3
i) Enhance community development	1	2	1	2	3
j) Enhance long-term telecommunication needs	1	2	1	2	3
k) Improve the quality of health care	1	2	1	2	3
l) Improve the effectiveness of public safety services	1	2	1	2	3
m) Improve training and learning opportunities	1	2	1	2	3
n) Improve cultural enrichment	1	2	1	2	3
o) Enhance coordination of community-wide information and communication services	1	2	1	2	3
p) Other (<i>specify</i>) _____	1	2	1	2	3

2. Did your project seek to address any of the following barriers to access of advanced telecommunications technology?

	Yes	No
a) Linguistic.....	1	2
b) Technological.....	1	2
c) Geographic.....	1	2
d) Cultural.....	1	2
e) Economic.....	1	2
f) Physical.....	1	2
g) Other (specify) _____	1	2

3. What has been the major or most important outcome to result from your TIAP project?

4. Please indicate below the approximate number of individuals who have benefited from TIIAP-related equipment or resources since the beginning of the project. In column A, indicate the number of direct end users, that is, workers (e.g., librarians, medical staff, 911 operators) or community members (e.g., students, persons seeking employment) who have direct access to the equipment or resources provided through your TIIAP grant. In column B, indicate the number of other beneficiaries, that is, individuals who have benefited from the improved services offered through your project without having direct access to project resources or equipment.

Select the single classification that best describes a category of end users/other beneficiaries (do not count individuals in more than one category). Use "0" to indicate that there were no direct end users/other beneficiaries for a given category. **DO NOT LEAVE ANY SPACES BLANK.**

	A. End users		B. Other beneficiaries	
a) Number in human service settings.....	_____	_____	_____	_____
b) Number in cultural settings.....	_____	_____	_____	_____
c) Number in government agencies	_____	_____	_____	_____
d) Number in public safety settings.....	_____	_____	_____	_____
e) Number in educational settings.....	_____	_____	_____	_____
f) Number in health care settings.....	_____	_____	_____	_____
g) Other settings not listed above (<i>specify</i>) _____	_____	_____	_____	_____

5. Did your project affect any disadvantaged or underserved community segments either as direct end users of project equipment/resources or as other beneficiaries of project-related services?

Yes 1 (*Continue with Q6*)
 No 2 (*Skip to Q7*)

6. In column A, indicate whether each of the following disadvantaged or underserved community segments served as end users of project equipment or resources. In column B, indicate whether each community segment indirectly benefited from the improved services offered through your project without having direct access to project equipment or resources.

	A. End users?		B. Other beneficiaries?	
	Yes	No	Yes	No
a) Extreme poverty.....	1	2	1	2
b) Illiterate	1	2	1	2
c) Limited English speaking.....	1	2	1	2
d) Disabled.....	1	2	1	2
e) Inner city	1	2	1	2
f) Rural	1	2	1	2
g) Geographically isolated	1	2	1	2
h) Tribal.....	1	2	1	2
i) Mexican border communities.....	1	2	1	2
j) Other group not listed above (<i>specify</i>) _____	1	2	1	2

7. Which of the following best describes the geographic distribution of the end users targeted by this project, i.e., individuals having direct access to project equipment or resources?
- a) In a single city, town, or county..... 1
 - b) In a major metropolitan area (i.e., a central city and its adjacent counties)..... 2
 - c) In 2 or more adjacent counties within a single state (not associated with a common metropolitan area)..... 3
 - d) In 2 or more non-adjacent counties within a single state..... 4
 - e) In all counties within a single state 5
 - f) In 2 or more adjacent states (not associated with a common metropolitan area) 6
 - g) In 2 or more non-adjacent states 7
 - h) In all 50 states 8
 - i) In 2 or more countries..... 9
 - j) Other area definition not listed above (*specify*) _____ 10

8. Which of the following best describes the geographic distribution of the other beneficiaries, i.e., individuals who indirectly benefited from the improved services offered through the project without having direct access to project resources or equipment? (For example, students might indirectly benefit from a project involving a telecommunications network that is used exclusively by teachers.)

- a) In a single city, town, or county..... 1
- b) In a major metropolitan area (i.e., a central city and its adjacent counties)..... 2
- c) In 2 or more adjacent counties within a single state (not associated with a common metropolitan area)..... 3
- d) In 2 or more non-adjacent counties within a single state..... 4
- e) In all counties within a single state 5
- f) In 2 or more adjacent states (not associated with a common metropolitan area) 6
- g) In 2 or more non-adjacent states 7
- h) In all 50 states 8
- i) In 2 or more countries..... 9
- j) Other area definition not listed above (*specify*) _____ 10

9. Has your project expanded to serve additional end users in locations or organizations beyond those targeted in the TIIAP proposal?

- Yes 1 (*Continue with Q10*)
- No 2 (*Skip to Q11*)

10. Please describe the additional end users being served.

II. PROJECT IMPLEMENTATION

11. Below is a list of activities and strategies that are often associated with the *planning* phase of a TIIAP project. Use column A to indicate if a given activity was proposed by your project. If yes, use column B to indicate the extent to which the activity was implemented.

