

Options, Opportunities, and Choices in  
Services, Sources, and Systems for a

# "Library for the 21st Century"

1. Book-based or "Acquisition Model" Public Library
2. Books/Technology or "Hybrid Model" Public Library
3. Technology-Based "Access Model" Virtual Library

Report To  
City Manager and City Council  
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## Forward

A library is more than a building with books, and it is more the sum and reach of its technology. A library is a gateway to wisdom that reaches across time and space.

A public library is the intellectual and cultural center of a community. It reflects what a community thinks of itself and its place in the world. Beneath the books, the bytes, and the building, the public library is a political institution that serves the ideals of a free and democratic society. It is a social institution based on the concept of equal access to information and the life of the mind. It is where people learn to be free: thinking, informed, involved individuals.

Now that the City of Colleyville has determined that it DESIRES a public library, it is time to turn attention to the TYPE of library that might best serve its needs. Texas public libraries do not operate in isolation. The ecology and economy of local public library service is tied to the region, the state, and the national system of libraries. This report looks to that ecology for options, opportunities, and choices for delivery of public library sources, services, and systems. It develops three models for a public library: the book based "acquisition model public library, the books/technology based "hybrid model public library, and the technology based "access model" virtual public library.

The intent of the Report is to inform the City Council and provide choices. It is not meant to either persuade or dissuade, and does not support nor recommend any specific scenario; it seeks to provide information and supply knowledge to support the City's decision-making process.

"A library is an arsenal of liberty."  
--Unknown  
From the **Internet Public Library**  
Reference Collection  
<http://www.ipl.org>

## **Purpose of this Report**

The design of a community's first public library depends on a clear vision of the institution. The population of Colleyville desires a public library. The Colleyville Library Task Force proposes a traditional book-based public library with a new building. The City wants the library to be the center of a developing arts and culture area near the heart of town. It wants a library that will serve now, and for years to come, a "Library for the 21<sup>st</sup> Century," and seeks options, opportunities, and choices for delivery of innovative public library services. Specifically, it seeks technologically enabled options, opportunities and choices.

This Report presents three models for a public library. The models explore a range of options and opportunities for sources, services, and systems that support what libraries DO, rather than what they ARE. This Report takes an ecological perspective and looks at the local, regional, statewide, and national, library environments for clues about how Colleyville might best proceed.

The three models should be considered in relation to each other, as a whole. Choices often build on the preceding option and are linked to the succeeding opportunity. The City may choose combinations of options along the spectrum, and is not limited to one of the three distinct models.

## Introduction

Colleyville, Texas is a very affluent, urban, bedroom community situated halfway between Dallas and Fort Worth near the DFW International Airport. The Dallas Metroplex is the second most "wired" metropolitan area in the world (*Texas Monthly*, Sept 1999). And although there is no proof, it is likely that per capita Colleyville is among its most wired communities.

Colleyville prides itself on its ability to **acquire**. It likes having nice things made well. The average annual per capita income is over \$90K and the median annual per capita income is nearly \$150K. Colleyville also prides itself on its ability to gain **access**. It likes knowing where to find what it wants, when it wants it.

The acquisition/access paradigm is the foundation of the emerging global information economy. The information economy finds its power and potential in creative collaborations and access to sources and services just in time. The more traditional acquisition model relies on owning tangible goods and duplicative, independent efforts, just in case. Libraries are properly slow moving institutions. They are not drawn to fancy or fad in their operation; they are nevertheless not new to technology.

Five public libraries exist within eight miles of the center of Colleyville. Together, these five libraries hold half a million books. There are five other public libraries within twenty miles of Colleyville. The local public school district has several fine collections of children's and Young Adult books. The Tarrant County Community College District has several fine libraries nearby. There are several universities with large research collections within easy driving distance of Colleyville. Together, these libraries hold over five million books, all of which are substantially "locked up" in buildings and unused the greatest portion of time. The people of Colleyville are welcome to use any of these libraries for free, or for a small individual fee.

Each of Colleyville's neighboring libraries is struggling with the demands of information technology. Each is working to meet the public demand that more library services be delivered to the desktop, around the click, and are doing so by adding technology to their existing book-based models. Each library is looking for new and better ways to serve new and existing populations using technology, and therein is Colleyville's opportunity to build a virtual public library.

Buildings and books are expensive. They are expensive to acquire, expensive to maintain, and expensive to manage. Most books in most libraries are unused and were acquired under the "just in case" model of collection development. The capital and operating expenses of a book-based public library begins with the first book, or at the commitment to a book-based collection, and within the normal collection capabilities of a small public library, are relatively

stable regardless of the number of books held. The expense of operating a book based public library with 30,000 books and one with 80,000 books is almost the same. Within these numbers, is not possible to incrementally reduce the operating expense of the library by incrementally reducing the number of books held.

The ecology and economy of building of yet another substantially isolated or independent library with yet another expensive (and likely duplicate) collection of books in such an already well supplied area, are vexatious. Technology offers an opportunity for creative thinking, collaboration, flexibility, specialization, and economies of scale that are just not possible for a library operating in isolation, or in the box.

## **The Colleyville Public Library Task Force Report**

The Colleyville Library Task Force Report supplies detailed demographic information about the City. It provides the results of a preliminary community survey that determines the community's DESIRE for a public library, and includes Providence Associate's recommendations for the Colleyville Public Library BUILDING. What the Task Force Report does not address is the underlying NEED that Colleyville has for a library. It does not address how a library might be designed "from the thought up" to satisfy that need within existing constraints of time, space, and money, and in light of surrounding, existing and evolving library systems.

This Report builds on, but does not duplicate, the Library Task Force Report. It makes no attempt to validate the Task Force findings, but assumes them to be true, and instead looks behind the façade of the public library at the concept of public library service to explore for options, opportunities, and choices for the design of a "Library for the 21<sup>st</sup> Century."

According to the Library Task Force Report, ninety percent of the population of Colleyville has access to a network-connected computer at work, home, or school. Ninety percent of the households in Colleyville have a modem-connected personal computer. The average household size is 2.5 persons, and the population is predominantly working families and retired people.

But, households with network-connected computers do not translate into households of computer users. The Task Force findings do not mean that 2.5 people in 90% of the households know how to effectively use (or would even care to use) the computer for public library services. Nor do they mean that those people with access to the Internet via work or school are free to use that connection for public library activities. It is, however, a strong indication that, if carefully crafted and elegantly implemented, the community is positioned to accept, support and make good use of a "virtual" public library.

A virtual public library does not mean the community must go without convenient access to books and other tangible library materials, or that it must go without its own collection. Colleyville is in a position to provide convenient access to many more books than it will ever be able to collect on its own, without having to maintain its own generic public library collection, or while slowly growing a world-class specialized collection. This opportunity is tied directly to Colleyville's willingness to share and engage in innovative collaboration with neighboring libraries and businesses. This Report does not address the feasibility of collaboration with any particular neighboring library, but is guided by the core principle under which libraries operate: that sharing is good. It is also guided by the larger regional and statewide political and funding environment of libraries, which support innovative networks, collaboration, technological development, and sharing of resources, both virtual and actual.

## Reading, Information and the Public Library

There are significant differences in the ways a public library serves the reading needs and the way it serves the information needs of its patrons. To lay a foundation for this Report, we first explore the phenomenon of reading, information, and the public library.

Reading for pleasure is a luxurious experience critical to sustaining the life of the mind. Children's picture books, poetry, popular fiction, and the classics are examples of materials intended for pleasure or wisdom-seeking reading. Reading for information is done in the course of acquiring knowledge toward a specific purpose or task. This kind of reading is done during a search for information, and is often not at all a pleasurable experience. The whole-minded public library must be careful to provide sources and services that support both the reading needs and the information needs of its community.

The sources and services for reading and the sources and services for information are different. Despite recent advances in electronic "book-like" devices that bring technology and books closer together, it is still widely held that technology is not a good reading medium: that it is not possible or pleasurable to curl up with a good computer and escape into the words of a page-turning story. It has also become apparent that using books for information needs is often not as quick, as comprehensive, as convenient, or as satisfying as using a computer.

In Texas, the business of libraries is based on the systems model, and driven by the principle that sharing is good. Because of advances in technology, the holdings of virtually every library can be searched from virtually any desktop. Theoretically, just about any book or journal article held by any library in the country can be delivered to virtually any library patron within days, often at little or no direct cost to the patron. This sharing philosophy, enabled by technology, is what makes the model of the bookless or "virtual " public library possible.

But, a library cannot survive on technology alone because a community cannot survive without books. Most public libraries are struggling to find a happy medium between the two, but most public libraries have added technology to existing book collections. The opportunity to start a brand new public library "from the thought up" allows Colleyville to choose to base the model of its library on books, from the acquisition side of the paradigm, or base it on technology, from the access side of the paradigm, to reach its happy medium.

The question Colleyville faces, is: does it need to have traditional physical ownership of a generic collection of books in a library building to provide public library service, including books for borrowing? And, if it chooses to have books in its library, should the library's design be based primarily on the acquisition of books, or access via technology?

## **The Colleyville Library Patron Base**

The City of Colleyville has experienced quick growth in the last twenty years. That growth is expected to continue. The current population of Colleyville is hovering at 20,000 and is expected to reach 25,000 soon after the turn of the century. Colleyville will likely reach its maximum "build-out" population of 26,000 well within the formative years of its new public library.

The median age of respondents to the Library Task Force survey is approximately 55 years. That population will reach retirement age soon after a public library is built. It is likely that Colleyville's population will "churn." As current residents retire they will likely move away and their place in the community will be assumed by a new group of working families. Conceivably, Colleyville could be a city of "new" people every ten years. These and other population issues must be clarified and addressed as part of a comprehensive design project. Clearly, while it is the current population's desire to build a public library for itself, it must do so with the next generation's needs and desires in mind, and even more so than other communities it must realize that it is building a legacy. Therefore, maximum flexibility in the conceptual design of the library is wise.

For the purpose of this Report, and for political reasons explained in depth later, a base population of 25,001 and current demographics, are used. The 25,001 target population provides some "breathing room" for the new library by providing that the population will not outgrow the library before it is comfortably established in the community. It also allows the City to plan for a library that will open its doors free from intense pressures to immediately expand its sources and services.

The Task Force Report presents the "generic public library" model, an acquisitions-based model based on a tangible circulating collection of traditional library materials from a large building opened to the public for a limited number of hours each week. This model assumes that library activity will take place substantially within the library building and revolve around the tangible collection. This model of public library has served America well as it has evolved from Benjamin Franklin's "lending library" concept. It is the model of the public library for the 20<sup>th</sup> Century, a model to which computerized technologies have been added in recent years.

Times are changing, however, and the public library is evolving along with the needs and expectations of its public. Time and place are the currency of the modern economy, and both factors need to be examined closely, rather than assumed in the traditional sense when considering a model for the "Library for the 21<sup>st</sup> Century." Is there a way to achieve economies of scale and provide a wider spectrum of services through partnership with existing, nearby libraries, and by doing so exploit information resources and open the library "virtually"

around the clock for a larger population? It is possible to have the best of both a books-based and a virtual library, and what are the ramifications of choosing either model as the foundation from which to begin growing the library?

Nationwide, public library circulation is down while library spending continues to climb (*American Libraries* September 1999). Is it fiscally responsible to support the huge and ongoing cost of yet another and likely duplicative public library collection and building when there are so many libraries and so many books within easy driving distance of Colleyville? The limits of public funding require conservative, ecological, visionary decisions that will inevitably butt heads with the stereotypical concept of the public library as a geographically isolated place of books first.

The library building has long stood as more than a place to warehouse books. It is a meeting place, a place to come in from the frenzy, sit comfortably, and skim the latest copies of magazines in peace and quiet. It is a place to gather the children and teach them the wonder and ideas of books and reading. It is a place for senior citizens to meet to share their wisdom and discuss their ideas. It is a place to learn how to think, and to hear safely what needs to be known. Every community needs such a place. It has been logical to include that place in the library, as the library was often the first, if not the only large public building built in a community. But in some communities, such as Colleyville, public meeting places already exist in the form of community centers. It is fiscally sound, or a good idea to duplicate public meeting places simply because public libraries have *always* included them?

The dream of the "virtual library," a library that is on everyone's desktop all the time, is being aggressively pursued around the world as a way to reduce costs, achieve economies of scale, improve library services, and extend the reach of information. Technology has already created paradigmatic changes in library sources and services. It is often argued that much of the country's "old" information and a majority of its reading material are not available electronically, and argued also that much of the "new" electronic information is of questionable value. Nevertheless, more and more and better and better quality reading and information sources are being added to the digital realm. It is unquestionable that this trend will continue, and likely that comfortable, affordable electronic reading equipment or personal book printers will soon be developed.

Some library scholars see the library building with its stacks and stacks of dusty books becoming a museum. Others protest loudly at that notion and say that the demands and pressures of technology make the need for and value of pleasure reading, of holding and "feeling" books in a shared, public space that much more important, that a library filled with books is a civilizing place.

Building and provisioning a book-based public library is a multimillion dollar proposition. In addition to the initial capital outlay, operating a books-based

public library is likely to cost the community a half million dollars a year, every year, and that cost will undoubtedly increase. Communities in Texas are expected to support their own libraries. There is relatively little additional government funding for operation of books-based libraries. Most of the discretionary funding that is available for libraries from the government and private granting foundations is either tied to the poverty level of the community, or to technological innovation.

## **The Ecology and Economy of Texas Libraries**

A wise woman once said, "figure out where you are before you start thinking about how to get where you want to go." This section of the Report looks at the environment into which Colleyville hopes to introduce a new public library. Specifically, it looks at the Texas State Library System, the North Texas Regional Library System, and existing nearby public libraries, and explores for opportunities for Colleyville within those existing systems.

The model of library Colleyville chooses is tied directly to its involvement in existing library systems. Colleyville can choose to enter the system as either a community library, an area library, or a federated library. The option of no membership is also explored.

Within those membership levels, this Report presents a spectrum of options and opportunities, many of which are tied directly to the direction *from* which Colleyville decides to build its library: from the books end of the paradigm, or from the technology end. While the approach may arguably start from either end, and may land in the middle no matter where it starts, the approach Colleyville chooses impacts the opportunities and choices available during the design and development of its library. After each of these options are discussed in detail, the space needs, personnel needs, technology needs, telecommunication needs, measures of service, and other aspects of each option are summarized.

### **Texas Library System**

On the national level, the Institute of Museum and Library Services (IMLS) (<http://www.ims.gov/>) seeks federal appropriation for the country's libraries from the Subcommittee on Labor, the Subcommittee on Health and Human Services, and other related agencies, and disperses those funds to the states on a per capita and per program basis.

In Texas, the Texas State Library and Archives Commission (TSLAC) (<http://www.tsl.state.tx.us/>) receives the federal funds, and through its Texas State Library System (TSLS), contracts with ten Regional Library Systems to dispense those funds to member libraries on a per capita basis. The City of Colleyville is in the North Texas Regional Library System (NTRLS), which is discussed later in this section.

