

Table 4.1 Summary of Next Steps for Public Libraries to Reduce the Digital Divide (Cont.).

Area (Description)	Next Steps	External Support Needed
Content/Collections:		
<u>Basic Digital Reference Collection</u> – Libraries displaced purchasing of traditional reference collections in order to introduce the Internet to their community. The trade-off was worth it most feel. The Internet provides access to a larger basic reference collection than most public libraries could afford.	The challenge is to move local efforts up to national quality. Models exist, such as the <i>Librarians Index to the Internet</i> initially funded by LSTA and the California State Library. The goal is a basic public reference collection web site available to all public libraries.	National level coordination and sharing of state and local efforts is needed.
<u>Licensed databases:</u> a very successful program in many states involves state or system level licensing of databases for use by area libraries.	An expanded effort to license commercially published databases should be introduced to all states.	Successful programs often began with LSTA fund stimulus and were subsequently funded by state legislatures as the program's utility was recognized.
<u>Specialized collections:</u> External funding of general collection development has never been possible due to limited funds even though the need is great in poor libraries. Targeted collection building has had an impact.	<ul style="list-style-type: none"> • Acquire targeted collections that use new IT (e.g., DVDs, MP3) or those designed for special groups or those with special needs (e.g., visually impaired). • Development of digital content of interest to low income, low reading level people is lagging.¹⁰⁶ 	State libraries using LSTA and other sources have run successful programs with little funding in this area. These efforts should continue.

¹⁰⁶ See for example the work of the Children's Partnership (2000).

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Organization:		
<p><u>Web site development:</u> A web site is the public face of a physical organization in the digital world. Yet many libraries have no web site or only a token presence. Local governments, schools, businesses and nonprofit organizations also lack digital representation. Public libraries need to organize an enhanced digital presence and assist others, too. State library web sites can (and in some states already do) provide important access to state government information through government information locators (GILS). The organization of information is a core library role.¹⁰⁷</p>	<p>The goal should be that every library has its own locally developed and maintained web site. These sites should permit users at home, school or work to make use of the library in ways formally limited to those physically present in the library. That local librarian knowledge and expertise should be spread to area organizations that need similar assistance.</p>	<p>State libraries, using LSTA and other sources, have assisted a number of librarians to develop library web sites. It may be time for different approaches to assist the remaining libraries and move all libraries up to the next incremental level of web site development.</p>
<p><u>Simpler interfaces for common tasks:</u> Users at small libraries and branches need to function on their own with minimum assistance. Are there ways to make their experience both easier and richer?</p>	<p>Can software be devised to allow someone with no training obtain useful answers to classes of frequently asked questions in public libraries? Think of it as an automated teller machine (ATM) for libraries.</p>	<p>Basic, pragmatic research does not get done unless there is external support. This may be one area worthy of attention with application in every library both here and abroad.</p>

¹⁰⁷ See for example, Janes & Rosenfeld (1996) and St. Lifer (1996).

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<p>Public Services:</p> <p><u>24x7 digital reference:</u> Includes the provision of reference services 24 hours a day, 7 days a week to users at home, school, work, or the library using digital reference collections.</p>	<p>Prototypical services are underway. Various portions of these services will be adopted during the next period.</p>	<p>Investigate consortia models to share costs & develop policies; explore strengths and weaknesses of various types of digital reference services in light of local needs; and test digital reference services measures. Move reference services closer to point of need, if not the desktop then perhaps via kiosks and community access programs. Develop better ways to publicize services.</p>
<p><u>Services to targeted populations:</u> Including distant education, digital divide affected, health ed., home schoolers, investors, job seekers, literacy, local government, parents, seniors, small business & summer reading groups.</p>	<p>Basic approach is to systematically develop Internet-based services useful to target groups within a region, state or the nation. Excellent local models exist. Systematic attention needed at state & national levels.</p>	<p>This area is ripe for partnerships with other public and private organizations. Who will actively seek those partners at the federal and state levels? Who will then cooperatively work to produce quality digital products?</p>
<p>Public Training:</p> <p><u>Targeted user training:</u> Libraries are a natural (if not the only) place in the community to obtain training in use of the Internet and its resources. Most libraries visited lack the facilities (space and clustered workstations), staff and training to be effective.</p>	<p>Models exist for training the community in the effective use of various Internet services. Equipping library facilities and staff with the capacity to adopt these innovative programs locally is the next big challenge.</p>	<p>There is widespread interest in community technology centers (CTCs) among a range of external funders. Libraries are often overlooked as sites for CTCs. Who will systematically seek out those funds at the state and federal level for public libraries?</p>

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Area (Description)	Next Steps	External Support Needed
<p>Promotion: State and national advertising campaign: Citizens have been introduced to the notion that the library is a different place, a place to learn and try out the new information technologies like the Internet. It is time to fix that notion in the public's mind through statewide and national mass media campaigns. Local publicity, flyer, newspaper and even radio promotion can often be handled by librarians. A state or national mass media campaign is out of financial and technical reach for public libraries.</p>	<p>Several of the state libraries visited had experimented with mass media promotions of libraries and librarians with mixed success. Costs are high and training in this area often minimal. Getting the word out about libraries remain critical.</p>	<p>State and national efforts to promote the new library and librarians should receive greater funding and media attention.</p>