Planning	A. Proposed?		B. Extent of Implementation			
	Yes	No	Never imple- mented	Less than planned	Same as planned	More than planned
a) Conduct a community assessment to gain a better understanding of the population to be served.....	1	2	1	2	3	4
b) Evaluate the capabilities and limitations of an existing information/communications system or network.....	1	2	1	2	3	4
c) Identify mechanisms to create communications links between disparate databases, programs, agencies, or organizations	1	2	1	2	3	4
d) Identify mechanisms to integrate disparate telecommunications systems (such as video conferencing with public broadcast facilities).....	1	2	1	2	3	4
e) Conduct a media campaign to increase awareness of the value of the information infrastructure.....	1	2	1	2	3	4
f) Interview potential end users and/or other beneficiaries	1	2	1	2	3	4

12. Below is a list of activities and strategies that are commonly used by TIIAP projects to promote access to the information infrastructure. Use column A to indicate if an activity was proposed by your project. If yes, use column B to indicate the extent to which the given activity was implemented.

Access	A. Proposed?		B. Extent of Implementation			
	Yes	No	Never imple- mented	Less than planned	Same as planned	More than planned
a) Create a network to refurbish and/or distribute donated computer equipment	1	2	1	2	3	4
b) Establish a resource center or centralized location for information exchange.....	1	2	1	2	3	4
c) Provide information or services to meet community needs via the World Wide Web....	1	2	1	2	3	4
d) Establish access sites for reaching the information infrastructure.....	1	2	1	2	3	4
e) Provide mobile access to the information infrastructure.....	1	2	1	2	3	4
f) Develop an alliance for better access to technology	1	2	1	2	3	4
g) Provide Internet services through an established Internet service provider (ISP).....	1	2	1	2	3	4
h) Create electronic town meetings	1	2	1	2	3	4
i) Establish an economic development network.	1	2	1	2	3	4
j) Establish an employment and job training network	1	2	1	2	3	4
k) Establish a network to provide government services.....	1	2	1	2	3	4
l) Establish a network to provide educational services.....	1	2	1	2	3	4
m) Establish a network to provide health services.....	1	2	1	2	3	4
n) Establish a network to provide public safety services.....	1	2	1	2	3	4
o) Create a new entity to provide telecommunications services.....	1	2	1	2	3	4

13. Below is a list of technology-related activities and strategies that are commonly used by TIIAP projects. Use column A to indicate if a given activity was proposed by your project. If yes, use column B to indicate the extent to which the given activity was implemented.

Technology	A. Proposed?		B. Extent of Implementation			
	Yes	No	Never imple- mented	Less than planned	Same as planned	More than planned
a) Connect new community-based organizations and agencies to existing network	1	2	1	2	3	4
b) Establish links between existing networks	1	2	1	2	3	4
c) Extend the area covered by an existing network	1	2	1	2	3	4
d) Upgrade the hardware capabilities of an existing network	1	2	1	2	3	4
e) Create a distributed network of hub sites	1	2	1	2	3	4
f) Integrate disparate telecommunications systems (such as video conferencing with public broadcast facilities)	1	2	1	2	3	4
g) Develop new interface technology and accessible media (e.g., video-on-demand)...	1	2	1	2	3	4
h) Establish new network by creating links between disparate databases, programs, agencies, or organizations.....	1	2	1	2	3	4
i) Create an interactive network for distance learning, teleconferencing, or telemedicine ..	1	2	1	2	3	4
j) Develop a new database or link existing databases to the Internet.....	1	2	1	2	3	4

14. Below is a list of activities and strategies that are commonly used by TIIAP projects to train end users in the use of telecommunications technologies. Please use column A to indicate if a given activity was proposed by your project. If yes, use column B to indicate the extent to which the given activity was implemented.

Training	A. Proposed?		B. Extent of Implementation			
	Yes	No	Never implemented	Less than planned	Same as planned	More than planned
a) Provide computer hardware needed to meet education and training needs	1	2	1	2	3	4
b) Establish a training and resource center.....	1	2	1	2	3	4
c) Provide onsite education and training.....	1	2	1	2	3	4
d) Create a network of certified trainers.....	1	2	1	2	3	4
e) Develop a system for electronic/online self-training.....	1	2	1	2	3	4
f) Develop training materials (print, video, electronic).....	1	2	1	2	3	4
g) Use a "train-the-trainer" approach.....	1	2	1	2	3	4

15. Did any of the following obstacles or impediments prevent you from carrying out the activities as well as you might otherwise have done?

	Yes	No
Organizational problems		
a) Inadequate or underqualified staffing.....	1	2
b) Excessive staff turnover	1	2
c) Communication problems/misunderstandings of roles	1	2
d) Lack of commitment and follow-through on the part of partners and/or community stakeholders	1	2
e) Difficulty obtaining matching funds	1	2
Planning problems		
f) Underestimated the resources needed.....	1	2
g) Underestimated the amount of effort/time required.....	1	2
h) Outdated, insufficient, or poor quality data/information to work with...	1	2
i) Necessary information was proprietary.....	1	2
Other problems		
j) <i>(specify)</i> _____	1	2
k) <i>(specify)</i> _____	1	2

16. Has your project generated any spin-off activities, i.e., additional services that were not included in your original TIIAP proposal?