While the primary fiscal duty of the TSLS is to disperse federal funds to member libraries, it also provides a range of professional library services and support to member and nonmember libraries, as do the ten Regional Library Systems. TSLAC and TSLS operate under Subchapter A, Subtitle D, of Title 411 of the Government Code, which includes Sec. 121, the "Library Systems Act" or LSA. LSA is administered under Part One, Title 13 of the Texas Administrative Code. Chapter 411 of the government code, including the Library Services Act,

is available online at <http://capitol.tls.cstate.tx.us>. Title 13 of the Texas Administrative Code is available online at <http://www.sos.state.tx.us/tac/13/1/1/C/index.html>. *The Texas Library System Orientation Manual*, which serves as a general introduction to TSLS, is available online at <http://www.tsl.state.tx.us>.

### **TSLS Funds and Services**

In the current fiscal year, the Texas State Library System dispersed a total of \$8 million in federal funds to the ten Regional Library Systems with which it contracts, and through them, to member libraries. The State of Texas does not provide direct funding to support libraries. This level of funding is expected to continue without significant increase or reduction. This year, all the money was earmarked for collection development, or the strategic acquisition of library items and development of access services to support the use of physical library collections. These federal funds are intended to supplement local support and cannot be used as a source of funding for regular operating expenses, salaries, etc. This money is frequently called "book money."

In the current fiscal year, The North Texas Regional Library System received a total of \$892,696 from TSLS. Regional Systems keep 25% of the funds for operation and 75% is dispersed to member libraries per capita (vs. per citizen or per library patron). A member public library serving a population of 25,001 in NTRLs would have received between \$5,000-10,000 of book money this year.

The TSLS also administers competitive grant programs that make additional funding available to public libraries, including special program grants for such things as adult literacy programs and children's reading activities. For small public libraries, these competitive program grants are usually less than \$5000, and libraries must be members of TSLS to apply for them.

Other grant programs administered by TSLS are funded through the federal Library Services and Technology Act (LSTA), and are specifically intended to encourage libraries in different areas, and different types of libraries, to establish consortia and share resources using technology. For the current fiscal year, TSLS has \$250,000 in LSTA funds to award, and will award a maximum of \$75,000 per library proposal. These grants can be used for staff, equipment, property, materials, and professional services (such as the cost of this Report), but not for library construction, and not for the purchase of books.

The LSTA Library Cooperation Grants programs is briefly presented here to provide an idea about the types of sources and services that libraries are being encouraged to pursue. They include:

**Part A - Technology** - promotes access to learning and information resources in all types of libraries for individuals of all ages; promotes library services that provide all users access information through state, regional, national, international electronic networks; and linkages among and between libraries.

Grant funds are to be used to establish or enhance electronic linkages among or between libraries—To establish a new network or consortium for shared access, or update the electronic technology in an existing library by providing better or enhanced access to library resources and materials in more than one system member public library or with multi-type libraries; or, to encourage libraries in different areas or different types of libraries to establish consortia and share resources.

**Part B—Services** - The program encourages libraries to participate in public library consortia participate in multi-type library consortia include a public library (that is a member of Texas Library System) and to share themselves the services of all libraries within consortium.

TSLs also serves as a liaison for the federal government for the Library Development Grants program, which provides new libraries up to \$35,000 a year for up to three years, for development. The Benbrook Public Library, a new NTRLs member, was recently awarded a Library Development Grant. Other grant funds available through TSLs membership include special grants to extend library services to unserved and underserved populations, including rural and remote populations otherwise without public library services, and to poverty area patron bases.

Of particular interest to Colleyville, is that the nationally recognized designation of "rural" for libraries is tied to population numbers, not to community configuration or geography. A rural library serves a community of fewer than 25,000 people, even if the community is a geographically compact city in the middle of a large urban metroplex, as is Colleyville.

See <http://www.tsl.state.tx.us/LD/grants.htm> for full information about TSLs grant programs.

## **Texas State Electronic Library**

Besides grant funding, limited professional continuing education services, and limited consulting services, TSLs member libraries are also provided free access to the Texas State Electronic Library (TSEL) collection, including its growing number of online databases. While these databases are a significant resource, they are underused by many book-based public libraries. (See <http://link.tsl.state.tx.us/f/fulltextdblist.html> for a list and description of TSEL databases.) Under-use of these new resources is most frequently tied to the library's lack of technological sophistication, the ability or inclination of both librarians and patrons, and to the intense demand on librarian time tied to operating a book-based library.

Access to TSEL databases is free to member libraries but is currently available only from within a member library building. However, plans to expand access to include remote logon for registered public library patrons were recently announced. In effect, access to these databases provide every member library, and soon each of its patrons through remote logon from home or office, access to a core electronic collection. The collection includes both full text and bibliographic databases that contain thousands of fulltext journal articles and other resources that most public libraries do not hold in print.

These databases, in whole or in part, represent the "core electronic collection" that any public library will be expected to provide, and while extensive, are probably not sufficient to meet the specific, and likely highly specialized and sophisticated information needs of Colleyville Public Library patrons. A list and brief description of other proprietary electronic resources and databases that might be necessary to serve Colleyville patrons is attached at the end of this Report. However, the TSEL database collection is expanding rapidly and expected to continue growing.

## **TexShare**

In addition to the TSEL databases, access to the TexShare databases (which are currently available only to academic libraries) will also soon be made available through TSEL to public library members, and soon after to their patrons through remote logon. The TexShare service includes a book courier service that guarantees 2 day delivery of books from any participating library statewide (participation in the courier service will cost approximately \$1K annually for each library.) See <http://www.texshare.edu/> for a list of TexShare databases and resources.

TSEL electronic sources and services that are now or soon will be available to Texas public libraries (and their patrons through remote logon) are the de facto standard for any Texas public library of the 21<sup>st</sup> Century. Once a member library

can connect to the Internet, it gains a virtual collection that is managed and paid for by the larger system. Without membership in the TSLS, a library would have to negotiate and subscribe to any or all of these core sources independently, at an estimated annual cost exceeding \$100,000.

Most of the public libraries in Colleyville's neighborhood will have to adapt or expand their technological capabilities, including patron and librarian training and awareness, to enable their patrons with full access to, and effective use of, these emerging electronic services.

### **Other Library Funding**

It is important to note that a public library does not need to be a member of TSLS to be eligible for TIF (Texas Information Infrastructure) grant funds, telecommunication (or e-rate) discounts, or other federal or private library grant programs, such as those available from the Gates Foundation. However, each of these funding opportunities is tied to technology. TIF grants and e-rate discounts are based on need calculated from the number of free and reduced price lunches provided by the federal government at the local school district. E-rate discounts are requested from individual telecommunication service carriers which are required to provide services to libraries and schools at affordable rates and for which the carrier is then reimbursed by the newly established Universal Service Fund. A public library in a community with no free or reduced lunches is eligible for a 20% e-rate discount.

### **The North Texas Regional Library System**

As one of ten TSLS Regions, the North Texas Regional Library System, (NTRLS) serves 71 public and school/public libraries in the 20-county area of north Texas. This region includes Colleyville. In addition to dispersing TSLS funds, all regional systems provide library support service to member libraries, and facilitate negotiation and management of interlibrary activity through their library development offices.

Unlike the other nine regional systems, which are contracted through municipalities and their major resource center libraries, NTRLS is a private 501c3 nonprofit corporation. NTRLS is in process of converting from an advisory board to a governing board capacity, and is served by a six member Board of Directors and nine employees with offices in Fort Worth. The NTRLS website is at <http://www.NTRLS.org/>. NTRLS is the seventh of the ten Regional Systems in Texas to create an online presence. Margaret Irby Nichols, former UNT library professor, is Chair of the NTRLS Board. There are seven regions within NTRLS.

The cities of Grapevine & Euless are in the **East Region** (223,533 population) and Kathy J. Moore, Kennedale, is its Director.

The cities of Keller, North Richland Hills, and Richland Hills are in the **North Central Region** (254,846 population), and Margaret Irby Nichols, Denton, is its Director.

The cities of Bedford and Hurst are in the **South Central Region** (238,553 population,) and Billy F. Whiteside, Hurst, is its Director.

Colleyville is geographically situated where these three regions meet, and if it chooses to join the System, could be in ANY of these regions. The other regions are:

**Arlington**, (population 294,816)  
**Fort Worth** (population 479,716)  
**West** (population 213,635)  
**West Central** (population 243,343)

Library collaborations are not limited to members of like regions.

An estimated population of 1,948,442 (89% of the total population of the region) is served by NTRLS member libraries. Conversely, member libraries do NOT serve 266,223 people who live within the NTRLS boundaries (including Colleyville residents). This population might best be served by a "virtual" public library, that is, a library that comes to them via technology. Much of the unserved population is in the rural, remote areas of the region, where many at or near poverty level. Providing virtual public library service to this patron base will undoubtedly require placing some public access Internet stations in those communities, such as kiosks in existing public buildings, and providing training. A regional virtual library, even if situated from a densely populated, affluent urban area, that also serves this unserved population, would be positioned to access both government and private funding earmarked for services to those populations.

The NTRLS's June 1999 Survey of Technology indicates that 50 of the 71 member libraries have automated library systems (automated library systems are discussed in depth later in this report), and are also connected to the Internet. Thirteen of the NTRLS member libraries provide remote access to their catalogs, seven via the Internet, and six through telephone dial in. None of the libraries offer the range of virtual sources and services currently enabled by technology. None offer remote access to databases. None offer remote access and activation of interlibrary borrowing. None offer remote request or electronic delivery of documents. None offer online consultations with professional librarians. None have hosted online events, such as seminars, meetings, discussion groups, or chat rooms. None offer access to (and as far as this Report can discover, none are building) community knowledge bases (although most offer community referral services, but not online.)

## TSLS Membership

To become a member of TSLS, and thus to gain access to the sources and services it provides, including TSEL databases, a library makes application for "accreditation." Applications for accreditation are reviewed at the state level, by committee. There are three types of TSLS membership that Colleyville Public Library might properly consider: Community Library, Area Library, and Federated Library. These accreditations roughly correlate to the books-based or acquisition model, the books/technology hybrid model, and the virtual model of library services explored in this Report.

Each of these accreditation levels has criteria, and requires different levels of collaboration with other member libraries. Each also serves a different philosophical foundation. Community library accreditation will be the easiest and quickest route to membership for Colleyville. Area accreditation assumes a responsibility to surrounding areas that are also without library service. Federated accreditation offers Colleyville the most flexibility, greatest challenge, and greatest potential for impacting library services statewide, and assumes an aggressive technology-based, patron-centered, service approach.

The Texas State Library System is based on the principle that sharing is a sound practice. Enabled by technology, the practice of sharing puts virtually every library in the state at everyone's fingertips, and so provides for an equalization of sources and services regardless of community wealth and resources. While many large public and academic libraries in Texas have an active online presence, and engage in aggressive sharing, and offer various levels of virtual service, the NTRLS Technology Survey indicates that the environment into which Colleyville proposes to introduce a new public library is in the early stages of technological development. It indicates that member libraries are operating primarily in acquisition mode, and are likely to benefit from a collaborating member that focuses on technology.

If a library makes application, TSLS accredits the library in the year following opening of the library, or upon application by existing libraries. Membership accreditation is based on the nearest dicennial census or the most recent official population estimate of the U.S. Department of Commerce, Bureau of the Census.

For Colleyville, this will undoubtedly be the 2000 census, which is likely to reflect that the community is approaching if it hasn't already passed the 20,000 population level. Libraries can be reaccredited as their community population changes or upon reapplication if they wish to change accreditation status. The level of accreditation for which a library applies does not impact the dispersal of funds, which is always per capita based on census data. Level of accreditation does, however, impact the minimum standards that must be met for membership.

It is important to realize that current TSLS accreditation standards are *minimum* standards that are meant to be INCLUSIVE, rather than exclusive.

They are intended to open membership to even the most poorly equipped and funded library. They are NOT meant to be minimum standards for acceptable library service to any given community, nor are they the recommended or the preferred standards for public library service statewide. In fact, a new public library that meets but does not exceed these minimum standards on opening day would be in the immediate position of struggling for funds to include the sources and services its community will undoubtedly expect.

Since the physical opening of the Colleyville Public Library may be several years away, and to be prudently generous about the resource needs of the new library during its formative years, this Report, again, uses the 25,001 population figure for its target estimates. Designing a library to serve the future is a wise move. The near future of Colleyville includes 26,000 people.

### **Community Library Accreditation**

As discussed in the Colleyville Library Task Force Report, a Community Library seeks membership by resolution or ordinance of its local governing body and by execution of interlibrary contracts for service. Interlibrary contracts are the basis of resource sharing and key to the success and function of TSLs. Interlibrary contracts generally address the inter-lending of library materials between patron bases, but also may include provision of specialized services by one library in exchange for specialized services from another.

This sort of exchange was the heart of the interlocal agreement the City of Colleyville previously held with the Grapevine Public Library in which Colleyville residents, in exchange for \$20,000 a year earmarked for the purchase of books, were allowed full access to Grapevine Public Library services. The Library Task Force Report explains that in 1989, the Grapevine Public Library raised the City of Colleyville's cash buy-in for library services to \$200,000 a year, which Colleyville considered excessive, and the agreement was terminated.

Most interlibrary agreements are based on the assumption of relatively equal contribution from each library, and do not involve the exchange of money. Rather each library absorbs its own costs of participation in an elaborate system of "librarians agreements." Libraries are set up to achieve very special economies of scale. They can "trade" what they have as part of a bartering system that money often tends to complicate. Once a library service is in place, it is relatively inexpensive to expand that service to greater numbers. Because of this, the cost of building and operating a book-based library is relatively stable regardless of the number of books held or the number of patrons served. It is the adding-on of new services that is expensive. In fact, many large public libraries provide access to existing sources and services at no cost to smaller surrounding communities unable to support a library of their own.

A library seeking TSLs Community Library accreditation and serving a population 10,001-25,000 persons must make a local expenditure of at least \$1.50 *per capita*. (For 20,00 population, \$30,000 annually.) It must have at least one item of library materials per capita (items of library material are discussed later), OR expend 25% of its local expenditures on library materials, (for 20,001 population, 37.5 cents per person, or \$9375) AND in either case a minimum of 7,500 items must be held. A Community Library must be open for service 30 hours per week and have a head librarian (a non professional) who is employed 30 hours a week.

The 1997 Texas State Library Statistics (<http://www.tsl.state.tx.us/LD/PLS2997/Sumary/table01.html>) provides a more realistic picture of actual local expenditures and items held per capita by Texas libraries: \$12.28 local expenditure and 4.121 items per capita average.

Colleyville will be eligible to apply for accreditation as a Community Library if it does nothing more than retrieve its existing library collection, spend \$10K for more books the first year, and open the library doors thirty hours per week. Community Library accreditation may be Colleyville's quickest route to TSLs accreditation and access to the TSEL databases, and is its most logical first choice if it wants to proceed quickly with growing a library in relative independence.

### **Area Library Accreditation**

However, Colleyville might assume a larger responsibility and pursue TSLs membership as an Area library under the hybrid model and set as its opening day goal meeting the minimum accreditation standards at the next higher level. But, this accreditation decision means more than a change in minimum standards, it is a philosophical difference.