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Staff:		
<u>Temporary staff:</u> Small libraries, rural libraries and urban branch libraries are chronically understaffed. Librarians are often reduced to being custodians, just keeping things running, rather than providing services for which they are trained. Temporary workers funded by other agencies are an option for some libraries in the absence of local support.	Library managers need to consider these programs to meet staffing needs.	A wide variety of federal and state workforce investment and other programs exist in which libraries might participate. ¹⁰⁸ A related problem is that existing library staff, as well as temporary staff, may not be trained. A training program tailored to these staff is needed. Some of that training could be delivered via the Internet.
<u>Volunteers:</u> Libraries that have successful volunteer programs are noticeably different and better than those without. Running a good volunteer program is an art for which training is needed.	A volunteer program should be an integral part of every public library. Note: This does not imply that volunteers should be substituted for needed paid staff.	Some library managers need training in running successful volunteer efforts.
<u>Circuit riders:</u> Certain expertise may be in such high demand (technical skills) as to be out of reach of many libraries or needed only occasionally (advanced Internet searching techniques) by smaller libraries. In a surprising number of cases, a librarian (or other skilled person) brought in for a short period of time, as a circuit rider traveling from library to library, may improve library services significantly.	Circuit riding programs exist in several states and should be adopted by others. States should consider establishing programs where local needs for short term assistance can be matched up with expertise willing to "ride the circuit" to meet demand.	Some state libraries have funded these programs using state and LSTA funds.

¹⁰⁸ Programs include: Experience Works (formerly Green Thumb <<http://www.greenthumb.org/>>), AmeriCorps/VISTA <<http://www.friendsofvista.org/section1.html>>, SeniorCorps <<http://www.seniorcorps.org/index.html>> and many others.

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Staff Training:		
<p>Staff training is one of the greatest ongoing challenges faced by library managers. Perhaps the most difficult situation is in small and rural libraries. There is widespread recognition that trained staff are a crucial component of new service delivery.</p>	<ul style="list-style-type: none"> • The introduction of the Internet has left a profession barely coping with the need to translate old skills in a new domain and to learn completely new skills, all while on the job. A solid catch up is the minimum required. • Satisfactory answers must be found for whether the new technologies permit effective and efficient learning in local libraries on a par with traditional means.¹⁰⁹ 	<ul style="list-style-type: none"> • Pennsylvania has adopted continuing education requirements in order to qualify for state aid. Other states are considering such regulations. • Continuing funding of innovative delivery of learning will be required. • Staff training is, in some ways, the least desirable to fund because there may be little tangible to show immediately. Staff training remains the most important need at the moment.
Finance:		
<p>Budgeting for big purchases: At the heart of the introduction of new technologies, aside from the risk of the unknown for the early adopters, is the large and unusual cost for startup. Many libraries do not plan and budget for these large purchases and so must continue to rely on outside sources for assistance. This, despite E-rate and other technology planning requirements designed to encourage such budgeting. With new buildings, renovations, replacement costs, upgrades, or an ILS, it is time for all libraries to address this issue.</p>	<ul style="list-style-type: none"> • Getting local boards and library managers to step back from the day-to-day and recognize this recurring finance problem, and address it in whole, or in part, is the next step. • Devising attractive savings plans for public libraries in this area, perhaps partially subsidized, might further encourage saving for future large purchases. 	<ul style="list-style-type: none"> • What incentives can external sources provide local managers to budget for these large purchases in advance of the need? Will some type of matching program work? • Are there alternative financing vehicles, low interest bonds, loans or some other means that public libraries may use to reduce the burden of financing these large one-time expenditures?

¹⁰⁹ Web-based training programs for library staff have been developed by several states, some with funding from LSTA/IMLS National Leadership Grants. Among the states who have instituted such programs are Idaho, Kentucky, Maryland, Nebraska, and Ohio. These programs represent an effort to enable public libraries to fill critical shortages of trained library staff, particularly in isolated rural areas, and to improve staff skills.

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<p>Finance:</p> <p>Library foundations and friends make a difference: The study team was struck by the obvious difference between libraries with endowments and active friends groups and those without.</p>	<p>Those libraries without foundations and friends groups need to establish them, taking advantage of the successful models that already exist.</p>	<ul style="list-style-type: none"> • Remove any legal and ethical obstacles to allowing public libraries to obtain and manage private funds for public use. • What incentives can external sources provide to assist foundations and friends succeed? • What are the essential characteristics and operations of successful foundations and friends groups that every new group needs to know and adopt? How can this information be delivered effectively to new groups? • Major contributors/donors are needed to prime the pump with large donations as these new groups get under way.
<p>Fees for service: Libraries offer a range of digital services and many librarians have acquired a range of skills valued by local government, non-profit agencies, and the private sector. They could offer more, particularly in rural and depressed areas where commercial alternatives are lacking. Libraries remain reluctant to charge fees or the fees charged do not correspond with the costs to maintain or enhance the services offered.</p>	<p>Librarians and their partners need to address the question: what is for the public good, what is a private good, and what is necessary to sustain or enhance the library as a quality, sustainable, institution? Then operationalize the legal and funding mechanisms necessary to put the resulting conclusions and recommendations in place.</p>	<ul style="list-style-type: none"> • Addressing the question may require external funds. • Changes to existing law and regulation may be necessary. • Prototype services may need to be tried before being unveiled to the larger library community. • Librarians will need training to simultaneously manage fee and free services, and to assist their staff and users to understand the logic of charging for services.