Yes 1 *(Continue with Q17-Q19)*
 No 2 *(Skip to Q20)*

17. Please describe any spin-off activities and the additional services being provided.

18. Please identify the funding sources for your spin-off activities. (Circle one on each line. If yes, please specify.)

Funding source	Yes	No	Specify
a) Health care organization	1	2	_____
b) Education organization	1	2	_____
c) Public safety organization	1	2	_____
d) Governmental organization	1	2	_____
e) Community organization	1	2	_____
f) Private sector organization.....	1	2	_____
g) User fee/fee-for-service.....	1	2	_____
h) Other	1	2	_____
i) Other	1	2	_____

19. Please estimate the approximate dollar amount or value of any additional equipment, resources, or investments that resulted from the spin-off activities.

III. PROJECT SUSTAINABILITY

20. What is the current status of your project?

- a) In full operation 1 *(Continue with Q21)*
- b) In operation and serving a function that has changed/grown/expanded considerably from that outlined in the original proposal 2 *(Continue with Q21)*
- c) In partial operation providing the full range of services but affecting fewer end users than intended 3 *(Skip to Q22)*
- d) In partial operation serving the full scope of end users but providing a limited range of services..... 4 *(Skip to Q22)*
- e) No longer in operation..... 5 *(Skip to Q22)*

21. *(for projects answering "a" or "b" for item 20)* Please identify any factors that facilitated your project's growth and expansion:

(Proceed to item 23)

22. *(for projects answering "c," "d," or "e" for item 20)* Which of the following factors are responsible for the project no longer operating at full capacity?

	Yes	No
a) Mechanical obsolescence (equipment became inoperable, unreliable, worn out).....	1	2
b) Technological obsolescence (faster, more accurate, better alternatives became available).....	1	2
c) Personnel changes (project staff who were most interested are no longer involved)	1	2
d) No funding available for maintenance	1	2
e) No funding available for operations (staff, facilities)	1	2
f) Not enough users	1	2
g) Lack of community awareness	1	2
h) Loss of partners	1	2
i) Lack of community support.....	1	2
j) Other (<i>specify</i>)	1	2

IV. IMPACT OF TIIAP GRANT

23. What do you believe would have been the most likely outcome of your project if you did not receive Federal funds through the TIIAP program?

- The project would probably never have been implemented 1 (*Skip to Q27*)
- The project would probably have been implemented using alternate funding sources 2 (*Continue with Q24-Q26*)

24. How do you believe the absence of TIIAP funding would have affected the range of services offered by your project?

- The project would still be able to offer the full range of services..... 1
- The range of services offered by the project would suffer minor reductions..... 2
- The range of services offered by the project would have to be dramatically reduced..... 3

25. How do you believe the absence of TIIAP funding would have affected the scale of your project?

- The project would still have reached an equivalent number of people..... 1
- The project would have reached a slightly smaller number of people..... 2
- The project would have reached significantly fewer people 3

26. How do you believe the absence of TIIAP funding would have affected the implementation schedule for your project?

- The project would still have been implemented on the same schedule 1
- Project implementation would have been delayed slightly 2
- Project implementation would have been substantially delayed 3

V. COMMUNITY INVOLVEMENT

27. How many organizations served as a partner* in your project?

*NOTE: A partner is any organization that (1) provides financial support to the project; (2) loans, donates, or provides discounts on equipment or supplies for project-related activities; (3) contributes expertise (e.g., in the form of consultants, engineers, attorneys, programmers, software engineers, system professionals) or services (e.g., telecommunications providers) to the project; (4) loans or donates building/office space to the project. A project partner can be also be a subrecipient.

28. How many of these partner organizations had a prior working relationship with the grant recipient organization?

29. Please specify the total number of partners from each organization type listed below. Select the single classification that best describes the organization type for each partner so that the sum of rows a-e is equal to the total number of partners reported in item 27 above. Use "0" to indicate that there were no partners of a given type. **DO NOT LEAVE ANY SPACES BLANK.**

Organization type	Number of Partners
a) Health care organization	_____
b) Education organization	_____
c) Public safety organization	_____
d) Government agency	_____
e) Community organization	_____
f) Broadcast media organization	_____
g) Private foundations or institute	_____
h) Independent telephone company	_____
i) Cable company	_____
j) Regional Bell Operating company	_____
k) Computer hardware company	_____
l) Computer software company	_____
m) Internet service provider	_____
n) Other private business or commercial vendor (specify)	_____
o) Other (specify) _____	_____

30. Please specify the total number of partners providing each service or resource listed below. Use "0" to indicate that there were no partners providing a given service or resource. **DO NOT LEAVE ANY SPACES BLANK.**

Service or resource provided	Number of Partners
a) Funding	_____
b) Equipment or equipment discounts	_____
c) In-kind or reduced rates for services	_____
d) Personnel	_____
e) Space or facilities	_____
f) Data access	_____
g) Expertise or intellectual capital.....	_____
h) Other (specify) _____	_____

31. How many organizations served as a subrecipient* of TIIAP funds?

*NOTE: A subrecipient is any legal entity to which a subaward is made and which is accountable to the recipient for the use of funds provided. A subrecipient can also be a project partner.