An Area Library serves a population of 25,001-50,000, has a local expenditure of \$1.80 per capita, has at least one item of library materials per capita *or* expends 25% of the local expenditures on the purchase of library materials. It must be open for service no less than 40 hours per week, and must employ at least one professional (M.L.S. degree-holding) librarian.

The Colleyville Library Task Force Report recommends that the Colleyville library be open for 48 hours each week. Certainly, having the services of at least one professional librarian during the critical formative months and years of the public library is essential (personnel needs are discussed in the "Other Considerations" section of this Report). The increase from \$1.50 to \$1.80 per capita in minimum local expenditures in light of the anticipated local budget of nearly \$1/2 million, is negligible.

More important to the decision is that Area library designation allows Colleyville to position itself to expand its reach, share its wealth, and enter into

collaborative cost- and resource-sharing agreements with nearby communities that currently do not have member public libraries, such as Southlake, Westlake, Trophy Club, Northlake, Argyle, Bartonville, Double Oak, Copper Canyon, Highland Village, and Corinth, and with the rural, remote NTRLS population without a community to build them a library.

If Colleyville choose Area Library designation, it will be making a statement to its future political cohorts about the position it might intend to take in NTRLS generally, and about its willingness to enter into creative cooperative agreements and resource exchanges with other local libraries. It will also be positioned to assume a leadership role statewide in providing "virtual" library services to surrounding, unserved populations, many of whom are rural and remote, and at poverty level. Area accreditation assumes Colleyville will likely have to shoulder the fiscal and political burden of starting and hosting the Area system.

Area Library accreditation is more feasible the further toward the "virtual" model Colleyville chooses as its design start, but Area library design must incorporate the needs and uses of the included population, not just be a community library that is substantially online and so available to a larger population remotely. Area designation assumes the desire to communicate with, interact with, and serve the needs of the expanded population.

## **Library "Items"**

The opportunities presented by Federated library accreditation are discussed shortly, but first it is important to note that TSLs accreditation is tied to the number of library items made available. An "item" of library materials is a book, a periodical subscription, a CD-ROM, a videocassette, or other such tangibles. This is a national definition unlikely to change. A subscription to an electronic database counts as ONE item of library material regardless of the number of journals or the number of individual full text articles included in the database. Access to nonsubscription electronic information resources, such as government documents, and other "free" Internet resources, are counted as one library "item" by counting the tool of access, not the resources it delivers.

## **Federated Library Accreditation**

Before moving on to the spectrum of design options available for the Colleyville Public Library, one other area of TSLs accreditation must be considered. The other accreditation designation option is as a Federated Library.

Federated Libraries are two or more libraries that join together (on paper) their holdings and patron base and share their resources and talents for the greater common good. Federated libraries make application for membership as a single entity. School and public libraries may form federations, as may two or

more public libraries. Federated Library Systems make sense in densely populated, geographically close communities such as Colleyville and its neighbors, where it makes little sense to have expensive and duplicative or similar collections of books and periodicals, or redundant computer systems and other library services within close proximity.

Undoubtedly, the failed attempt to create a single library for Grapevine, Colleyville, and Southlake mentioned in the Library Task Force Report was based on the Federated Library model. Membership criteria for a Federated Library is based on the combined population of each community, and the total number of library items held by the libraries combined. A Federated Library system files joint paperwork with TSLs, and receives a combined dispersal of funds, although each library operates independently and may maintain its own unique identity.

A Federated Library would, for instance, allow an existing book-based public or school library and an upstart technology-based virtual library to coexist within the same geographic region without duplication of sources or services. Each library could concentrate on an area of expertise and expenditures, thus improving services in both areas for the combined population.

Further research is necessary to discover whether this type of cooperative arrangement is possible or practicable between Colleyville and its neighbors, and is outside the scope of this report. But it should be explored before a final design model is selected, and, like Community and Area designation, is presented here as background for the spectrum of design options. Note also, that Federated accreditation is possible between and among public libraries, school libraries, college libraries, and even special libraries, and such federations reflect the sort of innovative collaboration and networking that is most heavily funded. Note also that Colleyville is not limited to one federation choice. It has at least six obvious opportunities.

Expanding further the accreditation options for Colleyville, it might choose to enter the system as an individual book-based Community library, concentrate its development activities on virtual library services, expand its service area to the unserved NTRLS population and reapply as an Area Library, then join forces with neighboring book-based libraries and reapply as a Federated Library. This approach requires that Colleyville START with a book-based library model, and so offers no compelling motivation to progress collaboratively since membership is achieved independently, up front.

Colleyville may also take the opposite route: begin building a virtual library presence immediately while negotiating a federation during construction of the library building, and take a slow approach to accumulating and building a specialized book collection to supplement its electronic resources rather than rush to acquire a generic public library collection for opening day, or choose a no

books model. There are more discretionary funds available for this second approach than there are for the first approach. The first approach assumes a book base and independence, then collaboration; the second approach assumes a technology base and collaboration, then individuality.

### **TLA *ad hoc* Committee on Standards**

Members of the Texas Library Association (TLA), the professional association of librarians, have recognized that the TSLS accreditation standards are inadequate as a measure of minimally adequate library service. They recently formed an *ad hoc* committee on public library standards to draft and present revised standards that the Association may recommend to the State Library.

The inadequacy is based on the following statistics:

- Texas public libraries spend an average of \$12.46 per capita.
- Texas ranks 46th in the U.S. in public library expenditures per capita
- The national average is about \$20 per capita
- The state of Texas spends 26 cents per capita for public library service
- Of the 44 states that appropriate funds for libraries, Texas ranks 36th
- Texas is one of only 12 states that does not provide direct aid to public libraries
- Texas administrative code says that libraries serving populations of 10,000 and under need only have \$1.20 per capita or \$5,000 per year, whichever is greater, offer a minimum of one item per capita, be open a minimum of 20 hours per week.
- The same rules require libraries serving over 200,000 to spend \$2.80 per capita.
- Texas ranks 42 in the U.S. in materials expenditures per capita.
- Texas has at least 6 libraries where the head librarian is paid \$1 per year.

<http://www.txla.org/groups/plstand/plstand.html>

While the TLA committee's minimum accreditation standards are still under draft, they are useful as a tool for visualizing the types of changes and the shift in focus that Texas libraries might be expected to accommodate in the next few years. The draft standards are online at <http://www.txla.org/groups/plstand/proposed.html>, and include standards for Essential, Enhanced, and Excellent service.

The committee considers Essential public library services to include:

- Access to Internet and full-text databases.
- Core reference collection.
- Interlibrary loan services.
- Local history materials.

Enhanced and Excellent services also include:

Licenses to full-text databases.  
Digitized local history materials.

In addition, proposed measures of library collections will include: number of materials, materials per capita (these numbers are substantially unchanged from current standards), and add circulation per capita, collection turnover rate, percent of collection more than 5 years old, percent of collection weeded, and number of computer workstations. Also, personnel standards, as measured by education, are increased, as are standards for library administration, including participation in Continuing Education programs by Library Boards of Trustees.

It is obvious that the profession has come to understand that the number of items held and number of hours opened are not sufficient measures of a library, and that measures of quality of the collection, and access to technology are equally important. These proposed measures can be interpreted to value quality over size of collection, and virtual services equally with hours of operation, both of which are emphasized in the virtual library model presented in this Report. The developing standards also point to an expanded role for public libraries: as digital publishers of unique local collections, particularly local history.

Of course, there is no way to know when, or if, these standards will make it out of committee, whether TLA will propose them to the State, or whether the State will adopt them. Nevertheless, they do reflect professionally driven philosophical changes that Colleyville can expect to confront, and should therefore consider during the design of its public library.

TLA is not alone in its ideas about the future of libraries. The very concept of how library resources are managed and delivered is being questioned. In a recent feature article in *Searcher Magazine*, "Building Earth's Largest Library: Driving Into the Future," Steve Coffman, *FYI Director* for Los Angeles Public Library, suggests that libraries should adopt the Amazon.com model of "just in time" delivery of materials to just who needs them rather than "just in case" collection of mostly unused materials. (Coffman's article is online at <http://www.infotoday.com/searcher/mar/coffman.htm>.) The "just in time" concept is the foundation of the virtual library model presented in this Report, and the article will be referred to again during discussion of library automation systems.

### **Surrounding Public Libraries**

There are at five book-based public libraries within eight miles of the center of Colleyville. They are all fine libraries with fine collections of books, and offer the full spectrum of traditional public library services. Each of these libraries offers minimal virtual library services. None have an aggressive, interactive online presence. Colleyville residents may make private arrangements for book

borrowing and other library privileges at any of these libraries for a relatively low annual fee.

Those libraries are:

Bedford Public Library, which serves a population of 50 thousand and holds 98,338 items of library materials.

Eules Public Library, which serves a population of 42 thousand and holds 75,430 items of library materials.

Grapevine Public Library, which serves a population of 69 thousand and holds 106,316 items of library materials.

Hurst Public Library, which serves a population of 37 thousand and holds 121,343 items of library materials

North Richland Hills Public Library, which serves a population of 54 thousand and holds 107,320 items of library materials.

The combined population of these communities is approximately 252,000. The combined collection of the five libraries is 508,744 items, more than two items per capita. Each library is accredited as a Community library and is a member of TSLC. Each library, based on its existing collection, is in a position to form a Federated library system with Colleyville without the need to immediately purchase additional books. Thus, the region is positioned to support the idea of a Federated library system that would include an upstart virtual public library partner who is willing to make technological investment in the combined systems, and expand virtual service to the combined populations.

What each of these libraries has that Colleyville needs most and should avoid acquiring, is a library automation system, which is required to support all but the smallest collection of books. What Colleyville can offer that each of these libraries needs, is technological leadership.

## **Book-Based "Acquisition Model" Public Library**

### **The Colleyville Collection**

The Colleyville Public Library already owns 11,000 books. The books were purchased by Grapevine Public Library with the \$22,000 Colleyville gave it annually between 1981 and 1988 in exchange for borrowing privileges for the Colleyville population. This \$176,000 collection, in volume number, satisfies nearly half of Colleyville's minimum library item requirements for TSL accreditation as either the Community or Area library. They are Colleyville's quick ticket to accreditation and therefore access to TSEL databases. They are not, however, sufficient to support a freestanding book-based library.

The value of the collection, in terms of its place in a core public library collection rather than its number, is an important consideration. The value needs to be weighed against both the cost of moving and reprocessing the collection for the shelf, and the cost as loss to the Grapevine Public Library as a future collaborator. The Colleyville Collection represents 11% of the Grapevine Public Library collection.

The 11,000 book Colleyville Collection is a well-selected and diverse collection that spans the Dewey Decimal Classification Code evenly. It includes a fine and varied collection of both children's and adult fiction, along with children's and adult nonfiction. It includes classics and nonfiction published in the 1980s, as well as several nice concentration areas, particularly in the children's collection. In fact, the City of Colleyville should be proud of its collection, and appreciate the care and thoughtful work of the Grapevine Public Library, which will no doubt suffer its loss if and when the collection is removed to a new facility.

Certainly, Colleyville could not today buy the collection for the money it has already paid Grapevine, and Grapevine will undoubtedly have to recollect many of the books for itself, a project that is likely to set its collection development plans back several years. Colleyville can count the books important to its opening day collection if it chooses a book-based model, and should also consider it a bargaining tool if it chooses instead to negotiate federated agreement(s).

If Colleyville chooses to negotiate Federated library accreditation with Grapevine as its partner, it might consider meeting the local need for easy access to books and the need for the "feel" of a traditional library in Colleyville by retrieving the Colleyville collection as part of a "rotating collection." This arrangement would allow Colleyville to have books in its public library building, but would leave the records for the books in Grapevine, thus relieve Colleyville of the need to purchase its own freestanding automated library system. With a federated system, Colleyville could simply plug-in to Grapevine's existing

automated system using a dedicated telecommunications line and transact the business of book circulation "as if" they were in Grapevine. Plugging in to Grapevine's automation system will allow Colleyville to subsidize the Grapevine system by adding and managing the more advanced options that allow for patron-centered remote functions like automated interlibrary loan, document delivery, etc., which are required for virtual library service. Automated library systems are a considerable initial expense, and also an ongoing expense, and are discussed in detail later in this Report.

What the Colleyville Collection does not include is the core books required for reference, such as encyclopedias, dictionaries, atlases, directories, and guides. Many of these resources are available via computer, albeit often at considerable expense, and these sources are not extensively included in the databases available from TSLs. Reference books are also among the most expensive books to purchase. If Colleyville chooses an independent book-based community library model, or a permutation of it, it will want to acquire a solid print reference collection. If Colleyville chooses a permutation of the hybrid model which includes both key physical collections and virtual services, an outstanding reference collection combining print and electronic sources should be included.

The Colleyville Collection also does not include large typeface books, paperbacks, multimedia resources such as video or audiocassettes, or CD-ROMs. It does not include back runs or current subscriptions to popular magazines or journals, the second most expensive class of library items to purchase and maintain. Periodicals require considerable aftercare: replacing lost or damaged issues to maintain a complete run, binding of past issues, and shelf space storage for back runs. The double-digit rise in cost of periodicals to libraries (*American Libraries* May 1999) explains in part TSEL's focus on developing a statewide virtual collection of periodicals. Libraries are charged considerably more for subscriptions to magazines and journals than private citizens since they serve multiple readers.

With TSEL access it is likely that Colleyville library patrons will have minimal use for a physical collection of generic periodicals, although it is equally likely that Colleyville patrons will require subscriptions (print or electronic) to expensive and specialized business and economic related journals not included in the databases.

Of course, the condition of the Colleyville Collection cannot be determined from the printout of titles, and must be evaluated before the decision to retrieve it is made. However, based on the quality and span of the titles, and assuming they are actually on the open shelves at Grapevine, and were purchased between 1981 and 1989, it is safe to assume they are shelf quality copies. However, if the TLA standards of accreditation (which counts number of books over five years old) are adopted prior to Colleyville's membership, the age of the collection might be a problem.

The virtual model of public library services assumes that if any books are kept in the library, they will be a very unique and specialized collection of high quality books acquired to supplement virtual sources and services. These books are not the sort of books in Colleyville's current collection, or the type of books normally collected by a generic public library. Under the federated model of accreditation, Colleyville might choose to leave its current collection in place at Grapevine, and start from scratch, slowly building a new locally held collection under an entrepreneurialized development policy. The scope of the collection will, of course, be based on community needs, but might include a high tech collection, and/or a business collection, and/or a collection of Bluebonnet and Caldecott award winning books for children. The virtual model assumes the patrons of Colleyville will use the library primarily in virtual mode, and use the physical collection and the library building secondarily, a likely scenario for a large part of the population for whom personal time and place are major commodities.

If and when Colleyville decides to retrieve its collection, it must be sure to also receive the full MARC records for the collection. It must be sure to receive the MARC records in digital form so that they can be entered into the library's automation system without rekeying or recataloging, which would be a considerable expense.