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Area (Description)	Next Steps	External Support Needed
<p>Management: External funders introduced technology planning into many public libraries through funding requirements.</p>	<p>Many library managers and governing boards, particularly in small libraries, need training in effective technology training <i>tailored to their circumstance</i>.¹¹⁰</p>	<ul style="list-style-type: none"> External funders should consider the needs of library implementers when making awards: requirements should be reasonable given size of award and capacity of staff. As much lead time as possible should be given when changing program requirements. Requirements should be constructive and with a rationale offered to those who must meet them. Funds should be distributed promptly and in a fashion designed to maximize their use.
<p>IT management: Gates funding raised the bar on information technology available in even the smallest libraries. As a result, it raised the level of IT management decision-making necessary, for which many library managers lacked preparation or knowledge. Note: technology training is not technology management training.</p>	<p>Find and train an IT manager at every public library in a program targeted to the local context. This manager may be staff (preferred), a partner from another agency, or volunteer.</p>	<ul style="list-style-type: none"> A range of public and private approaches to this problem have been explored. These need to be assessed for effectiveness and efficiency, and be expanded as appropriate. External funding must play a role although outcomes are often hard to measure immediately. Otherwise, funder efforts in other information infrastructure areas will not bear fruit.

¹¹⁰ Effective technology planning approaches exist and are slowly diffusing through the public library sector. See, for example: Mayo (1999) and Nelson & Mayo (2000). But the IT planning needed at large urban libraries may be different from that required at small rural libraries. Librarians interviewed wanted pragmatic training tailored to their settings and issues.

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<p>Management: Policy making: A range of policies will be needed during the next phase of the roll out of public library Internet services.</p>	<p>There is a need to summarize and integrate recently gained knowledge in this area.</p>	<p>It may be appropriate to convene research agenda setting meeting in this area involving principal researchers, funders, senior state and public library administrators, and other interested parties.</p>
<p>Coordination of effort: Library management in exciting times is complex and stressful. Some do it better than others. Why?</p>	<p>Successful management practices need to be more rapidly and systematically diffused to library managers using a range of vehicles. State libraries serve as a nexus for improving library management practice and their efforts need to be expanded.</p>	<p>Sustained external funding is needed to target library management and governing board practice using traditional and innovative mechanisms.</p>
<p>Evaluation: To sustain a funding relationship:</p>	<p>What information do the principal funders wish they had to continue and expand their funding relationship with public libraries?</p>	<p>Significant national funding programs are at turning points. Perhaps now is an appropriate time for an assessment and conversation among funders, state and national library administrators, and evaluators about how to better show the success of our funding relationships?</p>

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<p>Evaluation:</p> <p>To promote innovation:</p>	<p>Focused attention may be needed on dissemination pragmatic, standardized information of use to those thinking of adopting an innovation within a state and across state boundaries.</p>	<p>External funds may be needed to standardize innovation information collected and set-up model state and national dissemination approaches. One part of this effort will be re-directing existing efforts in this area.</p>
<p>To orient and improve: How am I doing? What is the competition up to today? What's next? What planned improvement among a range of options will give me the best benefit? Development of network measures in this area is in a pioneering stage with more work necessary.¹¹¹</p>	<p>Develop an ongoing program of assessment and evaluation of services; engage in constant environmental scans; share more effectively information among libraries as to programs, successes, and options.</p>	<p>Establish a national clearinghouse for sharing data, impacts, assessments and other information about the role of public libraries in reducing the digital divide.</p>

¹¹¹ See for example Bertot, McClure & Ryan (2000).

Maintaining the Internet Competitive Edge at Public Libraries

Public library managers are very conscious that they are in a race to provide Internet services that are, in some ways, better than what can be obtained at home, work, school or elsewhere. A competitive edge can result from an improvement in any of the information infrastructure elements noted above.¹¹² Library managers commonly mentioned present public library advantages in technology (including: bandwidth, software, workstations, associated equipment like printers, scanners, or digital cameras), staff expertise, or public training. These advantages were not uniform across all libraries visited.

An important consideration is the need to coordinate improvements across all of the information infrastructure elements rather than focusing on any one element hoping for a quick, short-term gain. External funders who seek to reduce the digital divide may need to ask two interrelated questions:

- How will a proposed initiative affect those information infrastructure elements the proposal will not support? For example, will a grant for technology upgrade require staff or public training?
- Can the existing capacities of the various unsupported information infrastructure elements adequately support the proposed new improvement? For example, can existing levels of public training adequately support the introduction of an integrated library system?

In general, a change in one information infrastructure element will affect the others. Sustaining elements must be a certain minimum capacity to allow success proposed changes to other elements.