32. Have your relationships with partner organizations changed as a result of this project? For example, in the types of activities conducted jointly, the ways in which joint activities are conducted, or plans for future interaction?

Yes (*Please describe how the partnerships have changed.*) 1

—

—

—

—

No 2

VI. PROJECT TECHNOLOGY

33. Which of the following telecommunications technologies and services is your project using?

	Yes	No
a) Dial-up telephone lines and modems	1	2
b) Wireless services (e.g., cellular, PCS, microwave)	1	2
c) Satellite services.....	1	2
d) Cable modems.....	1	2
e) Digital services (e.g., ISDN, DSL, T1, 56K)	1	2
f) Other (specify) _____	1	2

34. Which of the following devices has your project made available to your end users?

	Yes	No
a) Personal computers.....	1	2
b) Network computers.....	1	2
c) Television-connected device (e.g., Web TV)	1	2
d) Personal digital assistant (e.g., hand-held computer device)	1	2
e) Video teleconferencing unit	1	2
f) Other (specify) _____	1	2

35. Does your project help end users obtain access to the Internet?

- Yes 1 (Continue with Q36)
 No 2 (Skip to Q37)

36. Through which of the following types of Internet service providers do your project's end users connect to the Internet?

	Yes	No
a) Commercial Internet service provider (ISP).....	1	2
b) Nonprofit community network	1	2
c) University network	1	2
d) K-12 school network	1	2
e) State or local government network	1	2
f) The project itself provides Internet services directly to end users	1	2
g) Other (specify) _____	1	2

37. In column A, indicate whether project equipment or resources were housed in each of the listed settings. For each of the settings designated as housing project equipment or resources, specify in column B the number of distinct facilities or implementation sites that were involved.

	A. Equipment setting		B. Number of sites
	Yes	No	
a) K-12 school or school district	1	2	_____
b) College or university	1	2	_____
c) Library, museum, or other cultural entity	1	2	_____
d) Hospital, clinic, or other health care organization	1	2	_____
e) Fire and rescue department/agency	1	2	_____
f) Law enforcement department/agency	1	2	_____
g) Community center	1	2	_____
h) Government building	1	2	_____
i) Nonprofit organization or entity	1	2	_____
j) Private sector organization or entity	1	2	_____
k) Mobile vehicle	1	2	_____
l) Private home or residence	1	2	_____
m) Other (<i>specify</i>) _____	1	2	_____

38. Was the technology planned for your project sufficient to meet the goals of your project?

Yes 1
 No (*Please explain*) 2

—

—

—

VII. PROJECT EVALUATION

39. Which of the following data collection methods were used to evaluate your project?

	Yes	No
a) Survey	1	2
b) Case studies	1	2
c) Participant observation	1	2
d) Interviews.....	1	2
e) Focus groups	1	2
f) Document review	1	2
g) Website monitoring.....	1	2
h) Monitoring of information requests	1	2
i) Pre/post-testing.....	1	2
j) Site visits.....	1	2

40. Which of the following types of data did you collect about your project?

	Yes	No
a) End user's satisfaction with your project's telecommunications services or activities.....	1	2
b) Other beneficiaries' satisfaction with your project's telecommunications services and activities	1	2
c) Project staff's (or service providers') satisfaction with the project's services and activities	1	2
d) Intended end users who refused to use your project's telecommunications services or resources.....	1	2
e) Intended end users who rarely or reluctantly made use of your project's telecommunications services or resources	1	2
f) The efficacy with which telecommunications services are now being provided.....	1	2
g) Project benefits on end users	1	2
h) Project benefits on other beneficiaries of project services ...	1	2

41. Do you have a completed evaluation report that can be shared with others interested in your project?

Yes	1
No	2

VIII. PROJECT DISSEMINATION

42. Do you feel that your project can serve as a replicable model for other similar organizations or partnerships to follow?

Yes 1
 No 2

43. We are interested in assessing the likelihood that the innovations introduced by your project will be adopted by other organizations. Please indicate the extent to which you agree with each of the following statements about whether your project might serve as a replicable model for others. Indicate your agreement using a 1-to-5 scale, in which

1 = Strongly agree
 2 = Moderately agree
 3 = Neither agree nor disagree
 4 = Moderately disagree
 5 = Strongly disagree
 NA = Not applicable

	Strongly agree	Moderately agree	Neither agree nor disagree	Moderately disagree	Strongly disagree	Not applicable
a) The innovation brought about by this project provides a marked advantage over alternative ways to provide similar services	1	2	3	4	5	NA
b) The advantages of the innovation introduced in this project are easily documented, demonstrated, and communicated to others	1	2	3	4	5	NA
c) Project equipment and resources are not threatening or intimidating to use.....	1	2	3	4	5	NA
d) The project's innovation makes the information infrastructure easier to understand and use than it would be otherwise	1	2	3	4	5	NA
e) The innovation brought about by this project can be easily implemented by others with a reasonable amount of effort and expense	1	2	3	4	5	NA