### **Opening Day Collection**

Assuming Colleyville selects the independent Community library book-based or acquisition model or one of its permutations, it will need to acquire additional books to fill out the collection, as well as a library automation system to support the collection. The cost of the minimum shelf-ready (cataloged and carded) generic public library collection necessary for Colleyville to meet minimum Community library accreditation (15,000 additional books), purchased from a library collection vendor will cost approximately \$200,000. (Collection space needs are discussed in the "Other Considerations" section of this Report.) Selecting 15,000 titles is a lot of work, and may take months. Having a vendor select the titles is not recommended.

If Colleyville chooses the Area library designation, it will need to acquire 40,000 more books, which will cost about \$400K. If Colleyville chooses the federated model, the federation will likely already have enough books to meet minimum TSLA accreditation, and Colleyville need not rush to a book jobber to fill its empty shelves. This means the City can either open the library with its existing book collection, or without books, and take a slow, careful, calculated and entrepreneurial approach to growing a specialized collection based on clearly identified community needs, if indeed it wants books in its library.

Entrepreneurializing collection development will allow Colleyville to let its patrons "grow" the collection themselves, and let them grow the collection they

want. It is widely held that 80% of any given library collection is used less than 20% of the time, and 20% of the collection represents 80% of the circulation. It makes little sense to rush out and buy books by the number, books that are likely to go substantially unused, just so the shelves are full on opening day.

As part of its entrepreneurial collection development scheme, the library might enter into an association with amazon.com, the world's largest online bookseller, and ask patrons to choose (and perhaps pay for) the books they want to read and have in the library.

For instance, during its first summer of operation, the Colleyville library might decide to flesh out its children's collection by incorporating into its first annual summer reading program the purchase of multiple copies of the Cadecott and Bluebonnet book award winners from the last ten years. It might give parents the opportunity to sponsor one or several of these books in their child's name by setting up online registration for the program with a convenient click-through to amazon.com. This sort of collection development is likely to eliminate much of the proposed capital outlay for an opening day collection, and since amazon.com PAYS its associates for every book purchase referral, it is a way for the library to use its collection development activities to MAKE money while spending it. This sort of virtual arrangement will be attractive to federation members.

Since there has been no user needs analysis for the Colleyville patron base, (user needs analysis is one tool librarians use for prescribing and mediating a community's reading and information need), the exact nature of the best type of collection for Colleyville is a mystery. Book buying should be delayed until a proper, professional diagnosis can be made. Stocking a library without professional diagnosis is like buying prescription drugs without the guidance of a physician. It can cost the library much more than the initial capital outlay.

### **The Library Automation System**

If Colleyville chooses a book-based model or one of its permutations, it will need a library automation system to manage the collection. Unfortunately, it is not currently practicable to have any more than a very small and select collection of books without an automation system, and library automation systems are very expensive, monolithic, specialized, and inflexible. It is likely in the near future, virtual library automation systems will be developed that run on remote servers and require only a logon for the library, but for now every library has to have its own automation system, or figure out how to share systems. Fortunately, configuring a shared system is not technologically difficult.

Automation systems can soon cost as much as the books they are meant to support, and can quickly become the deciding factor in any future library development. Frequently the limits and capabilities of its automation system

determine the scope of sources and services a library offers, and this can lead to a technology-restricted public library rather than a technology-liberated one.

If at all possible, and if Colleyville is committed to the acquisition of books, it should negotiate a federation agreement with an existing book-based library that has a core automation system in place, and delay the purchase of its own system as long as possible, if not entirely. Or, it might instead invest the price of a library automation system in technology-savvy librarians with web publishing expertise who can develop a system that reflects the "value added" services of the amazon.com model, including patron book reviews, links to similar or like resources, patron reader advisories, graphics of book jackets, tables of contents, etc. Unfortunately, the current generation of library automation systems does not have this flexibility, but there is likely a vendor working on its development who might be willing to work with the Colleyville library as a prototype site.

The [Coffman](#) article mentioned earlier discusses the shortcomings and limitations of current library automation systems and describes how library practices are often driven by, and thus limited by library automaton systems. Coffman suggests that America's library collections are held hostage by these systems, and this Report agrees completely. We anticipate a fundamental change in the standard of library automation systems in the very near future and recommend any feasible and practicable alternative to the purchase of one now.

Automation systems have changed dramatically in the last three years as they have adopted a web-based interface. That interface is likely to improve dramatically, and quickly as amazon.com-like features are added, and developed. It is likely that purchase of a current generation of systems will require substantial updates long before the value of the system is realized. We call particular attention to Coffman's conclusion that the trick to breaking the current systems stranglehold on patron access to the 43 million books currently held by in the United States' public libraries "is to start." Colleyville is in a position to start.

In the traditional book-based model, the automated or integrated library system is the heart of the library's technology, and is required to support a physical collection. If Colleyville chooses to approach the design of its public library from the virtual or bookless model, or one of its permutations, an automated system may not be required at all. In the federated virtual library model, the extent of Colleyville's investment might be to update or add components to its federated partner's existing system.

There are many library automation and integrated systems available. All library automation systems do just about the same thing, just about the same way. None of them do it well, although some do it better than others. All of them are used predominately for providing access to and managing a locally held collection. In addition to their administrative and professional functions, core

library automation systems simply allow patrons to search the local collection by title, author, and a limited number of subject headings to find out if the library has a particular book. Library automation system buy-in costs can be as little as \$50K and as much as \$500K, or more. The price depends on many factors. Annual and ongoing maintenance fees can range from \$5K to \$50K (price is discussed in detail later).

Two facts should inform the decision to invest in a library automation system:

- The standard circulation ratio for a library collection reflects a 80/20 rule (20% of collected books represent 80% of a library's circulation; and 80% of a library's holdings circulate 20% or less of the time).
- More than half the time, a library patron cannot find what they want in any given library collection.

Some automation systems are library-centric in that they operate for the convenience of the library, and some are patron-centric in that they focus on user convenience and satisfaction. Because of the preference for the library services vendor, Ameritech, mentioned in the Library Task Force Report, and because several libraries in the region (including Fort Worth Public and Grapevine Public) use an Ameritech system (thus making future systems integration more practicable), we will consider Ameritech's system as a standard by which Colleyville Public Library can begin to evaluate its need for a system.

This Report does not specifically recommend that Colleyville choose Ameritech if it chooses to purchase or lease a system, nor does it endorse Ameritech's products. Ameritech is, however, considered one of the "high price," "high quality" library automation systems, has one of the most user friendly interfaces, is expandable, and has a good maintenance, service, and satisfaction record.

The *concept* of the library automation system is also used here as a tool to describe levels of library sources and services in order to inform the conceptual design decision Colleyville faces. Whether Colleyville choose a Community book-based library model, or permutations of the Hybrid library model and purchases its own system; or, if it chooses "virtual" service in exchange for borrowing privileges from the area's book-based libraries and supplements an existing library automation system, ease of integration with neighboring systems, and expandability, are important considerations.

Whatever model of library service Colleyville chooses, library automation vendors will help the library evaluate which systems is best. Vendors have multiple systems, and multiple permutations of those systems. The evaluation will be based on Colleyville Public Library's current and future plans, existing and planned hardware and network infrastructure, and its need to integrate with third-

party applications, such as accounting and administrative software that might run on the City's future Wide Area Network (WAN).

It is recommended that a vision and conceptual design for the library be developed, and the range of services supporting that vision be determined before a library automation system is pursued. If a library automation system is required, a request for proposals, or RFP, for library vendor services should be drafted and several library automation vendors invited to present their proposals for a system. A professional librarian should investigate several systems before a final choice is made, and in no case should evaluation and choice of a system be left to a non-librarian. Generic RFPs are available either from TSLS, NTRLS, or directly from other libraries.

As it is often a slow and tedious process to choose an automated library system vendor, and the process will need to be completed and the system fully tested and operational by opening day, the process must begin as soon as practicable. When it comes to library automation systems, as with all technology, a little smart thinking at the start can save years of agonizing and expense during the life of the system.

The Texas State *Library's Library Automation Standards and Guidelines*, which includes a comprehensive list of over 100 library system vendors with contact information, is available at <http://www.tsl.state.tx.us/LD/pubs/LibAutoStandards.htm>. The Texas State Library's and NTRLS's Development Offices are also available to consult with the City during selection and purchase of an automation system.

Ameritech's library automation systems (<http://www.amlibs.com/index.htm>) are installed in thousands of libraries worldwide and are appropriate as the core system for the traditional book-based Community Library model, as well as for the added functions necessary for permutations of the Hybrid Library model. Parts of the Ameritech system also support the sort of library services provided by a virtual library, specifically, virtual document delivery and advanced functions related to patron-centered remote checkout, including ordering and delivery of library books from other libraries. Using a federated library model with Grapevine Public Library and its recently acquired Ameritech system as partner, the following scenario is possible with the advanced components of an automation system.

The Grapevine Ameritech system includes the core library catalog (which holds the records for the Colleyville collection); a public access catalog, a cataloging component, a circulation component, and a telephone notification component. Document delivery and remote library materials handling components can be easily added to the system and used and managed remotely from computers in Colleyville. These components will support development of the advanced functions and services of a virtual library. Through remote access

and by adding components Colleyville will be positioned to function as the clearinghouse for virtual library services and sources for both libraries, and the added functions and use should have little effect on the speed or capacity of the system.

Even if Colleyville retrieves its collection for local circulation, or arranges for a rotating collection for its new library building, or if it builds a new, specialized collection from scratch, the records for the items can remain in the Grapevine system and be marked as held in Colleyville.

The Grapevine catalog is already hosted online on the Ameritech servers, and so is available to anyone with a web connection. The existing catalog can be easily configured to allow Colleyville Library patrons to search only the local collection to retrieve books, or search the combined collection and activate remote delivery of books held in Grapevine. The system would also host the patron records and circulation records for both communities. Colleyville librarians would be able to add items to the catalog. In effect, the Federation would not only be sharing books and virtual services (which are discussed in detail later), but would federate a single automation system, thus increasing the use of the system, both in function and in population served. Federation of automation systems is the sort of unique and innovative use of technology supported by discretionary TSLs funds. This type of sharing makes sense, both for Grapevine, which will need to add librarians to develop their system's advanced virtual functions, and for Colleyville, which desires to exploit these advanced functions but has no need for a separate core system.

If Colleyville chooses to attempt a federated system with any of the other viable library partners, it would naturally either buy in to their existing automation system (by adding the advanced components), or purchase a core system itself and federate its use with the neighboring libraries. Which conceptual design Colleyville chooses for its library will determine which automated system options it chooses.

To further clarify what a library automation system DOES, the following discussion introduces the spectrum of services Colleyville should expect from *any* library automation system. It begins with functions of the basic library automation system for a book-based Community library, progresses through the functions necessary for the Hybrid model, and ends with the advanced functions required for the Virtual library model. The Hybrid model is where the system is most expensive and, as a hybrid system, least likely to be maximally used for either book-based or virtual services (hybrid mode is the state of operation for most existing libraries.)

## Core Automation Systems

A core library automation system is a set of software programs that use a multi-user relational database to allow the library staff to manage the books, magazines, audio-visual, and other tangible items it holds. The core database, which contains the MARC record for each item, is then used to serve the public in many ways. The MARC record includes the title, author, publisher and other information about the book, names the library that holds the book for circulation, and includes assigned subject headings to help locate and collocate the book within a collection. A system that manages 100,000 library items is the same core system that would be used to manage 20,000 items, so size of collection, in terms of the collection capabilities of a small public library, does not significantly increase or decrease the cost of the core automation system.

In addition to the core catalog, the **Online Catalog, or OPAC**, (online here meaning accessible by computer from within the library, not online as in on the Internet and remotely available) allows the public to search the catalog to find out what items the library has, whether those items are checked out, and where the items are located on the library shelves. As functional components are added, the OPAC may also be configured for remote access by patrons, using either text-based remote login to the system via telephone, or delivery over the graphical World Wide Web. Remote logon and web delivery of the catalog are discussed in the Hybrid model section of this Report.

At its most simple level, the OPAC delivers one-way information in response to user search requests. The patron can find out if the library holds the book/periodical/video, if it is available, and where it is located. The patron must physically locate and retrieve the item and manually check it out. Thus, the OPAC is useful only during library operating hours, and only for evaluating and locating items of library materials physically held by the library.

The online catalogs of collaborating libraries can be combined to create a "union catalog" of holdings for multiple libraries, and added components can be configured to interface with the other libraries to activate patron service components, such as automated borrowing and courier service, which are discussed below. The Texas State Library maintains a searchable union catalog of all member library holdings. Anyone can search this catalog at <http://link.tsl.state.tx.us/cgi-bin/uniondir.CGI>. The Texas Union Catalog is the core on which statewide patron-activated interlibrary loan and aggressive sharing of books represented by the virtual library model, rests. Individual libraries add their records to the Texas Union Catalog as books are acquired. The Library of Congress maintains a union catalog for the country. The Online Computer Library Center (OCLC) also maintains a national union catalog. The Research Library Group maintains a union catalog of major university and research library collections.

Each component added to the core catalog increases both the buy-in cost of the library automation system and its annual maintenance fees, while at the same time increasing its usefulness to the library patrons and librarians. It is possible to buy the core system and upgrade it incrementally by adding service components, although such a plan should not stretch beyond three years because of the rate of change in core system configurations and hardware requirements. It is often less expensive to buy the entire system and all the desired components up front rather than incur the expense of additional site visits by the vendor and changes and upgrades in technology necessary to run the updated software as the vendor develops and upgrades its product.

The same rules of thumb that apply to the prudent purchase of personal computers applies to library automated library systems:

- Buy the best system you can afford, choose the system based on what you're going to use it for, buy as much of it as you can up front, use it to run the current generation of software and its upgrades only, and run it until it quits or you absolutely must have a system that does the functions made possible by subsequent generations of hardware and software.
- If you expect to need the next generation of computer within two years of purchase, lease.

With the core catalog and the online catalog in place, an integration of the other automated components is possible. Those components include:

The **Cataloging Component**, which allows staff to add and remove items from the core catalog, and add title, author, subject, and other headings to existing records, thus personalizing the catalog to the needs of the patrons. These added subject headings help the public find items they are looking for in the library. Note, however, that most library automation systems do not have the programming flexibility to allow patron additions to the catalog record (such as reviews and recommendations), or for librarians to add the type of patron-centered value-added information discussed in the [Coffman](#) article.

The **Technical Services Component** of a library automation system allows the library staff to automate purchasing and receipt of materials and manage the physical collection of periodicals.

The **Circulation Component**, allows staff to issue library cards to the public, which are then used to allow the public to checkout library materials.

Examples of Circulation Services:

Inventory  
Reserve Book  
Media Scheduling

- Homebound/Outreach
- Electronic Notification
- Self-service checkout
- Receipt printers
- Backup services (battery operated in event of systems failure)
- Telephone notification and renewal system
- Cellular bookmobile

Examples of Patron Self Services:

- Self-checkout
- Review items out, holds, and blocks
- Renew items
- Place, cancel, and modify holds
- Initiate interlibrary loan requests
- Create or modify personal booklists
- Renew items by phone
- Cancel holds by phone
- Create or modify PIN number
- Submit reference questions
- Review patron profile
- Library registration

### **Networking Services**

Every library's ability to serve its patrons depends on its ability to network. However, finding someone who has both an understanding of libraries and the technical expertise to design, install, and maintain a library's network can be a challenge. The library's automation vendor should also be its network partner.