Leveraging External Support to Serve those Affected by the Digital Divide

It is clear that no single funding source, by itself, would have introduced successfully a public library Internet service as rapidly and effectively unless that funding source was leveraged with others. Fortunately, with the assistance of state libraries, funds were leveraged to create an information infrastructure capable of delivering a sustained service rather than a piece of equipment to the public. Present evidence further suggests that no organization, no matter how deep the pockets, can fund by itself the type of effort that will be needed to make the next incremental improvements in library Internet services possible. It took the leveraging of funds from multiple sources in order to begin the process of reducing the digital divide and it will similarly take the leveraging of funds to continue efforts to eliminate the digital divide.

Equipment Wasn't Enough

Public library managers and funders learned as they implemented Internet services that installing a piece of equipment was not enough. Rather, a means had to be found to embed an information infrastructure around the new technology to enable a sustained service. Different

¹¹² Those elements include: technology, content/collections, organization of information, public services, public training, promotion, staff, staff training, finance, management and evaluation

funding sources had to be leveraged to rework technology, collections, their organization, types of public service, public training, promotion of these activities, increase staff or change their function, train staff, finance, manage, and evaluate the new service. Funding had to be identified and targeted to each information infrastructure element in a coordinated fashion.

Coordination Required: Enter the State Library

Someone had to step in and coordinate, influence, or nudge funding for public library Internet services in the right direction. Many state libraries took on these roles and did so without much reward – a concern that should be addressed by external funders in the future. Experience to date suggests that:

- State libraries need to be brought in on any major public library funding initiative if it is to work well.
- State libraries' early reaction to a funding initiative can guide a program's development and can fine-tune that program's implementation process.
- State libraries can assist with program roll-out.
- State libraries manage their own funds that can be used to fill-in programmatic gaps when identified early, when given enough lead time to respond, and when the State library is committed to the initiative.
- State libraries have regulatory power or influence over public libraries that can be used judiciously to persuade libraries to "do the right thing."
- A State library endorsement carries weight with public library managers.

In sum, fund leveraging cannot work well without early State library involvement and support for that involvement.

Coordination Required: Enter the Library System or Consortia

The networked environment provides ample challenges and opportunities better addressed at an aggregated level beyond the local library. For example, why purchase a local library license to a database if a better price can be negotiated at a system, consortia or statewide level of aggregation? There were a number of instances reported to the study team where library systems or consortia played a critical role in making a difference. For example,

- Many library systems and consortia hired personnel to do nothing but complete E-rate applications (as well as apply for other grants including Gates Fund and LSTA State competitive grants) and monitor their progress for system and branch members, thus yielding much higher participation and awards than would otherwise have occurred.
- Library consortia negotiated for their members substantially reduced rates on licensed databases and a range of other services delivered in whole or in part via the Internet.
- Library systems hired expensive information technology staff to provide planning, services and advice to members who would otherwise be unable to afford them.
- Library systems maintained network technology (e.g., server farms) made available to all system members that was too expensive or complex for individual members to maintain on their own.

Where library systems and consortia worked best were when their efforts were coordinated with those of the state libraries. Where library systems and consortia were essential was when they stepped in when the State library was overwhelmed or failed to act. Where library systems and consortia were least effective was when their activities were not coordinated with their state libraries.

Someone Must Have Authority & Responsibility for Seeking External Funds

Clearly, there is untapped support within local communities, governments and the private sector for public library Internet services. The support may be in cash or in a range of creative, equitable partnerships. What is needed is a coordinated group of national, state, and local organizations that actively seek support for public libraries and manage moving the opportunity offered by government, non-profit, and private funders into the (existing State library influenced) pipeline of library planning and public library operations. Recent experience suggests that potential funders and partners all too often had to seek out libraries, rather than the other way around. Further, national and state external funding initiatives require ongoing focused attention to enable successful adoption into library practice.

In sum, who is going to identify the next extraordinarily generous Bill and Melinda Gates Foundation? Who will work closely with the external funders to enable national and state initiatives that work for funders and work for public libraries? Who has the authority? Who has the capacity? Who can engage the state and local public library development efforts to make such a national or state level effort a success?

Libraries Can Delivery a Win-Win for All

The message should be clear from the public library Internet introduction experience, with speed bumps duly noted, that libraries can work with leveraging partners and deliver a win-win for all on a national scale. Funders have their own agendas. Identifying clear sections of the task that a funder can own (and relate to their mission) is essential for leveraging to succeed.

What Better Choice for Local Information Outlet than the Public Library

Creating an entirely new community institution from scratch is far more difficult than re-directing or enhancing the mission of a pre-existing agency. Public libraries succeeded in providing an Internet service where others failed, because the libraries were already trusted members of the community.

External funders, in particular government agencies, may need to reorient their conceptual model of what public libraries do:

Public libraries are community centers that exist for the purpose of introducing new government, commercial, and citizen information and ideas as well as preserving and making available old ones that have worked for community members in the past, in any

format, and for providing training in the techniques necessary to use that information to anyone who cares to take advantage of it.