44. Please indicate approximately how many different organizations received information and/or technical assistance relating to your project through each of the following dissemination categories:

- a) Casual conversation _____
- b) Casual Internet correspondence _____
- c) Responses to unsolicited requests _____
- d) Meeting, conference, or other event _____
- e) Article, report, or other written publication _____
- f) Internet website _____
- g) Listserve, newsgroup, or electronic bulletin board _____
- h) Site visits, tours, or technology demonstrations _____
- i) Marketing efforts and advertising _____
- j) Technology fairs, job fairs, or other community events _____

45. To your knowledge, how many of the organizations receiving information about your project implemented similar projects or project-related ideas?

46. Please list the name and location of each organization adopting ideas from your project and, if possible, the name and number of a contact person at each organization. If the organization name is unknown, write down the type of organization. (Attach additional sheets of paper if necessary.)

- 1) _____

- 2) _____

- 3) _____

- 4) _____

IX. INFORMATION ABOUT THE GRANT RECIPIENT

47. From the list below, indicate the category that best describes the grantee organization.

Enter number from list below: _____

ORGANIZATION TYPES	
<p>Health care organizations</p> <ul style="list-style-type: none"> 11 Medical school 12 Hospital 13 Professional association 14 Clinic, medical center, or specialized practice 15 Public health agency 16 Other health care entity (<i>specify</i>) _____ <p style="text-align: center;">—</p> <p>Education organizations</p> <ul style="list-style-type: none"> 21 Higher education institution or consortium 22 K-12 school or school system 23 Adult education organization 24 Local education agency 25 Other education entity (<i>specify</i>) _____ <p style="text-align: center;">—</p> <p>Public safety organizations</p> <ul style="list-style-type: none"> 31 Law enforcement agency or department 32 Fire and rescue agency or department 33 Emergency agency or department 34 Professional organization 34 Other public safety entity (<i>specify</i>) _____ <p style="text-align: center;">—</p>	<p>Governmental organizations</p> <ul style="list-style-type: none"> 41 State government agency 42 County government agency 43 City or municipal government 44 Tribal government 45 Other governmental entity (<i>specify</i>) _____ <p style="text-align: center;">—</p> <p>Community organizations</p> <ul style="list-style-type: none"> 51 Social service agency 52 Library 53 Museum or other cultural entity 54 Community development organization 55 Public broadcasting station 56 Other community organization or entity (<i>specify</i>) _____

48. Please give your name, title, telephone number, e-mail address, and the most convenient days/times to reach you. The information will be used only if it is necessary to clarify any of your responses.

Name
Title
Telephone (with area code)
E-mail address

Convenient days/times to reach you, if necessary.	
Day	Time
	<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
	<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
	<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
	<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
	<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
	<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.

THANK YOU FOR ASSISTING US IN THIS SURVEY.
YOUR TIME AND EFFORT ARE APPRECIATED.

Please return this questionnaire in the enclosed envelope or send to:

*TIIAP Evaluation
Westat
RA1165C
1650 Research Boulevard
Rockville, MD 20850*

*If you have any questions, please call Kyle Snow at
1-800-937-8281, ext. 2285 or
Vickie Carlson at 1-800-937-8281, ext. 3802*

APPENDIX B

MAIL SURVEY OF PLANNING PROJECTS

U.S. Department of Commerce National Telecommunications and Information Administration EVALUATION OF THE TELECOMMUNICATIONS AND INFORMATION INFRASTRUCTURE ASSISTANCE PROGRAM Survey of 1996 Grant Recipients Version B: <i>Planning Projects</i>	FORM APPROVED O.M.B. No.: 0660-0013 EXPIRATION DATE: 5/31/2001
This survey is authorized by law (20 U.S.C. 1221e-1). While you are not required to respond, your cooperation is needed to make the results of this survey comprehensive, accurate, and timely.	

INSTRUCTIONS FOR THIS SURVEY:

The U.S. Department of Commerce is conducting an evaluation of the Telecommunications and Information Infrastructure Assistance Program (TIIAP). The purposes of this survey are to evaluate the impact of TIIAP and to identify ways the program might be improved.

We ask that the requested information be provided by the current principal investigator (PI) or, if this is not possible, by the person who is most knowledgeable about the history and current status of the project. The PI name, contact information, and other descriptive information about the project appear below. Please correct the label if any of the information is incorrect.

AFFIX LABEL HERE

IF ANY OF THE ABOVE INFORMATION IS INCORRECT, PLEASE UPDATE DIRECTLY ON LABEL.