Most library automation vendors offer one-stop solution for networking needs and can service Colleyville whether it chooses to be a single site book-based Community library, and Area hybrid library, or the Virtual partner in a Federated library system. The automation vendor should be expected to provide consulting and network design, installation and integration with existing products and networks, and network diagnostics, monitoring, and maintenance services specific to its products.

Most library automation vendors employ engineers who understand the demands and challenges that daily library operations place on a network. These engineers should be expected to work closely with the Colleyville librarian or library consultant in developing the network by analyzing the information needs of the staff, the patrons, and the system of service, by evaluating resource sharing patterns, security requirements, and projections of future growth.

Of course, purchasing a library automation system for Colleyville *before* the library is open is a problem since there will be no patterns on which to base the system design. The system vendor will have to assume Colleyville library patrons will use the library in a generic way, which, in the virtual model of services, is not likely to be the case.

Once the best network solution for Colleyville Public Library's needs is designed, the library automation vendor should be expected to provide the industry's best products and services to implement the LAN, or local area network. They should be expected to interconnect it with the city's planned WAN or wide area network, and facilitate Internet access for the library and/or the City at a competitive price.

The virtual model of library service, which approaches patron-centered library services technologically, allows the City of Colleyville to rely on the library and librarian to participate in the design and management of the City's larger technology system. The advanced functions of a library automation system discussed next should be considered in relation to the City's wider need.

### **Executive Information System**

Executive information system components complement the standard operating reports available with most library automation systems, and are useful for building customized reports based on the data the system generates. These special reporting and analysis tools will allow Colleyville to closely monitor and tailor its services to respond to patron needs and uses during the critical library development stage. An executive information component is particularly recommended should Colleyville choose the Area or Federated model. It will allow Colleyville to track patron use and activity originating from outside the community and also allow tracking of subpopulation patron activities, such as children's uses, or City use, and will be an important aid in diagnosis.

### **Desktop Management**

Desktop Management is a convenient package that allows the librarian to manage multiple desktops from a central location. Such a system should provide tools to monitor the performance of each aspect of the network, track assets, secure and protect PC access and use, and remotely administer and manage PC software and system parameters. Such a system cuts considerably the labor costs of installing and upgrading software on individual PCs, and allows the librarian to default restore computers to a standard configuration in the event a patron purposefully or unintentionally reconfigures a computer, which happens frequently in public access sites.

Desktop management software also allows library staff to take control of remote machines, across the LAN/WAN. They can see screens, and make

keystrokes and mouse movements as though they were sitting at the remote machine, thus allowing staff to provide PC troubleshooting and support to remote sites from a central location, and deliver remote training or assistance as users on each end interact with the same screen.

Examples of System Management functions:

- Flexible maintenance plans
- UNIX and Windows NT O/S support
- Desktop Management
- Remote network monitoring
- System security audits
- System administration certification program
- Automation skills maintenance program
- Workshops and continuing education

### **Delivery Services**

Minimal automation vendor services that should be expected with any installation include: Network Performance Analysis and Pre-Installation Consulting (approx. 3 days on-site); Server Staging and Testing (approx. 2 days off-site); Server Installation (1 day on-site); System Integration and Testing (2 days on-site); Training (2 days on-site)

### **Service and Maintenance**

The library automation system vendor shouldn't just design and install the library network; it should be expected to keep it running at maximum efficiency using network engineers, programmers, and consultants with in-depth knowledge of the equipment and software required for a successful library network. This frees the library from the need to have a systems expert on staff, and frees the librarians to do the work of librarians, instead of systems people. The vendor selected should be positioned to help Colleyville Public Library with TCP/IP, HTML, Java, XML, Z39.50, SMDS, Frame Relay, ATM, ISDN, FDDI, Ethernet, Client/Server, Telnet, FTP, WWW, Windows NT, UNIX, intranets, and Firewall.

Vendors offer a wide range of maintenance and service programs, allowing Colleyville to choose the level of support that best meets its needs. Options include return-to-depot assistance, phone troubleshooting, remote hardware fixes, hardware replacement, and remote monitoring. On-site support should also be available.

The cost of library automated systems is discussed later in this Report.

## **Books/Technology "Hybrid Model" Public Library**

### **Beyond Books and an Automated System**

In addition to providing in-library access to the library catalog, a book-based public library will be expected to provide in-library access to the Internet for library employees and patrons. As the Hybrid model moves from the book-based end of the paradigm toward the technology end of the paradigm, the library automation system should also be expected to provide remote patron access (via the Internet) to the library catalog and assorted collection-related services. Such services include click-through access to TSEL, TexShare, and other proprietary databases for patrons logged on to the system from home, work, or school.

As soon as remote logon *to* the library system (rather than *from* the library system) is possible, the library's available hours of virtual operation expand to 24 hours a day, 365 days a year. Service can quickly expand from simply offering access to the online catalog (which is the highest level of virtual service currently offered by any NTRLS member library.) The further toward the "virtual" model Colleyville moves the more extensively these "around the clock" services can be developed.

Advanced virtual library sources and services are discussed in detail later in this Report. Note, however, that TSLA accreditation standards only count hours that a physical building is open to physical access as "open to the public." This holds even if a virtual librarian is logged onto the system remotely and available for online assistance when the physical library is closed to the public, or in the case of a pure virtual library, there is no physical location of the library. It is expected that remote access to librarians and librarian-guided online activities will be as important to Colleyville patrons as remote access to databases and other library resources.

In the Hybrid model of service, Colleyville Public Library will be served best by the virtual model of Internet Domain Hosting. A virtual domain or web address runs on a vendor's server computer. The library obtains a permanent address or URL for the library on the Internet (for instance <http://www.cpl.org>) and has that address hosted by a specialized Internet Service Provider (ISP). This service is in addition to the cost of the core library automation system.

In virtual mode, the ISP manages the library's permanent connection to the Internet as well as the technological and administrative matters associated with maintaining a domain in the Internet. The library connects to the ISP through a dedicated telecommunications channel, which it contracts for from yet another vendor.

A virtual hosted domain frees the library from the expertise and expense required for setting up and running an Internet Server itself. Many library

automation vendors also serve as hosts for virtual domains, and several are also positioned to host the libraries' core catalog at various levels of interactivity, from their own servers. This arrangement is recommended for the hybrid model as it can be very complicated to configure and maintain a web-based library catalog, and the technology is changing rapidly. However, remote hosting of the library catalog for access via the web does not increase the information function of the catalog. It can still only be searched by title, author, and subject. Patron "writing" to the catalog as in the amazon.com model, is not yet possible. The patron must still physically go to the library to retrieve the item.

Should Colleyville choose the Federated library model, and keep its collection in place in Grapevine, or retrieve the collection for local circulation while connected remotely to the partner's automation system, it may still use an individual domain or separate online address for the virtual library component. This allows Colleyville Public Library to maintain a separate and distinct online identity and interface for the advanced functions it might develop.

If Colleyville chooses the pure virtual library model, that is, the bookless model without federation, and so has no need for an automation system, the cost of its hosted virtual Internet Domain will be between \$100 and \$500 a month, depending on both the model of sources and services the library intends to offer, and the level of sources and services the ISP can provide. Many telecommunications providers also provide virtual domain hosting services, and it will be prudent to negotiate the library and the city domain and telecommunications as one package. In pure virtual mode, Colleyville Library will have to negotiate with a document delivery and interlibrary lending utility, such as OCLC, to handle its resource borrowing needs. OCLC offers a full range of advanced, technologically-centered library services, which are described in detail on their webpage at <http://www.oclc.org>.

Fortunately, Colleyville is in a position to expect aggressive competition for both its telecommunications and virtual hosting business since the City is served both by GTE and AT&T, and both have an interest in supporting the development and use of advanced networking services by the patron base. Both are likely to be open to the opportunity to support aspects of the virtual library program.

An advantage of a hosted domain is that the library can change ISP without having to change Internet address, thus putting it in a position to expect competitive service from the ISP, as well. Certainly, the library's ISP and the City's ISP should be coordinated, and in the virtual model, the library might also be expected to manage the City's online presence and advise and assist it in the development of paperless city services using XML, Java, and other advanced web-based data functions.

The ISP that hosts the library's virtual Internet domain (whether its the automated vendor, who may or may not also host the library's Internet catalog, or

the telecommunications provider) will also host the library's email system. Colleyville Public Library email addresses will coordinate to its domain, for instance librarian@cpl.org. Most hosted domain services include up to 1500 individual email addresses, which should be more than sufficient for the City's needs. As the city develops its own online presence and paperless systems, the email services of the library and the city should be coordinated and consolidated as a cost saving move.

## **Infrastructure**

Like all aspects of technology, telecommunications capabilities are developing rapidly. Wireless, broadband, ISDN, two-way cable, and fiber optics are all viable options for aspects of library services. To assure maximum flexibility for the building, and provide plentiful options for library services for the next twenty years, the library building should be heavily wired during construction. The cost of most systems upgrades is in recabling or rewiring the building, and not the cost of the wire itself. It is recommended that fiber optic cable, 10Base2 Thinnet RG-58/U plenum coaxial cable, AND 10BaseT STP (Shielded Twisted-Pair) copper cable is run through all exterior and interior load-bearing walls at the time of construction.

Fiber-optic cable to the desktop is already necessary for many multimedia internetworking activities, and is recommended as the first choice for library telecommunication infrastructure. A "dark cable" (a fiber optic cable that is not connected) is also recommended. Dark cable is a redundant strand of cable that can be activated in the event of failure, or increased need. The dark cable does not increase the cost of telecommunications until it is activated.

Coaxial supports two way multimedia transmission, including multipoint audio/video teleconferencing, and is used for delivery of many distance education and advanced business applications a virtual library should be expected to support. Although it may be difficult to image today why a library might want such levels of connectivity, it is likely they will be necessary to support standard library activities long before the proposed building is obsolete. Building them in at the beginning is an investment that will eventually result in significant savings for the City.

10Base-T STP (shielded twisted pair) wire is recommended rather than 10Base-T UTP (unshielded) copper, because of its ability to prevent crosstalk and other external interference that might emerge in a densely populated metropolitan area. How and how much of this wire is run though the building depends entirely on the library building's architecture (in existing buildings, most wire is run in the plenum, or the space above dropped ceilings). It also depends on the projected traffic in the building (which will depend on which conceptual model of service Colleyville chooses and how it might also design the library to

accommodate other professional services, for instance though subleasing unused floor space.)

The minimum span between jacks on 10Base-T STP wire is eight feet, so where the wire is run through exterior walls, placing jacks, or jack opportunities every eight feet should be included in the architectural plans. Plenty of available jacks will facilitate flexible laptop plugin throughout the building as well as provide maximum flexibility for interior design.

For the simple book-based model, the library may also use the personal computers, or PCs, on which the library automation system runs for in-library Internet connection, thus precluding the need for additional PCs. This model takes the position that providing in-library Internet access is supplemental to circulating books. However, the further toward the virtual model, the greater the need for additional PCs.

PCs should be added to the library in a modular fashion, as need dictates. With fiber to the desktop, PCs can be added to the building using the peer-to-peer networking capabilities built into the current generations of Wintel computer operating systems. This means the library has no need for a LAN, or the expensive tangle of wires, servers, routers, hubs, bridges, and other black boxes often associated with networked computers, and the most frequent cause of network malfunction. The cost of a peer-to-peer network running on fiber to the desktop is the cost of the telecommunication lines and the cost of the PCs, with little more than one strand of wire between.

Fiber to the desktop also assures very fast (and so very satisfying) throughput, and bandwidth sufficient to support the advanced multimedia applications standard in the coming generations of the computer networks. Most existing libraries do not provide fiber to the desktop because wiring was added to an existing building, and running fiber takes great care and skill, and is not easily done when twisting and turning is necessary to thread it through an existing building. However, if included as part of the library construction phase, it is neither significantly more expensive nor more troublesome than running any other sort of cable.

One T-1 telecommunication channel can handle as many as 24 peer-to-peer networks, each with as many as ten PCs. One of the ten slots on each peer-to-peer can attach to a printer, which serves the other nine PCs. In the federated model, where Colleyville patches into an existing automation system, one of the 24 fiber channels would be dedicated to federation functions and also host the librarian computers. The telecommunication charge for a dedicated line to a federation partner is by the mile, but should be less than \$200 month, and is included in the total projected cost for telecommunications in the Summary Tables at the end of this Report.

The next ten PCs added to the system would provide both catalog access and Internet connection for patrons from inside the library. The next ten PCs can serve as a technology training center for the community, and for the City (an additional 10 or 20 PCs can be added to handle lab traffic when needed.) One of the channels can support the multimedia lab, and the rest are available for expansion and/or cooption, perhaps to building neighbors, or to supplement the City's needs.

Maximizing the wiring in the construction of the building will allow the library building to be a sort of "plug and play" environment for technology and should relieve the city of any need to ever rewire the building. Electricity and outlets sufficient to support the technology must also be built into the architectural plans. If the library's hardware is leased without a long term commitment to particular makes, models, or configurations of PCs, and the library commits to a regular and aggressive upgrade, any PC vendor can deliver the next generation of technology to the front door as the previous vendor is taking their equipment out the back door. The new equipment simply plugs into existing jacks: no rewiring, no upgrading, no prolonged systems transplant times are required. This positions Colleyville to expect competitive pricing for its hardware, and also positions it to assume a "test bed" attitude by inviting innovative vendors and manufactures to supply the library with technology at minimal or significantly reduced rates, in exchange for exposure to the library's most valuable asset: its patrons.

Also included as a vital component of the virtual model of library service, but which can be added as a component to any model of library, is a separate multimedia laboratory with six computers and various state-of-the-art digital multimedia production technologies. The "virtual" library model assumes a heavy burden not only for the core technological literacy of the community, but also for providing access to advanced technologies to support the learning and creative needs of its many patron bases. The library should be expected to develop and present an active program of training at all levels. The PC laboratory and multimedia lab are discussed later in this Report.

### **Internet Connection**

The Library of the 21<sup>st</sup> Century is available everywhere, anytime, and relies on Internet technologies to support effective operation of the library and provide access to remote sources and services for its patrons. But being connected to the Internet does not mean having an active presence on the Internet, just as having a simple web page does not constitute advanced virtual sources and services. It is not longer acceptable for a library to simply have a passive webpage, it should be expected maximize the communication channel in two directions and to actively deliver personalized information and specialized programs and services. Whether Colleyville chooses a book-based model of services with in-house access to the Internet only during physical hours of

operation, or a virtual model of around the clock interactive service, Internet connection for the library is required.