Said differently, public libraries are trusted local purveyors of external values, ideas, and information in all formats and using a variety of techniques. Public libraries do not endorse products but can introduce new classes of information technology to a curious public. Public libraries, for example, have partnered with government health information providers to deliver local access to quality, needed information. Other examples abound.

Leveraging at the Local Level

Most of the sites visited mentioned instances in which other potential library funders became willing to finance information technology projects once funding from other sources started the process, or after the Internet service was established. Only a few of the more successful libraries did active prospecting for funding. More should, but are unable to do so. Too many libraries looked nationally for program support rather than locally. Too many libraries looked for cash rather than other relevant contributions.

Establish Library Foundations & Friends

A library's chief support comes from its local users, yet many public libraries do not tap into that support nor do so with a systematic, long range plan. Library foundations and friends of the library groups¹¹³ are the principal vehicles available nationally to raise funds for both short and long-term purposes. The study team was struck by the obvious difference between libraries with endowments and active friends groups and those without. In one small public library visited, \$5,000 invested for the library in 1910 provides a third or more of its operating budget today. Libraries without a library foundation and successful friends group should be encouraged to start them. Library managers and boards may need training in their successful operation. New means should be found to stimulate the success of these groups.

In addition, libraries are the prime example of doing something for others for free or cheaply. Libraries have learned, and even their partners are beginning to see, that an unequal partnership is no way to sustain a relationship. Libraries need to seek out sustaining partnerships where they receive as much as they give.

Leveraging Models

Each of the stakeholders, in an effort to leverage funds to provide public library Internet services, needs a conceptual framework in which to assess and understand their role and contribution. The key elements necessary to provide Internet services form an information infrastructure. One conceptual framework looks at each element of the existing information infrastructure and assesses what must change in order for a proposed initiative to succeed and who must take responsibility for each required modification. Consider Table 4.2.

¹¹³ See e.g., Friends of Libraries U.S.A. <<http://www.folusa.com/>> and their *Sourcebook* <<http://www.folusa.com/html/sourcebook.html>>.

Table 4.2 Leveraging Model for Proposed Internet Service Improvement.

Proposed Initiative:		
Infrastructure Element	Changes Needed to Support Initiative	Whose Responsibility
Technology		
Content/Collections:		
Organization of Collections or Services:		
Public services:		
Public training:		
Promotion:		
Staff:		
Staff training:		
Finance:		
Management:		
Evaluation:		

Table 4.1 suggests a host of next steps and initiatives an external funder might consider. Table 4.2 can provide a framework for identifying hidden costs, unexpected needs for support, potential problem areas and unanticipated issues. Table 4.3 illustrates how another stakeholder, a public library manager (rather than an external funder) might view a possible next step.

Reach Out to those Affected by the Digital Divide in the Community

This initial phase of public library Internet service deployment created outposts of digital access across the country. In order to take advantage of the Internet service, a citizen affected by the digital divide must know the Internet is at the library, know why the Internet might be of use, and the citizen must come to the library to use it. Library managers at each of the sites visited knew of people affected by the digital divide that they do not serve in their communities today. They would like to take the next step and reach out to those in their community affected by the digital divide. There are a range of obstacles to overcome before this next step occurs, including those outlined in Table 4.3.

Table 4.3 One Possible Next Step for Public Library Internet Services.

Proposed Initiative:	Reaching out to those affected by the digital divide in the community by alerting target groups that the Internet is available locally, showing why the Internet is useful, and making the Internet available close to where those affected by the digital divide live and work.
Infrastructure Element	Selected Changes Needed to Support Initiative
Technology	<ul style="list-style-type: none"> • Many libraries cannot meet present demand. New technology must be added to meet present service needs, offer group training (possibly at remote locations), while solving potential space issues. • Web services will need to be added to project library services closer to the community. • The sooner vendors simplify and streamline the management and maintenance of network/server level hardware and software, the sooner libraries will purchase the technology. Libraries lack staff and specifically lack trained technology staff. The hardware and software need to be turnkey; the interface, self-explanatory.
Content/Collections:	<ul style="list-style-type: none"> • Digital materials must be found which meet the needs and interests of those affected by the digital divide. • Materials of greatest interest may need to be created by local community members about their community. Libraries will need to stimulate the development of these materials. • What collections are best for people who don't read?
Organization of Collections or Services:	<ul style="list-style-type: none"> • Organizing materials of interest to those affected by the digital divide in ways to promote use remains a key challenge. • Existing library software interfaces are too complicated for the audience that needs to be reached – and, indeed, too complicated for many.
Public services:	<ul style="list-style-type: none"> • Services targeted to groups outside the library will need to be developed, advertised, and delivered to challenging new audiences.
Public training:	<ul style="list-style-type: none"> • At the heart of the program will be training efforts to acquaint those affected by the digital divide with the Internet, demonstrate its utility, and provide the skills needed so use is second nature. • Small group training will be the emphasis, however some of those affected by the digital divide will only learn with the one-on-one user training libraries currently provide, in a way unique among their community peers. One-on-one training is costly in staff time and undervalued in quantitative evaluations.
Promotion:	<ul style="list-style-type: none"> • The targeted groups will be new library users, some of whom do not make use of traditional promotional outlets (e.g., any that require reading) with the challenge of explaining what the Internet is and why it matters the first promotional tasks.
Staff:	<ul style="list-style-type: none"> • Libraries do not have enough staff to meet present demand. New initiatives will require new staff as an incentive or they won't happen.
Staff training:	<ul style="list-style-type: none"> • Librarians may not have the skills needed to help present library Internet users nor meet increased demand. • Librarians may need training in how to teach or in how to teach groups. • Librarians will need training in how to help new users, many of whom are not traditionally library users.