RETURN COMPLETED FORM BY September 10, 1999 TO: TIIAP Evaluation Westat RA1105F 1650 Research Boulevard Rockville, Maryland 20850-9973	IF YOU HAVE ANY QUESTIONS, CALL: Kyle Snow 1-800-937-8281, ext. 2285 <div style="text-align: right;">or</div> Vickie Carlson 1-800-937-8281, ext. 3802
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Public reporting burden for this collection of information is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Linda Engelmeier, Acting Departmental Forms Clearance Officer, Department of Commerce—Room 5327, 1401 Constitution Avenue, NW, Washington, D.C. 20230; and to the Office of Management and Budget, Paperwork Reduction Project 0660-0013, Washington, D.C. 20503. Notwithstanding any other provision of law, no person is required to respond unless the survey displays a valid OMB control number.

I. PURPOSE OF THE PLAN

1. Listed below are outcomes that are commonly achieved through the application of information infrastructure technology. Indicate whether the project outlined in your telecommunications plan was striving to achieve a given outcome.

Outcome	Outcome?	
	Yes	No
a) Improve delivery of social services	1	2
b) Increase sense of community and focus on the common good	1	2
c) Increase family stability.....	1	2
d) Increase cultural sensitivity and social tolerance	1	2
e) Increase participation in civic affairs.....	1	2
f) Increase employment	1	2
g) Reduce poverty	1	2
h) Enhance economic development	1	2
i) Enhance community development	1	2
j) Enhance long-term telecommunication needs	1	2
k) Improve the quality of health care	1	2
l) Improve the effectiveness of public safety services	1	2
m) Improve training and learning opportunities	1	2
n) Improve cultural enrichment	1	2
o) Enhance coordination of community-wide information and communication services	1	2
p) Other (<i>specify</i>) _____	1	2

2. Did the project you were planning seek to address any of the following barriers to access of advanced telecommunications technology?

	Yes	No
a) Linguistic.....	1	2
b) Technological.....	1	2
c) Geographic	1	2
d) Cultural	1	2
e) Economic.....	1	2
f) Physical	1	2

3. What has been the major or most important outcome to result from your TIIAP planning project?

4. Please indicate below whether the project outlined in your telecommunications plan was designed to provide services to individuals in the following community groups. **CIRCLE ONE RESPONSE FOR EACH ITEM.**

	Yes	No
a) Individuals in human service settings.....	1	2
b) Individuals in cultural settings.....	1	2
c) Individuals in government agencies	1	2
d) Individuals in public safety settings.....	1	2
e) Individuals in educational settings.....	1	2
f) Individuals in health care settings.....	1	2
g) Other settings not listed above (<i>specify</i>) _____	1	2

5. Did the project outlined in your telecommunications plan target any disadvantaged or underserved community segments either as direct end users of project equipment and resources or as other beneficiaries of project-related services?

- Yes 1 (*Continue with Q6*)
- No 2 (*Skip to Q7*)

6. Indicate whether the project outlined in your telecommunications plan was designed to serve any of the following disadvantaged or underserved community segments. **CIRCLE ONE RESPONSE FOR EACH ITEM.**

	Yes	No
a) Extreme poverty.....	1	2
b) Illiterate.....	1	2
c) Limited English speaking.....	1	2
d) Disabled.....	1	2
e) Inner city.....	1	2
f) Rural.....	1	2
g) Geographically isolated.....	1	2
h) Tribal.....	1	2
i) Mexico border communities.....	1	2
j) Other group not listed above (<i>specify</i>) _____	1	2

II. DEVELOPING THE PLAN

7. Below is a list of strategies that are often associated with the development of a telecommunications plan. Use column A to indicate whether or not a given activity was proposed by your project. If yes, use column B to indicate the extent to which the activity was implemented.

Activity	A.		B.			
	Proposed?		Extent of Implementation			
	Yes	No	Not conduct- ed	Less than planned	Same as planned	More than planned
a) Conduct a needs assessment to gain a better understanding of the population to be served	1	2	1	2	3	4
b) Evaluate the capabilities and limitations of an existing information/communications system or network	1	2	1	2	3	4
c) Identify mechanisms to create communications links between disparate databases, programs, agencies, or organizations	1	2	1	2	3	4
d) Identify mechanisms to integrate disparate telecommunications systems (such as video conferencing with public broadcast facilities)	1	2	1	2	3	4
e) Identify approaches to provide education and training in the use of telecommunications technologies	1	2	1	2	3	4
f) Determine the computer hardware and other equipment needed to accomplish the plan's intended outcomes	1	2	1	2	3	4
g) Identify sites for accessing the planned telecommunications network	1	2	1	2	3	4
h) Identify service providers for implementing the planned telecommunications network	1	2	1	2	3	4
i) Develop an evaluation plan to assess the impacts of implementing the plan	1	2	1	2	3	4
j) Develop a strategy for disseminating the materials or approaches that would be generated or developed through the implementation of your plan to others outside your organization	1	2	1	2	3	4

8. Did any of the following obstacles or impediments prevent you from carrying out the planning activities as well as you might otherwise have done?