If Colleyville chooses a book-based model of library service, the required core library automation needed to support the collection can include as an add-in component in-library access to the Internet for patrons and librarians. However, as the model of services moves closer to the Virtual model, and includes Internet-based interactivity *with* the library, the Internet connection may be more efficiently and effectively achieved other ways, using more aggressive, commercial service providers. The further toward the Virtual model of service, the more online traffic the library Internet connection will need to support, and the greater the need for connectivity through a separate server. At the most virtual end of the spectrum of options, where the library automation system is no longer necessary, the library may rely on leased space on remote "server clusters," cutting the cost of investment in technology dramatically, and shifted the administrative and technical burden to the virtual domain host entirely. Both GTE and AT&T have these services in place, and should be considered as a provider in a combination package with telecommunication services.

For the Federated Library option, Colleyville might provide resources to upgrade the partner library's automation system to include the advanced patron services outlined later in the "Patron Satisfaction" section of this Report. "Two-way" Internet connectivity services include automated remote checkout of books from the partner library and activation of courier delivery of books, as well as a direct link to the sister system from Colleyville's Internet server for document delivery services to the combined patron base. In effect, this level of service "federates" the partner library's automation system into the Colleyville's virtual library system. Locally managed services need to be run through a Colleyville server so that they can be monitored and modified on the fly.

Major features of a library automation system's Internet services (whether run from the automation system or on a separate Internet server) include:

- Links the library to the Internet *without* using resources on the existing library automation system.
- Provides Internet services such as World Wide Web (www) and email to staff and patrons, allowing network access to a global library environment
- Allows the library to create and publish its own website using graphical HTML authoring software.
- Increases patronage by offering www access to bibliographic databases, including subscription databases from database vendors.

- Supports Java, traditional HTML, and XLM (a critical component if the library is expected to serve as the City archive and participate in development of paperless systems for the City), thus allowing increased level of interactivity to support virtual reference service, chat and forum functions, and creation of a Colleyville-specific or regionally-specific knowledge system (which is discussed later in this Report)
- Easy, simplified System Administration through standard Internet browsers and graphical menus
- Enhanced administration tools for email that allows limits on user's in-boxes and clearing of user in-boxes
- Graphical monitoring and analysis of web server performance and error logs
- Options in the administration of user accounts allow restrictions on disk usage, passwords, shell preferences, and more
- Provide Local Domain Name Services (DNS)

Local DNS server means that devices on the library's local network no longer have to go to an outside source for Internet address (IP) information, as is the case with traditional dial-up Internet connections, which assign IP addresses dynamically at each logon. Local DNS server systems allow each library device to have a permanent "address" on the Internet. In the hybrid model and the federated virtual model one of the devices would be a proxy server, which would facilitate patron password-protected access to the library automation system and/or password protected remote log-through to remote databases. For the hybrid model, the proxy server would be part of the automation system. For the virtual model, it can be a remote, hosted server. Local DNS service is necessary in order to participate in TSLs database services. DNS requests handled locally will also preserve WAN bandwidth on the eventual citywide system, and increase Internet performance by reducing non-essential communication over the library's Internet connection. The proxy server can also be used to provide virtual security for the library if it is simultaneously configured as a firewall and virus and hacker shield.

Should Colleyville need an automated library system, that is, should it choose to include in its sources and serves the housing and circulation of books and other tangible library materials during limited hours of operation, and should it also choose to include some level of online presence, including a website and/or a virtually hosted catalog, the automation system vendor should be expected to supply state-of-the-art Internet web services and email systems. It should also provide a simple browser-based graphical user interface, firewall solutions, and security audits to help protect the network and reduce security-related risks.

Should Colleyville choose the unfederated virtual model of library services that has no need for a freestanding automated library system, the ISP it uses should be include this full spectrum of services.

In any case, the library's automation system should support the library, not the other way around, and the library should support the reading and information needs of the community. Care should be taken that networking services are eligible for e-rate discounts under the Universal Services Fund.

## Technology-Based "Access Model" Virtual Library

### Patron Satisfaction Components

#### Interlibrary Loan, Resource Sharing Systems, and Document Delivery

Today's library patrons demand access to information beyond the walls of their local library. There is a lot of good information available online and accessible without the need for library services or proprietary database. However, there is as much (if not more) information that is ONLY available through the intermediation of libraries. In the past, ILL requests (interlibrary loan of books, journal articles, etc.) were limited to patrons with specialized needs. With increased technological capabilities, however, a greater number of patrons expect greater access to these information resources. These needs can be met using the advanced interlibrary loan (ILL), resource sharing, and document delivery components available as part of most library automation systems (and also available from other library-specific software vendors to run on Virtual Internet Servers in the event a core automation system is not necessary.) Automating these services makes it easier to increase patron satisfaction while reducing costs.

At the book end of the library model spectrum, these services would not be included as standard in the core automation system. They must be added to a core system for the Hybrid Model, or added to an existing system for the virtual model as part of a Federated system. If added to a federated system, they should be configured to be managed and developed from the Colleyville library and configured to be remotely accessible through both the Colleyville Library's web as well as from the partner library's web interface.

Most modern library automation systems allow patrons to initiate their own Interlibrary Loan requests without staff assistance by using bibliographic information captured from a search of any Z39.50 database, such as the Texas Union Catalog. Patrons may initiate requests from their homes or offices via the world wide web and can identify specific requirements for a request such as the date needed, delivery method and format, and the preferred method of notification (e-mail, fax, or printed notices). Patrons can also track the status of their requests from their home computer.

The automated **Interlibrary Loan and Resource Sharing Component** of a library automation system improves the productivity of the library staff. As patrons gain the ability to initiate their own requests, library staff will be freed from the labor-intensive process of keying in requests and tracking paper files and forms, and freed from the work of checking in and checking out books. This, of course, requires patron training. Preparing patrons to initiate their own requests will require an extensive virtual training program, which Colleyville

would assume as the technology partner of a Federated system. In addition to the capabilities of the desktop management tools already discussed, the technological aspects of such a training program may be provided several ways.

Most library automation systems can be customized to meet the unique requirements of any library, from a large consortium to a small individual installation. The system provides library staff with tools to select the most cost-effective provider for interlending and document delivery services. Document delivery services are generally for a fee to a separate service provider and are in addition to the cost for the automation system. Document delivery is necessary to retrieve articles that are not available in fulltext online, or borrowable from a lending library. Many databases are bibliographic databases, meaning they provide the title, author, journal name, and perhaps an abstract of the article. To get the article itself, a document delivery service must be used. The delivery service arranges for copyright and other fees to be paid to the journal, and sends the article (either by fax, mail, or email) to the patron. The fee for document delivery services can be negotiated with a document delivery vendor as a flat annual rate regardless of use, or on a per item basis until level of use is determined. The cost of document delivery varies, depending on the item, and the vendor.

There are no realistic or clear figures about how much Colleyville can expect to pay for ILL and document delivery services. The library community has not attempted to realistically cost ILL services, in terms of dollars, since many include ILL in the normal cost of doing business, and most libraries absorb their own expense for participating in the sharing scheme, trusting an equalization of participation among libraries. However, Colleyville patrons cannot expect every library in Texas to ship books to them at no cost, particularly if Colleyville has no books to lend. Estimates for cost of interlibrary loan range from \$1 per item to \$30 per item, with charges often tied to the lending library's perception of the borrowing library's level of participation as a lending library. There is generally no charge for the borrowing; charges are for delivery. Libraries have subsidized use of the US postal service, and the cost of mailing books is relatively low. The TexShare courier service will also substantially reduce ILL costs. Many public libraries pass the cost of the ILL transaction, if there is one, on to the patron. But other public libraries pride themselves on offering their services to the public for free. Colleyville will likely want to include a core cost for ILL services for its patron base in its annual budget, track and monitor use of the service, and more carefully address costs when use patterns are established.

As part of a Federated system in which the Colleyville assumes the management and development of virtual resource sharing and document delivery for the federation, it will assume the cost of the service for the combined patron base. The cost of such service is difficult to estimate as level of use will be tied directly to the promotion of the service, the need of the patron base, librarian innovation, and the education and training of the patron base. Conceivably,

virtual document delivery and ILL services to patrons of a two-library federated library system serving a highly educated patron base of 100,000 people who actively use the service could be \$20K a year, or more. This cost is included in the collection development line item in the Summary Tables at the end of this Report.

Colleyville will have to set a limit on the amount it is willing to spend to subsidize this service. It will likely need to work out a policy for passing on additional costs to the patrons, or reduce the amount of its system buy-in to cover the partner library's use, or seek grant funding to cover the excess during development of the system. A grant application to subsidize ILL and document delivery services for the federation would appropriately include a commitment to research and report the economics of the system.

All of the information pertinent to both borrowing and lending transactions—from initial request through fulfillment—should be located in one easy-to-use central database housed by the library automation system. The system should generate a full range of statistical reports, summaries of borrowing and lending activity, lending library performance, and copyright tracking so that information necessary to make critical strategic and managerial decisions is always up-to-date and readily available.

The **Resource Sharing System** provides a facility for all libraries (whether academic, public, special, and school) in a defined region (whether a state, territory, county, province, or consortia) to submit, fill, track, and manage ILL/Document Delivery requests to any other library either within or outside the group. In order to participate in this interlending, membership in either TSLs or OCLC is required. Resource sharing systems automate the borrowing and lending activity within a library by linking with local systems, remote library catalogs, messaging utilities, and commercial document suppliers using industry standards and protocols.

The resource sharing system selected should allow Colleyville Public Library to use different ILL systems to communicate regardless of the ILL vendor used. The client/server system should support industry standards and protocols and provide a single point of access to external systems. It should provide staff with tools on the workstation to search databases and determine if an item is available from local or remote catalogs, and forward requests automatically to lending partners through predetermined lending strings.

## Resource Sharing - An Overview

### Patron Satisfaction

- Patrons initiate their own requests using a web-based interface.

- Patrons track the status of their ILL requests using the Internet.
- Patrons receive email, fax, or printed notifications automatically.
- The library provides more timely delivery of patron requests.

#### Operating Efficiency

- Automates the staff workflow
- Eliminates re-keying of requests
- Eliminates paper files and forms
- Consolidates activity on one database
- Provides management reports and statistics
- Reduces labor costs
- Supports lending strings

#### Comprehensive Resource Sharing

- Supports industry standards and protocols
- Communicates with different library systems regardless of ILL software or hardware
- Authenticates patron information on the local system
- Manages all ILL activity on one database
- Provides tools for searching local and remote databases

### **System Requirements**

A library automation system can be purchased turnkey, that is, complete with hardware, installed and ready to use, or it can be installed on an existing LAN. For the books-based community library, and the early permutations of the hybrid model, it is probably more cost effective and simpler (as far as maintenance and upgrades) to purchase or lease a turnkey system from the automation vendor. Leasing should be explored since technology changes rapidly and the long-term ownership of an automation system is not desirable, particularly for an evolving library likely to expand its services.

The library's system will connect to the Internet via the library's dedicated telecommunication cable. The connection will use approved (InterNIC registered) IP addresses (typically provided by ISP or the automation vendor). The system should meet IEEE and ISA standards for public buildings.

## Cost of the System

Based on current standards and specification (which should be expected to change before Colleyville selects a system), a turnkey library automation system can be expected to be a series of servers, routers, bridges, hubs, and wires, including a catalog server and/or Internet and/or Enterprise server. Each vendor has its own network typology. With the building wired as specified earlier, any system can be easily and efficiently installed in the building. Current specifics for a library automation and Internet server system (with estimated market price) should be:

### Hardware:

Technology Closet Shelving

Core NT 4.0+ server and/or SQL Server

Backup tape drive

Battery powered Uninterrupted Power Supply

\$20,000

Library Catalog server (per vendor specs)

Pentium III 550MHz processor

12 GB disk space (Approximately 1 MB per 1,000 transactions downloaded daily.)

128 MB/ 1GB RAM

CD-ROM, 3-1/2" floppy, and zip Drive

Internet Server

Pentium III 550MHz processor

12+ GB disk space

128 MB/ 1GB RAM

CD-ROM, DVD, 3-1/2" floppy, and zip Drive

Monitor

### Software:

NT or SQL Operating System

E-mail server software and client site license

Lynx (for non graphical web access for aural readers and large print)

Graphical Web Browser Server and Site Client License

MS Front Page Server and Site Client License

MS Office Professional Suite Site License

Router

\$50,000

Hub

10 Personal Computers

Pentium III 550MHz

8 GB Disk Space

128 MB RAM

CD-ROM, DVD, 3-1/2" floppy, zip drives	
17- 21" high resolution monitor	
Network Card	
Operating System	\$30,000

The Personal Computers are regular "over the counter" personal computers with an appropriate network card installed and should have oversized, high quality monitors, maximized RAM, and high processor speed in order to assure patron satisfaction. The cost of these computers depends on how they are configured, and the market at the time of purchase. The cost of software licenses for other than the PC operating system is included in the cost of the servers as a site license. These computers can be purchased and installed by the library, purchased by the library and installed by the vendor at the time of systems delivery, or purchased from and installed by the vendor.

#### PC LAB

10 PCs (above specs)	
Instructor's Podium with Overhead projection system and whiteboard	\$35,000

Laptops (for mobile training, patron borrowing, etc.)	\$25,000
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Multimedia Lab	
6 PCs (above specs)	
Digital Video Camera(s)	
Digital Video Editing Software	
MIDI Keyboard and Software	
Professional Quality Graphics Creation Software	\$35,000

The total cost of the core hardware and the software for system depends on the vendor, the hardware and software manufacturers, as well as on the market and the state of the art of technology at the time of purchase. Some automation vendors require the library to use their hardware, and include all or part of the hardware in the price of the system, some will install their system, with modifications, on existing hardware. Based on current prices and availability, and vendor choices, the library should expect to pay between \$135K and \$195K for the technology to support each of the library models for two years. ***This does NOT include required hardware and software license for the library automation system, the cost of which is discussed later.***

## **Bundled Hardware and Software**

Library automation systems offer various configurations of bundled hardware and software based on intended applications and expected load. Bundled software has to have a server computer from which to run. As most systems are now configured, the book-based community library model will require at least one server computer to host the software and will need at least ten client computers to provide in-library access to the catalog and Internet. Depending on the vendor, it may also need a web server to connect the library to the Internet.

An automation system for the hybrid model will require at least two server computers. One will support the bundled software and in-library computers, and one that will support external, or remote logon and in-library access to the Internet. Perhaps even a third server will be necessary to act as both a proxy server and firewall between the library and the ISP, or as an enterprise server to connect to the City WAN.

The Federated library model will require no servers. It is a virtual network, which are discussed later in this Report.

## **Cost of Library Automated Systems**

A library automation system is a specialized software package that has evolved over many years from within the library community. It is designed specifically to support the unique functions of the library. The library automation industry is a billion-dollar industry that has spawned over 100 vendors who claim expertise in these special systems.

Building a traditional library automation system from scratch should NOT be attempted by generic networking experts, although a technology savvy and web publishing librarian should be able to configure a home grown system for a small library book collection and model it after the amazon.com model. This, however, simply shifts the investment from proprietary software to personnel, and so is not a cost-cutting decision. If, however, a highly interactive and community-focused library catalog is desired, a home grown web based system is viable and should be considered.