Infrastructure Element	Selected Changes Needed
Finance:	There are few local resources to meet any of the above outlined needs. The incentives will have to come from external funders.
Management:	<ul style="list-style-type: none"> • Clusters of workstations is an order of magnitude difference from single workstations, and IT management capacity will be needed on staff. • Offering new library services to new users will require flexible new ways of thinking and doing. The library's image may once again change with corresponding changes in their management.
Evaluation:	<ul style="list-style-type: none"> • Devising simple yet accurate means of identifying those targeted for service and whether they have received useful service, while respecting individual privacy, are key challenges.

Taking the next step and reaching out to those affected by the digital divide is a daunting task, but so was introducing public library Internet services. The key will be learning from the lessons of this initial roll-out, notably the need for more systematic coordination and leveraging of scarce funds to meet a much more precise set of diverse prerequisites (such as those sketched in Table 4.3).

Focus on Library Staff Training

One of the weakest information infrastructure element in the libraries visited was staff training. Principal areas of concern include:

- **The size and persistence of the problem:** The entire profession has had to be re-trained in order to superficially cope with the introduction of the Internet. The pace of technological change means that continuous staff re-training must become the norm.
- **Is IT delivery a better substitute:** Library educators do not know when or how best to use new information technology-based training techniques because of the newness of these approaches. Educators do not yet know whether these IT techniques will be effective substitutes, supplements or complements to meet the great demand for affordable widely distributed staff continuing education.
- **Lack of attention by external funders:** With the exception of LSTA, external library funders have not focused as much attention on the staff training needs. A key issue may be that training outcomes are not as tangible as equipment purchases or building improvements.
- **Lack of commitment by local funders:** Many local funders do not recognize that staff re-skilling is needed, will be ongoing for the foreseeable future, or that trained staff make the otherwise impossible more likely.
- **Special problems faced by small and branch libraries:** In order to get re-skilled, these librarians need to find a substitute or close down operations because there are no local staff to cover for the time away. Rural librarians' remote location means added time away, travel, and other ancillary costs. No one, at the local institutions or at the external training level, has secured the funds to make regular re-skilling feasible, let alone attractive.

- Market failure among traditional educational institutions: There has not been enough incentive for traditional educators to offer instruction tailored to the needs of the continuing education market, in a pragmatic form and location needed at an attractive price to everyone. Either the market is not there, the educators are not there, or other opportunities are more attractive.

As a result of these and other concerns, a principal barrier to achieving the next steps in the development of public library Internet services is the lack of trained staff in local public libraries.

Aid Small Public Libraries, Urban Branches and Poorest Communities

The weakest link structurally¹¹⁴ in the diffusion of public library Internet services may be small¹¹⁵ rural public libraries and the branches of urban library systems. The cause is commonly attributed to a lack of staff and the lack of funds to pay for staff and other library needs. A small rural library manager summarized the consequences of a lack of staff for public library Internet services,

You could tell me that you had something that would change the life of everyone in the community. I could believe it too. You could even give it to me free. But you know, the way things are, the best that I could do when someone came in to use it, is point to where it was located and say, "why don't you go over there and see if you can figure it out."

A pre-condition for the interview with this librarian was that the investigator would agree to check out books and answer the phone as needed!

Several strategies will persist into the next period of Public library Internet service development including:

- Triage: Every year state libraries have the *very* difficult task of deciding whether to continue to provide state aid to libraries struggling to meet minimal state standards. If a public library does not qualify for state aid, it is often not eligible for other external funding programs (including E-rate and Gates Fund). The need to fund expensive Internet services has made funding of the least qualified public libraries problematic. State librarians must ask if they can continue to subsidize marginal libraries when further funding is needed at libraries where the community has found ways to provide local support. All of the state librarians interviewed stressed that this is not an academic exercise; tough decisions in this area have been and will continue to need to be made.
- Aggregate up: The modern history of U.S. public libraries, prompted in part by the early promise of library automation, has been for small libraries to band together into library systems. Library systems have been vital to making Internet services possible in some cases, and allowing these services to thrive in other cases. State libraries supplement system efforts with key resource sharing initiatives beginning with interlibrary loan, document delivery, cooperative cataloging and procurement and, more recently, with the

¹¹⁴ Structural is used here in the sense of a set of resources and bureaucracy committed to solve a problem. Said differently, the problem is lack of staff in these libraries not the quality of the staff.

¹¹⁵ For example, a librarian (with or without an MLS) and one or two staff.

successful provision of licensed databases. This approach will continue with more formalized regional, state and multi-state associations becoming increasingly important.