	Yes	No
Organizational problems		
a) Inadequate or underqualified staffing.....	1	2
b) Excessive staff turnover	1	2
c) Communication problems/misunderstandings of roles	1	2
d) Lack of commitment and follow-through on the part of partners and/or community stakeholders	1	2
e) Difficulty obtaining matching funds	1	2
Planning problems		
f) Underestimated the resources needed.....	1	2
g) Underestimated the amount of effort/time required	1	2
h) Outdated, insufficient, or poor quality data/information to work with...	1	2
i) Necessary information was proprietary.....	1	2
Other problems		
j) <i>(specify)</i> _____	1	2
k) <i>(specify)</i> _____	1	2

III. CURRENT STATUS

9. To what extent has the project outlined in your telecommunications plan been implemented?

- | | | |
|--|---|----------------------------|
| a) The project outlined in the plan has been fully implemented | 1 | <i>(Continue with Q10)</i> |
| b) A revised version of the project has been implemented and it is serving a function that is considerably different from that outlined in the original plan developed through TIIAP | 2 | <i>(Continue with Q10)</i> |
| c) The project outlined in the plan has been partially implemented to provide the full range of services but is reaching fewer end users than intended | 3 | <i>(Continue with Q10)</i> |
| d) The project outlined in the plan has been partially implemented to provide the full scope of end users with a limited range of services | 4 | <i>(Continue with Q10)</i> |
| e) The project outlined in the plan has <u>not</u> been implemented, but plans <u>are</u> underway to initiate implementation | 5 | <i>(Skip to Q11)</i> |
| f) The project outlined in the plan has <u>not</u> been implemented and <u>no steps</u> are being taken to initiate implementation | 6 | <i>(Skip to Q11)</i> |

10. *(for projects answering "a," "b," "c," or "d" for item 9)* Please identify any factors that facilitated your initiative's ability to implement the project outlined in your telecommunications plan:

11. *(for projects answering "e" or "f" for item 9)* Which of the following factors are responsible for the project outlined in your telecommunications plan not being implemented?

	Yes	No
a) Technological obsolescence (faster, more accurate, better alternatives became available)	1	2
b) Personnel changes (project staff who were most interested are no longer involved)	1	2
c) No funding available for maintenance	1	2
d) No funding available for operations (staff, facilities)	1	2
e) Not enough users	1	2
f) Lack of community awareness	1	2
g) Loss of partners	1	2
h) Lack of community support.....	1	2
i) Other (<i>specify</i>) _____	1	2

12. Do you believe you would have been able to develop the telecommunications plan if you had not received Federal funds through the TIIAP program?

Yes 1 (Continue with Q13)
No 2 (Skip to Q14)

13. How do you believe the absence of TIIAP funding would have affected the development of your telecommunications plan?

The plan would still have been developed on the same schedule..... 1
The plan would have been delayed slightly 2
The plan would have been substantially delayed 3

14. Did you receive a subsequent TIIAP award to implement the telecommunications plan developed through this award?

Yes (Year of award: **19** ____.) 1
No 2

15. Was the TIIAP planning grant helpful in securing additional funds to implement your telecommunications plan?

Yes 1
(Please explain.)

—

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—

No 2

IV. COMMUNITY INVOLVEMENT

16. How many organizations served as a partner* in your planning project?

*NOTE: A partner is any organization that (1) provides financial support to the project; (2) loans, donates, or provides discounts on equipment or supplies for project-related activities; (3) contributes expertise (e.g., in the form of consultants, engineers, attorneys, programmers, software engineers, system professionals) or services (e.g., telecommunications providers) to the project; or (4) loans or donates building/office space to the project.

17. How many of these partner organizations had a prior working relationship with the grant recipient organization?

18. Please specify the total number of partners from each organization type listed below. Select the single classification that best describes the organization type for each partner so that the sum of rows a-“O” is equal to the total number of partners reported in item 16 above. Use “0” to indicate that there were no partners of a given type. **DO NOT LEAVE ANY SPACES BLANK.**

Organization type	Number of partners
a) Health care organization	_____
b) Education organization.....	_____
c) Public safety organization	_____
d) Government agency	_____
e) Community organization	_____
f) Broadcast media organization.....	_____
g) Private foundation or institute.....	_____
h) Independent telephone company.....	_____
i) Cable company	_____
j) Regional Bell Operating Company	_____
k) Computer hardware company	_____
l) Computer software company	_____
m) Internet service provider.....	_____
n) Other private business or commercial vendor (specify)	_____
o) Other (specify) _____	_____

19. Please specify the total number of partners providing each service or resource listed below during the planning project. Use "0" to indicate that there were no partners providing a given service or resource. **DO NOT LEAVE ANY SPACES BLANK.**

Service or resource provided	Number of partners
a) Funding	_____
b) Equipment or equipment discounts	_____
c) In-kind or reduced rates for services	_____
d) Personnel	_____
e) Space or facilities	_____
f) Data access	_____
g) Expertise or intellectual capital	_____
h) Other (specify) _____	_____

20. How many organizations served as a subrecipient* of TIIAP funds on the planning project?.....

*NOTE: A subrecipient is any legal entity to which a subaward is made and which is accountable to the recipient for the use of funds provided.