Selecting a library automation vendor should not be trusted to anyone except a professional librarian with systems expertise. Selecting a vendor and designing a system can represent months of work, and take months more to install and bring to operation. Many libraries, even though they employ professional librarians, rely on the service of library consultants to guide them through the complicated process. It is senseless to consider exact specifications for a library automation system until a conceptual model for library sources and services is selected. Nevertheless, it is possible to estimate costs to facilitate model selection.

Each library automation system is a unique installation, and vendors are loath to give generic pricing. This makes it difficult for libraries to plan and arrive at an accurate budget projection for an automation system. While the professional library literature regularly publishes comparisons of systems and installation, in terms of services and sources, they never include costs.

The cost of a library automation system includes buy-in cost, which includes software licensing fees and installation of software on an existing system such as the one earlier described, or installation of both hardware and software. It also includes an annual maintenance fee for that system, and costs for upgrading or adding components incrementally. The total cost of any system depends entirely on the components required by the library. The components are determined by the level of service and sources the library intends to provide, including the number of computers installed in the library, the number of patrons with remote access the system, and the activity/passivity of the library mission. These decisions depend on the vision for the library, and the conceptual design model the community adopts. Following are two examples library automation systems recently installed for public libraries in Texas.

A Texas public library following the "Community Library" model with a collection under 50,000 items, in the last three years purchased a low-end library automation systems with an awkward interface from a vendor with a marginal quality and service record. The purchase decision was based primarily on the pressing need for a system, and severe budget constraints. The system was designed for in-house catalog access only, and librarian functions, and included a cataloging and circulation component, but no remote access services, administrative add-in components, or connection to the Internet. The library paid \$40,000 for the system license, and the software was installed on an existing LAN, which the city installed in the library from hardware from its technology bone yard for approximately \$30K. The library pays \$7000 a year in annual maintenance fees to the automation vendor.

Two months after the system was installed, the library installed modems on librarian computers to give them access to the web and email. The library is now ready to create an Internet presence, and wants to provide both in-library access to the Internet, remote logon to the library, and in-house and remote access to remote databases for patrons, but its hardware and software will not support the upgrade in services. \$100K and three years into the investment, the library faces another major investment in both hardware, software, and time in order to bring the library up to minimal 21<sup>st</sup> Century standards. It may either switch vendors and start again from the beginning, or stick with its vendor, and invest half again the cost of the system in upgrades, but still be stuck with a antiquated system. Unfortunately, the vendor in question does not support the advanced level of virtual service to patrons discussed in this Report.

At about the same time, a public library following the Area Library book-based model, purchased a full system from a high-end vendor. The system has an intuitive and programmable interface, includes service add-ins for patron convenience, advanced library management components, and both in-house and remote Internet connectivity. The system supports a patron base of 65,000 people, approximately double the actual, active patron number, and a collection of over 80,000 items. This library paid \$450,000 for its system, including all the hardware, retrospective wiring (unfortunately only copper wire) of the existing library building, software licenses, and in-house and at-vendor training for key staff. This library pays \$40,000 annually for maintenance. The second year after the system was installed, when the library was ready to create a web presence, including offering its catalog online, providing remote access to databases and document delivery services, and creating a full-service interactive web presence for the library, it was done easily and without significant additional expense or time. Unfortunately, the increased load on the system has resulted in significant slowdowns in data throughput due to the bottleneck created by the analog telephone wire cabling.

If Colleyville purchases a library automation system, it should expect to pay somewhere between what these two libraries paid, approximately \$150K-\$250K (including hardware) depending on the model of service, and should avoid at all costs scrimping on the system. In addition to the \$200K-\$400K for purchase of a core opening day book collection for the Community Library and Hybrid model, the opening day expense just for the "books" part of a books-based model will be between \$350K and \$650K. The opening day cost of the virtual library model, including anticipated buy-in to an existing automation system, will be between \$230K and \$385K.

### **Virtual Network Typology**

With expandable T1 connectivity to the door, fiber to the desktop, a virtual Internet domain, and either no automation system or a federated one, Colleyville can have a serverless or peer-to-peer computer network that allows modular expansion at the rate of need, one that provides information at the speed of light. Ten computers not enough? Open a jack and lease ten more.

Recent advances in PC operating systems (specifically Windows 98 and the coming Millennium version) have built-in peer-to-peer server capabilities on every PC. On peer-to-peer networks, each PC acts as its own server, members of the peer group can share information, and can share information with any other computer on the library network via the Internet, or with remote computers. Only one "black box" is necessary to split the fiber into as many as 24 channels, each with a minimum of 64mps capacity. This provides speeds well in excess of normal LAN connections, dedicated phone lines, or modem connections to the net. One of the 24 channels can be used for a dedicated connection to the federation partner(s) automation system, leaving 23 channels open for library

use, or for sharing with other participants in the proposed cultural center. Fiber to the desktop, which means fiber in the walls (or floors) made accessible via simple, easily configured jacks, and modern PC operating systems eliminate the need for servers, routers, hubs, bridges, and the tangle of wires often associated with networked computers.

## The Virtual Public Library

At the farthest end of the spectrum of options, Colleyville needs only librarians to begin growing a virtual public library. A select list of online resources that Colleyville librarians might make available via the Colleyville Public Library Web is included at the end of this report. Instead of waiting to plug a \$1/2 million book-based library automation system into the fiber optics in a new \$3 million building and opening the door to 25,000 books for patron to check out, the virtual model plugs into virtual librarians immediately and lets them begin the work of providing library service while growing a unique and personalized library for the community.

The library can have an immediate "presence" online via a hosted domain on the Internet, and virtual library service can begin. What databases do the people of Colleyville need access to? It depends. Are those databases available? Yes. How much do they cost? It depends. Who is best positioned to make those evaluative decisions? A librarian. When is the best time to make those decisions? At the point of need.

In this model, the librarians grow the library one patron at a time rather than one book at a time following the "just in time" mode of operation rather than the "just in case" mode. In virtual mode, the librarian is the library.

## Service Scenarios

Consider:

*Mr. BigBucks is driving to the airport to catch a quick flight back to Colleyville for a weekend with his family. He just left a meeting where someone mentioned the pending IPO of an upstart bioinformatics company that uses photo-refractive holography to store and transfer DNA information for an international organ transplant consortium. While waiting his turn at the airport tollbooth, he flips open his wireless personal information device and clicks through for a connection to the Colleyville Public Library audio web. He leaves a voice message for the virtual librarian, whom he's never met in meat, but has consulted with on a couple of other occasions. He requests information about the company, about holography generally, and about DNA and international aspects of organ transplants. He hangs up, jumps on a plane, and settles in with the Wall Street Journal (which doesn't mention the company or the business) for the short jaunt home.*

*The librarian already knows Mr. BigBucks prefers receiving his information at home by fax so he can carry the pages out to the pool and watch his kids show off their diving skills. When Mr. BigBucks arrives home, he puts on his comfies and wanders out to the pool. On his way, he picks up a small stack of papers from his fax machine. The papers include a synopsis of a half dozen media stories that mention the company; a recent research paper written by the company's chief scientist; the name and address of the company's corporate officers and the address and location of the company; a primer on holography; an abstract of an article about the implications of holographic technologies for biotech; an article about DNA; an article about international organ trade; and another article about emerging technologies that mentions holography in relation to Eigenvector Search Engines, which the librarian knows Mr. BigBuck's company has interest in.*

*Mr. BigBucks realizes that he's on the trail of a hot new personal investment, one with implications for the R&D arm of one of his company's subsidiaries. He calls up his online brokerage on his poolside laptop (which he learned to use one Saturday afternoon during a Colleyville Library Investment Club program), and programs his 'bot to notify him by email the moment the stock is offered. Then calls the head of R&D for a meeting early next week, comfortable now using his new vocabulary words. As he flips to the last page of his library faxstack, he finds an article about the rudiments of the perfect swan dive that the librarian ran across earlier in the week while searching for another client, and saved for him. He scans the article, and just before diving into the pool to play with his kids, smiles and announces that he's about to do a three point swan.*

In the virtual model, there is no real need for a library building except to provide training and community interface. A small space in the community's proposed City Complex can serve as the Library Center. So located, the Library Center will be convenient to City personnel (one of the area's largest employers) and also let the library lend a helping hand with the City's larger technology and information needs. But, the community seems to have its heart set on a building, and a separate library building in an emerging arts and culture district makes sense because of its potential impact on local property values, the main source of City funds. However, there is no need to go without library service while the architectural plans for the building are drawn up and while construction of the library building is underway. There is also no need to buy into the generic architecture or interior design for the library, and no need to commit money for thousands of hastily purchased books that will mostly just sit on the shelves gathering dust.

Consider:

*Before logging off for the day, the virtual librarian scans Books in Print and her favorite book review site, and finds a really nice book on DNA, and another on the state of the art of organ transplantation, which she orders for the small library collection. She sends Mr. BigBucks an email telling him the books are on their way and should be at the library the following weekend when he drops his teenaged son off for his regular Saturday afternoon MET (Multimedia Experimental Technologies) Lab session. Junior BigBucks and his buddies are making a digital video about life in Colleyville at the turn of the millennium for the library's local history collection, and have been working on it every weekend for several months. The librarian smiles, thinking about how the kids sometimes get loud and excited while they are in the MET LAB, but the waffled walls muffle the sound, and their energy is infectious. The virtual librarian adds a few hyperlinks to the bottom of the email to Mr. BigBucks: one to the company's web page, one to a site she found about holography, another about DNA. She does a quick search of the Texas Union Catalog and finds a book held at the Baylor Medical Center library that might interest Mr. BigBucks, and sends him the citation and a hyperlink to his personalized library webpage, where with one click he can activate borrowing the book and arrange delivery to his office by FedEx.*

*Mr. BigBucks makes a bundle on a short-term hold of the company's IPO, and his boss gave him a hearty clap for his heads up on the Eigenvector thing. Several months later when he's in the library with his young daughter for the storybook hour and browsing the adventure travel collection on loan from the Library of Congress in the reading room, he sees that the library's wishlist includes a high definition flatbed scanner and a couple of new synchronous headsets for the MET LAB. He writes a check for the items and tucks the check into one of the donation envelopes at the circulation desk, reminding himself to vote yes next month for a proposed increase in property tax to support the growing needs of the library.*

By launching the library in virtual mode, the librarians can immediately begin writing grants and raising funds to pay for sources and services, and seeking partners to support the library's technology. Nearly all of the technology needs and collection needs of the library budget can be entrepreneurialized, and the librarians should be always looking for funding partners and grant opportunities since they get to use what they don't spend from the library budget to attend extra conferences, such as the upcoming *Internet Librarian* Conference in San Diego. The librarians can begin negotiating a Federated district. They can begin drafting a collection development plan to guide the careful selection of books and other tangible library materials for the new library.

During the startup phase of the library project Colleyville residents who desire access to traditional building-based collections of books and traditional book-

based services would continue to make individual arrangements with their favorite neighboring library.

Consider:

*A Colleyville virtual librarian queries the amazon.com community book buying statistics and discover that there are many readers in town who order the books used in Oprah's Reading Club. The librarian queries the Oprah.com website and learns that a new book has just been announced. She tabs over to the Colleyville Virtual Reading Club website and posts an announcement of the title, along with a hyperlink to amazon.com, which will generate a dollar for the library every time a purchase is made. She sends an email to reading club members, who will get together informally online in their special chatroom discuss and share their feelings and reading experience. The librarian books the caterer for the Reading Club's quarterly banquet, and sends an voice email to the book author , and to Oprah, inviting them to join them in person, or virtually, via technology, the night of the banquet. Oprah declines the invitation, but invites the Colleyville Reading Club to join her online as "virtual guests" for her own Book Club dinner.*

Once the virtual presence of the library is established, the librarians can begin the community relations work that will include diagnosing, mediating, and prescribing for the community's specific library needs. A community needs assessment is required to determine what the Colleyville Public Library must provide and might provide in terms of sources and services to satisfy Colleyville's *particular* reading and information needs. Without one, all is simply unguided speculation.

The librarians can save the capital expense for the 80% of a traditional library collection that is rarely used, and funnel the funds, which were perhaps put into short term CDs, into resources the community wants and needs, at the time they want them and need them, undoubtedly building a world-class special collection that will be in demand from ILL borrowing libraries. The librarians will also be available to consult with the City as it formulates its larger technology plan.

In virtual mode, Colleyville gets a library immediately, rather than having to wait until opening day of the new building, which may be several years away.

Consider:

*It's summertime and the library building is nearing completion. The Saturday before the carpet layers come, the library invites all the children of the community to come to the building to paint a mural on the floor of the children's section. The name of the mural is "The Magic of Books." A*

*local artist has agreed to volunteer his time and provide the paint and supplies, and to work with the children, who are delighted at the prospect of painting the floor, even if it will be covered with carpet. The librarian knows the children will remember their art every time they think of the library, and perhaps it will help them understand that all is not as it may look. During a break in the painting, a storyteller from the local university's library school tells the children a story about the magical princess who was freed from the drudgery of life by a magical book that comes to life at the touch of her fingers. The storyteller takes them on another great adventure of imagination. As the morning winds down, the children return to their painting, but this use squares of heavy packing paper left over from items shipped to the library to each make a book of their own to take home and share with their family.*

The virtual librarians can also begin introducing the specialized and advanced information services the virtual library might make available to the community, such as selective dissemination of information, competitive intelligence, information brokering, and advanced research services, and also begin the technology literacy training and other outreach programs that must accompany successful virtual library service.

Consider:

*The library is built and open for business. The librarians put together a special program for parents about children and the Internet, including a demonstration of the state of the art of Internet filtering packages, presentation of "rules" of the safely wired family and a special webpage of librarian-selected children's websites. Twenty parents, with varying levels of Internet literacy come to the program, and bring their children, who either join them in the learning session, or use the children's collection while their parents learn. The librarians help the children who have joined their parents for the program to teach the parents how to search and find and otherwise navigate the computer. During the program, six parents learn they have much to learn about technology, and sign up for the free regular weekly "adults only" computer learning classes, which cover everything from how to buy a computer, to how to invest online.*

Designing a federated model of virtual public library service is a process. It will take time, and the careful attention of skilled negotiators sensitive to the individual needs of both communities. The federated library functions in collaboration, and stays flexible and fluid as the options, opportunities, and choices are explored, and exploited. It works with existing book-based libraries *within* the established system of library service in Texas: using the best of what's available to provide the best of library services to the largest possible patron base. The goal is to achieve significantly reduction in cost of new programs, and extend the reach either library would be able to make on its own.

The federated model is based on Colleyville's willingness and ability to negotiate with neighboring books-based libraries, and its librarians' abilities to identify areas that offer mutual expansion opportunities. It depends on the librarians ability articulate the advantages of collaboration BETWEEN systems, whether they be human, political, or professional. The federated model depends on Colleyville's ability to articulate what it will provide in terms of sources for the combined patron base. Unfortunately, the scope of this Report does not include this level of inter-community and inter-library information diagnosis, prescription, and remediation, so can only speak hypothetically. But, just to provide an example, consider:

A Federated System can be negotiated with any one or any combination of the eight existing and planned public libraries within easy driving distance of the City, and the federation can be quickly expanded to provide public library service to the unserved 266,233 patrons in the NTRLS.