- Circuit riders: State libraries, often using LSTA funds, have designed programs to identify local need for staff expertise and meet the need by various arrangements involving bringing in temporary staff for short periods to design programs, fix problems and train staff, governing boards, and library users. These programs, while limited, have proven essential in many programmatic areas and will continue to not expand.
- Virtual libraries: Walk into any rural post office or bank, peel back the surface, and you may see thoughtful efforts to identify core service needs, streamline policy and procedure, and the use of automated technologies to reduce staff demand and increase service hours.

Public libraries are making similar efforts. One example is discussed next.

Virtual Libraries

One of the most exciting virtual library efforts, already a success after only months of operation, is underway in an urban immigrant setting at the Hialeah [FL] Public Library. The need there was to open branch libraries in long under-served areas given few staff and resources to do so. This strategy capitalizes on library aggregation into systems by moving system resources where they are needed using the Internet. This strategy may allow the reversal of library closings and permit local services closer to those affected by the digital divide.

Hialeah Public Library had an opportunity (space and building overhead covered by the city) to open several small (one room) branches in previously under-served parts of the city. Several sections of the city contained citizens who were not only affected by the digital divide, but who were often physically divided from the rest of the city and the library due to severe highway traffic jams. The branches had to be cheap yet effective to be sustained. Several key decisions mattered, library managers:

- Re-defined the library in terms of what its library users wanted most and what information technology could make possible. Banks did a similar assessment leading to the ATM. Users wanted a space that was clean and safe (it helped that the branches are located in the police stations), access to the Internet, best sellers for adults and kids with quick access to the rest of the city's collection, as many periodicals as possible (particularly to help with homework), help with basic reference with access to expert assistance, and TV for breaking news events.
- Recognized that staff costs, particularly for professional staff, were the major, "show stopping" expense. Professional librarians could not staff the site, or if they did, they could staff the library only on a part time basis. Library users wanted access to the professionals, particularly for the tough reference questions.
- Knew that users wanted the branches to be open as long as possible. Staffing costs remained the greatest obstacle. The key was using technology, simplifying and streamlining process, and maximizing existing staff use. Post offices, faced with a similar situation, came up with the self service stamp and weighing center, plus the already in place interior mailboxes and self serve post office boxes.

- Recognized that technology could be used to substitute for staff, bring the collection and finding aids to the user, and bring remote costly staff to the user.

The solution began with a cluster (12) of networked Internet workstations (allowing for public training) with (4) printers and headphones providing access to the Internet, educational software, and to the library system's catalog. The catalog allows materials to be flagged for same day delivery to the branches (home delivery was being considered, as equipment and driver costs were already committed to run the service to the branches). Also available were licensed databases supplying basic reference sources (like an encyclopedia) and making the periodical collection on par with other libraries in the Miami area. Added to this mix were frequently changed collections of adult and children best sellers, and a basic ready reference collection. A telephone hot line directly linked to the main library's reference desk was included to bolster the reference service (with Internet video under consideration). Tables and chairs, overhead and screen for training, and a TV tuned to CNN rounded out the equipment. The branch was staffed by a paraprofessional with plans for professionals to be present for programming (e.g., story hours).

The outcome: after nine months of operation the first branch is so popular with the public that the city gives the library an entire floor of the building. The Hialeah virtual public library experiment was an exciting place to be, suggesting that information technology might be capable of providing a better alternative solution for the hard-pressed small libraries and urban branches across the country.

Remembering the Poorest Counties and Communities

In addition to small libraries and urban branches, attention should be focused on the poorest counties and communities in the U.S. They are places where:

- The rational plans and regulations made from afar simply don't work;
- The county library budget appropriation disappears so that money can be found to build a prison;
- A library manager's success is measured by the years she has been able to keep the same good-sized staff together almost totally funded by external soft money;
- Demonstrating local support and finding local matching funds "have to be finessed" because "there are no local funds for anything, period;"
- New technology is defined as a new bathroom, a roof that doesn't leak, or a telephone; and
- Health information programs focus on getting people to wear shoes.

It is one thing to design programs that work for most. It is another, humbling task to go back and ensure that the intended benefits of a program have reached those who are most in need, often despite the design, regulations, and procedures.

One of the things the better State library administered LSTA programs do well is to enable the poorest libraries meeting minimal state aid standards to eventually obtain proven information technology. Other external funders need to adopt similar, flexible, special case

approaches to ensure the poorest among us have access to the best information, technology and training available. There are four messages here for all external funders:

- Provide “set-asides” to insure that such localities receive support;
- Maximize the generosity and minimize requirements and procedures;
- Remember that the supporting information infrastructure elements are weak or absent and must be built up in coordination to show achievement; and
- Learn to listen, trust, respect and reward successful community leaders in these areas.

Special attention to the situations of the poorest communities is both warranted and required.

Need for Additional Research

The findings presented in this report suggest that there are numerous topics and research questions deserving of additional attention. To some degree, the research reported in this study is a first effort to assess how externally funded programs (LSTA, E-rate, Gates Fund, and others) have contributed to the public libraries’ role in addressing digital divide issues. This research, however, is a “snapshot” of benefits and impacts resulting from these external funds during 2000-2001.