V. PROJECT TECHNOLOGY

21. Which of the following types of equipment were specified for use in your telecommunications plan?
- | | Yes | No |
|---|-----|----|
| a) Dial-up telephone lines and modems | 1 | 2 |
| b) Wireless services (e.g., cellular, PCS, microwave) | 1 | 2 |
| c) Satellite services..... | 1 | 2 |
| d) Cable modems..... | 1 | 2 |
| e) Digital services (e.g., ISDN, DSL, T1, 56K) | 1 | 2 |
| f) Other (specify) _____ | 1 | 2 |
-
22. Which of the following devices did the project outline in your telecommunications plan to make available to your end users?
- | | Yes | No |
|---|-----|----|
| a) Personal computers..... | 1 | 2 |
| b) Network computers..... | 1 | 2 |
| c) Television-connected device (e.g., Web TV) | 1 | 2 |
| d) Personal digital assistant (e.g., hand-held computer device) | 1 | 2 |
| e) Video conferencing unit | 1 | 2 |
| f) Other (specify) _____ | 1 | 2 |
-
23. Did the project outlined in your telecommunications plan involve access to the Internet?
- | | | |
|-----------|---|----------------------------|
| Yes | 1 | <i>(Continue with Q24)</i> |
| No | 2 | <i>(Skip to Q25)</i> |
-
24. Which of the following types of Internet service providers were the end users in your telecommunications plan going to use to connect to the Internet?
- | | Yes | No |
|--|-----|----|
| a) Commercial Internet service provider (ISP) | 1 | 2 |
| b) Non-profit community network..... | 1 | 2 |
| c) University network | 1 | 2 |
| d) K-12 school network | 1 | 2 |
| e) State or local government network | 1 | 2 |
| f) The project itself provides Internet services directly to end users | 1 | 2 |
| g) Other (specify) _____ | 1 | 2 |

25. Use column A to indicate whether the project outlined in your telecommunications plan was designed to house project equipment or resources in a given setting. If yes, use column B to specify the number of distinct facilities or implementation sites that were specified in your telecommunications plan.

	A. Equipment setting		B. Number of sites
	Yes	No	
a) K-12 school or school district	1	2	_____
b) College or university	1	2	_____
c) Library, museum, or other cultural entity	1	2	_____
d) Hospital, clinic, or other health care organization	1	2	_____
e) Fire and rescue department/agency	1	2	_____
f) Law enforcement department/agency	1	2	_____
g) Community center	1	2	_____
h) Government building	1	2	_____
i) Nonprofit organization or entity	1	2	_____
j) Private sector organization or entity	1	2	_____
k) Mobile vehicle	1	2	_____
l) Private home or residence	1	2	_____
m) Other (<i>specify</i>) _____	1	2	_____

VI. INFORMATION ABOUT THE GRANT RECIPIENT

26. From the list below, indicate the category that best describes the grantee organization.

Enter number from list below: _____

ORGANIZATION TYPES	
<p>Health care organizations</p> <ul style="list-style-type: none"> 11 Medical school 12 Hospital 13 Professional association 14 Clinic, medical center, or specialized practice 15 Public health agency 16 Other health care entity (<i>specify</i>) _____ <p style="text-align: center;">-</p> <p>Education organizations</p> <ul style="list-style-type: none"> 21 Higher education institution or consortium 22 K-12 school or school system 23 Adult education organization 24 Local education agency 25 Other education entity (<i>specify</i>) _____ <p style="text-align: center;">-</p> <p>Public safety organizations</p> <ul style="list-style-type: none"> 31 Law enforcement agency or department 32 Fire and rescue agency or department 33 Emergency agency or department 34 Professional organization 34 Other public safety entity (<i>specify</i>) _____ <p style="text-align: center;">-</p>	<p>Governmental organizations</p> <ul style="list-style-type: none"> 41 State government agency 42 County government agency 43 City or municipal government 44 Tribal government 45 Other governmental entity (<i>specify</i>) _____ <p style="text-align: center;">-</p> <p>Community organizations</p> <ul style="list-style-type: none"> 51 Social service agency 52 Library 53 Museum or other cultural entity 54 Community development organization 55 Public broadcasting station (e.g., PBS or NPR station) 56 Other community organization or entity (<i>specify</i>) _____

27. Please give your name, title, telephone number, and the most convenient days/times to reach you. The information will be used only if it is necessary to clarify any of your responses.

Name	Convenient days/times to reach you, if necessary.	
Title	Day	Time
Telephone (with area code)		<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
E-mail address		<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
		<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
		<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
		<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.
		<input type="checkbox"/> a.m. <input type="checkbox"/> p.m.

THANK YOU FOR ASSISTING US IN THIS SURVEY.
YOUR TIME AND EFFORT ARE APPRECIATED.

Please return this questionnaire in the enclosed envelope or send to:

*TIIAP Evaluation
Westat
RA1165C
1650 Research Boulevard
Rockville, MD 20850*

*If you have any questions, please call Kyle Snow at
1-800-937-8281, ext. 2285 or
Vickie Carlson at 1-800-937-8281, ext. 3802*