Additional research needs to be conducted on an *ongoing basis* to monitor the impact, benefits, and effectiveness of these external programs. Such assessment can:

- Improve the procedures and processes in use for awarding and allocating funds;
- Determine the degree to which program goals and objectives are, in fact, being accomplished;
- Assist funders better determine what local factors and situations improve or detract from the impact and benefits from the programs; and
- Suggest the need for other funding programs that can meet needs or accomplish objectives not being met by existing programs.

As shown in the study reported here, there is much to learn by conducting such assessments. The basic need, however, is to establish a regular *program* of national assessment for such funding programs.

The study team suggests that additional research into measuring the benefits and impacts from external funding programs is essential. Specific research questions and topics for such research are offered in chapters 3-5. At a very practical level, research is needed about how best to establish and maintain a national clearinghouse of (1) methods and data collection techniques to assess such funding programs and their impacts, and (2) public library and State library data sources that can be publicly available in real time.

Perhaps more importantly, the public library community needs to initiate a public discussion and debate about how best to assess benefits and impacts resulting from external funding programs. This would include agreement on standards and performance indicators for assessing such programs; discussions of how such benefits and impacts contribute to addressing

digital divide issues; and, determination as to what criteria should be used to assess national policy initiatives and funding programs related to public libraries. Much work and research remains to be done in these areas.

Additional Conclusions and Recommendations

Given the wealth of information generated by this study, there are a number of additional conclusions and recommendations that require mention.

- **Sustainability.** While the Gates Foundation must be applauded for its significant and important work in assisting public libraries enter the networked environment and address digital divide issues, who will be the next Gates in 2003 remains unclear. The fact of the matter is that a vast number of public libraries were able to obtain and upgrade information technology that would otherwise not have been available to them during 1998-2001 were it not for this program. In 2003 (or sooner) all that equipment will need to be replaced or upgraded. The federal government may need to fill this gap by developing a program that specifically assists public libraries upgrade and obtain new technologies.
- **Leveraging models.** The site visits identified multiple and innovative ways in which public libraries leveraged these various funding sources. Some library managers went to local telecommunications providers and showed them how a contribution would enhance money received via E-rate; others formed consortia to better share technology; still others combined resources from LSTA, E-rate, and Gates Fund to provide unique and innovative services. Additional research is necessary to describe these models and determine which models work best in different contexts.
- **Understanding situational factors.** Numerous factors combine to shape the overall effectiveness of programs such as LSTA, E-rate, and the Gates Fund. Situational factors occur at the funder level in terms of how the funds are requested, awarded, and regulated; they occur at the State library level, in terms of personnel, commitment/interest in a particular program; at the local library level in terms of organizational structure, information technology infrastructure, and personnel; and at the community level in terms of local community demographics, form of government, interest in and support for the library, etc. Thus, flexibility is a key requirement for these various funding programs to be successful. In addition, more research is needed to better understand what mix of funding programs, State library assistance, local library involvement, and community make-up results in the greatest impact from these funding programs.
- **Individuals DO make a difference.** Repeatedly the study team found that one or two individuals in a library, at a branch, at the State library agency, or from a funding program can make a huge difference in the success of a program. One library manager related how one person at the SLD was able to cut through endless red-tape and solve a procedural matter; another librarian told how a State library consultant came to their library (on short notice) to meet with a telecommunications official that resulted in additional funding; and in a conversation with another library manager, she explained how perseverance with the city manager resulted in better integration of library/city information technology. Having "ombudspersons" to deal with procedures and issues on

a rapid response basis was a key component in the success of various public library programs and services.

- **Aggregating up makes a difference, too.** A networked environment permits, encourages, indeed demands the sharing of resources, expertise, technology, costs and benefits across many localities. There is an inherent advantage in the networked environment to aggregate together into larger functional units for many traditionally local activities, from local libraries to systems to states to regions and beyond. Libraries in this study that had affiliated with larger aggregates such as library systems that offered services delivered via the Internet were clearly better off than libraries that had remained self-contained. New forms of aggregation not bound by geographic location or political division, are also possible but not fully explored to date. In many locations, social, political and financial structures have not adjusted as rapidly as technology permits to the new opportunities possible.

Time does not permit a detailed discussion of these, or other conclusions and recommendations. They do suggest, however, the broad scope of findings, conclusions, and recommendations that resulted from this study.

Increasing Impacts and Benefits

The authors of this study see it as a first step on a longer journey to continue efforts to (1) update and improve the information technology infrastructure in public libraries, (2) better coordinate efforts among the federal government, other funders, state libraries and state government, and local libraries and consortia to maximize the impact and benefit from various external funding programs, and (3) improve public library networked and Internet services to better serve those affected by the digital divide.

A combination of efforts, plans, strategies, resources, and people will be required to make those next steps possible. What is clear, however, is that through a combination of funding programs, innovative leaders, dedicated librarians, and leveraged use of resources, significant gains in public library networked services and services to those affected by the digital divide has occurred in recent years. This momentum must be continued and expanded for public libraries to continue to provide innovative networked services and address the issues of the digital divide.

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