The federated virtual model, which builds the library from the technology end of the paradigm, rather than from the book end of the paradigm, recognizes NEED first, then moves to satisfy it. Federation opens many more options and opportunities for funding and innovative development. It keeps the library operation lean and adaptable. It significantly reduces initial capital outlay and overhead. It begins providing virtual library services to the community immediately (thus establishing a track record that will be useful during federation negotiations). It provides time for the community to build a carefully designed building, and a carefully selected and specialized collection and begins publishing local information resources virtually.

It allows Colleyville to assume the technological lead along with much of the technological burden for the Federation, and allows it to entrepreneurialize the investment. It is also expected that the virtual model will gain significant interest from both telecom providers and technology manufacturers and developers who will be approached to subsidize the library's technology.

The Federated virtual library model does not mean Colleyville must go without books of its own. A new public library in a new building in a new arts center in town virtually cries for the presence of books. The Federated system can be negotiated so that Colleyville retrieves its small collection from Grapevine for local circulation from its new building as part of a "rotating collection" agreement,. The patrons and the librarians might work together to weed the collection, perhaps establishing an "exchange" program, whereby any patron can remove one of the marginal quality books in exchange for replacing it with one from the growing online list of patron requests. The books can stay in the Grapevine automation system and Colleyville can remotely patch into their library's existing automation system to handle checkout and return of the books, and addition of new book records. As a Federation, both libraries are positioned to benefit from

the technology-oriented sources and services that Colleyville would commit to developing, and also to benefit from consortia-oriented grant funding opportunities already in place.

If a federated system with the Grapevine library is not possible, it could mean moving the Colleyville collection to Colleyville, but combining them in number with the collection of another partner and negotiating a shared, distributed automation system, with the partner library concentrating on the books-based aspect of public library services and Colleyville concentrating on the virtual aspects of public library services, or vice versa.

Since Federated systems are encouraged between public libraries and other types of libraries, the community might also choose to federate with the community's elementary school libraries to expand services and resources for children (perhaps by contributing to the book and personnel budget to keep the school library open year round) in exchange for Colleyville Public Library's work expanding virtual services and technological opportunities to support the curriculum, and perhaps conducting tech training for the teachers, using the Library's laptop LAN in the teacher lounge.

The City might negotiate a federated system with local colleges or universities, and arrange for education outreach into the community, including regular college and university courses and continuing education courses for practicing professionals, in exchange for book-based and database access to the university's special collections, or perhaps for a cut of the course tuition.

As part of a Federated system, the virtual model will allow Colleyville to focus its expenditures and energies on developing technology-based public library sources and services for both itself and its partner library(ies) while providing for the books-based library needs of the community. The Colleyville library can open its doors without the relatively large initial investment in the numbers-based book collection required for accreditation as a Community or Area library.

A Federation reduces the cost of providing both books and technology-based services to both library patron bases, shares the cost and benefits of a library automation system, allows both libraries to operate administratively and philosophically as separate entities, but in collaboration, and lets each library concentrate its development activities while providing the benefits of both types of library to each of the patron bases.

Key to this arrangement, of course, will be what the Colleyville Public Library proposes to offer in terms of virtual sources and services, and this, of course, depends entirely on the energy, imagination, daring, innovation, and diagnosis capabilities of its virtual librarian(s).

Just as with book-based collections, the scope of the electronic collection is a combination of the sources the librarian prescribes for patrons and the sources the patron base requests. But in the virtual model, the collection is built "just in time" rather than "just in case," which significantly reduces the overhead and expense of maintaining a large collection that is seldom used.

Undoubtedly, the virtual collection would include electronic subscriptions to major national and international newspapers and news sources, and subscriptions to specialized databases that satisfy the specific information needs of the combined patron bases, such as business and government information, medical and health information, etc. Concurrent to negotiation of database access, the librarians would develop its website to serve as an information portal to the Internet.

As a proxy server for the Federation, traffic will be routed through the Colleyville virtual system, thus saving systems resources for Federation members, and relieving them of the work of configuring and monitoring patron passwords and handling the resulting demand for document delivery, which is a key reason these services are not exploited by most public libraries in the first place, but which can be easily automated.

While developing these sources and services, the virtual librarian would begin presenting learning workshops for Federated members and their patrons. A virtual library offers sources and services that are not "normal" for the typical public library. Many people are not aware these sources and services are available, or even possible. Creating public awareness, and facilitating the use of these sources and services should begin immediately. Learning and public awareness programs can either be conducted at the Colleyville Library in the PC Lab, or remotely at the partner library, or using the portable laptop LAN set up at any location, such as at Women's Club, civic meetings, in the school districts, churches, etc. The portable LAN brings the library to the patrons, rather than requiring that patrons come to the library.

Key to the success of a virtual library is its ability to create a presence for itself and its community, and its ability to recognize and satisfy patron needs. The virtual library is as much about communication and context as it is about information and content. Every community is a rich source of specialized information. This information can be collected and made publicly available in many ways, most of which reflect the traditional practices of book based libraries: material is identified, collected, coordinated, and made publicly accessible.

The unique information or knowledge stores of the patrons of a virtual library, the "human intellectual capital" of the community, can be gathered and coordinated during online events and sessions. Such events can be either ongoing such as with online chat rooms and virtual discussion forums, which might feature a local, regional, national, or international expert in a given area.

And, unlike events held in physical space, can be saved and stored and made available as part of the community's electronic collection. They are the cores of the community's knowledge bank.

Consider:

*Many midlife people nearing the end of their professional careers are interested in the advances in life longevity studies, that is, the prospect of extended the duration and quality of the normal life cycle through scientific or technological intermediation. An expert, or a panel of experts in this area can be brought to the community virtually, that is, via enabling technology, to present information and programs and interact with library patrons online and in person during a "cybersimul" event. For patrons who do not have their own connection to the 'net, the technology in the library building is available to them, and for those who prefer a "meat space" program, the library conference room is set up to accommodate their physical preference.*

*The ever-ready virtual librarian has prepared for the event by selecting and making available related information sources and services, such as journal articles, selected websites, books, and reading lists, that both support and provide alternatives to the program. He will have arranged for the short-term loan of small collection of books from the southwest's leading longevity research center, and the collection will be on display and ready for browsing in the Library Tea Room. The event can include point to point audio/video transmission to the library and storage and retransmission to patrons at their convenience via their personal Internet connection, or as a multicast audio/video transmission mediated through the library. The resulting digital files can be archived and added to a growing virtual collection for future access at the convenience of the patron. In future, if someone wants to know about longevity studies, they can hear and see about it, as well as read about.*

Another example of a virtual library program that might be used as a foundation for growing a unique electronic collection for Colleyville would be a regular or ongoing electronic forum about a specific topic, for instance, about pilots and flying. Pilots and others interested in flying would logon to a special forum section on the library web, and interact with each other, sharing advice, stories, and resources. They might participate in continuing education activities, or discuss events, such as proposed new laws, or events from the media, or use the library to connect to the virtual transmission of pilots union meeting being held in Atlanta.

The librarian would support the forum by designing an associated web presence that offers quick click access to authoritative and comprehensive

information and sources of ongoing interest in this area. Special forum events could be scheduled with experts. All of the activity in the forum area can be archived and made searchable, and the forum becomes part of the living collection of the virtual library, accessible to the library patron at the point of convenience, or need. The present pilots of Colleyville are creating a collection for the pilots to come: creating a knowledge base, a historical record, and securing for themselves a place in the history of the community. As a result of the Pilot Forum, the librarian identifies the core books and journals necessary for a special collection of interest to pilots, present and future, and purchases these resources for the community.

This sort of activity can be designed for any area of interest: local politics, home matters, health and medicine, sports, philosophy, or travel, to name a few. The travel section of the virtual library might include photo albums from patron trips and presentation and sharing of travel experiences. The accompanying resources might be links to travel oriented resources on the web, and electronic books and journal articles about the areas being discussed, or the art of travel.

In effect, this method of collection development allows the community to build its own unique collection, a collection that will undoubtedly also interest many people outside the community.

As the above examples demonstrate, the technologically enabled virtual library becomes more than a purveyor of information, and a circulator of books. It becomes a publisher of information and a circulator of knowledge. It also opens new lines of communication between community members, who may otherwise not have the opportunity or inclination to interact.

### **Multimedia Experimental Lab**

The state-of-the-art multimedia lab discussed in this Report provides an opportunity for the people of Colleyville to communicate beyond the exchange of words on paper, or screen. Conceived originally as an activity that might be of particular interest to the young adults in the community, the multimedia lab allows the creation and webcast of digital audio and video. It can be used to make digital movies or music videos AND make them available as online events, such as done in the recent netaid.com global online concert to address hunger. The Multimedia Experimental Technology, or MET LAB, might be the foundation on which "Friday Night Live!" webcasts become a regular event for Colleyville youth as they learn to create and present imaginative content. It might be the very resource parents need to stay in touch with what their kids are REALLY all about. Of course, the MET LAB can also be used to create learning and presentation videos for business, participate in internationally simulcast seminars, or learn to make and edit digital videos of family history for personal use. It is likely to become the Millennium equivalent of the garage band.

Until now, virtual library activities have concentrated on converting existing print resources for the electronic media. Five national digital or virtual library initiatives are working on the retrospective conversion of existing print resources, but the neXt generation is interested in creating their own content, in their own medium. The library needs to help them find their voice. Since the public library does not have the pressing research imperative of academic libraries, it is free to concentrate on facilitating the use of converted content and the creation of new local virtual collections such as those described briefly in this Report. These activities are the very sort of local history collections recommended by the ALA *ad hoc* committee on public library standards.

The Library is also free from the fiscal and time constraints of maintaining a large book collection and can concentrate on the delivery of specialized content to suit the particular needs of its patron base. Personalized delivery of virtual content includes programming search agents, or knowledge 'bots, that are tailored to the needs of individual patrons. These 'bots are computer programs that search the digital realm around the clock and deliver information of a specific nature to a specific person, in the preferred form, whether book, article on paper, fax, as an email attachment, or abridged for delivery to a personal information device.

The virtual library is also free to develop specialized, ongoing virtual and physical library programs for the patron base, including unique interactive sources and services and value added knowledge systems. Virtual librarianship combines information, communication, technology, and education in service to the reading and information needs of its service population.

Such programs might include:

- Colleyville Virtual Library Investment Service Club (all ages). Meets once a month in the media center, the rest of the time virtually.
- Colleyville Virtual Library Research Service Club (all ages - segmented by interest, not age). Meets weekly in the media center to review research habits using the Internet. Librarian links the book with the non-book resources. Research using the Internet, Online Services, and books comparing photocopy/reproduction costs, hard dollar costs, time costs.
- Colleyville Virtual Library Reading Service Club (all ages - segmented by book discussion). Meets weekly in the media center to discuss a book for an hour in the Reading Room, set up like a Barnes & Noble tea room. Librarian teaches students how to do book reports, ties in with the school teachers to focus in on books discussed in class.
- "What's Cooking in Colleyville?" an activity that combines cooking, communication, and community, where the librarian builds a special meal

menu and determines the ingredients, and, when the patron selects the meal, the local grocery store will deliver the goods to their door. Patrons log on to the library website to get the recipe and online live audio/video cooking lessons. Chefs and patrons with special cooking expertise may be invited to host a special cooking session, such as how to make Christmas cookies, or how to serve a proper English tea.

- Colleyville Literary Club, which selects a current bestseller or other book, creates a virtual association with amazon.com to deliver the books to patrons, and patrons meet online to discuss the book. Book authors can be invited to join the club remotely, and interact with patrons.
- The Colleyville Library Philosophers, who meet once a quarter under the trees behind the library to discuss Plato.

## Other Considerations

### Space Requirements

Eleven thousand books, the size of the current Colleyville Collection, with each book an average 1.5" thick, shelved back to back, will span nearly the full length of a football field. Shelved four stacks high<sup>1</sup>, they will span just over 100 yards. Shelved four stacks high, on two sided stacks, they will span just over 50 yards, half the length of a football field.

Thirty five thousand five hundred books shelved four high on two sided stacks will run just under 200 yards. The recommended opening day collection of 50,000 books for an Area library will run just over 260 yards.

Books are heavy: Fifty thousand books weigh twenty tons or more, including shelving. Book-based libraries require heavy duty foundations. They also require heavy duty heating and air conditioning systems to protect the books from mold, mildew, insects and other damaging environmental factors, including light, and humans.

Minimum Americans with Disabilities Act (ADA) standards require three and a half feet for access on all sides of a library bookshelf. The average span of a two-sided, five shelf high, library-shelving unit is twenty feet. A 20' long, two-sided five-shelf unit will hold 200 feet (or 1600) books, and takes fifty square feet of floor space. With 3.5' of ADA space added to three sides of this unit (assuming the individual 20' units will be lined up side by side, not end to end), one 20' unit of library shelving requires 162 square feet of library floor space, a space nearly thirteen feet square.

Eleven thousand books require seven two-sided 20' spans, or 1134 square feet of floor space, an area roughly 34 feet square.

Thirty seven thousand five hundred books require twenty-one 20' shelving units, or 3402 square feet of library floor space, an area roughly 59 feet square.

Fifty thousand books will require 32 shelving units, or 5184 square feet of floor space, an area roughly 72 feet square.

**These space requirements do NOT include aesthetics areas, seating areas, reading areas, reception areas, librarian work areas, restrooms, foyer, display areas, meeting rooms, space for computers, etc.**

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<sup>1</sup> Four shelves is an average. Library shelving units for the general collection are usually five shelves high, while shelving in the children's section is usually three shelves high.

The space required for comfortable use of personal computers for work (vs. the space needed for casual searching of the online catalog in a standing position), is subjective. The only thing worse than going to work at a library computer terminal and not having enough tabletop to spread out, is having to work belly-up to the desk to avoid bumping in to the chair behind.

Generously, four personal computers per 20' span provides ample elbowroom and tabletop for notes, books, etc. Six feet of combined tabletop and chair space depth is comfortable. With an additional 3.5' on three sides for ADA and aisle requirements, the space required for four personal computers set up next to each other as work stations is 265 square feet, or an area approximately sixteen feet square; four foot square per PC.

Ten PCs strategically placed around a book-based library will require a little more room per PC than if they are placed in a row, but should require not more than 800 square feet of floor space, or an area just over 28 feet square.

The total floor space required for a 37,500 book collection and ten PCs to support the collection and provide public access to the catalog and the Internet, requires 4088 square feet of floor space, or an area 64 feet square. Again, this is ONLY for the books and computers, not for the other spaces mentioned above.

A 20 PC training room, including space for the instruction podium and aisle space, is comfortably accommodated in 2400 square feet, a 40'x60' room. The multimedia lab described in this Report comfortably requires 1000 square feet, a room about 30'x30'.

# of Books (shelved five high, including ADA space)	Floor Space Required		% of Proposed 15,500 sq. ft. Finished Space
	Sq. Footage	Area	
37,500	3402	59'x59'	25%
50,000	5184	72'x72'	33%
70,000	7614	87' x 87'	49%
Computers			
10	800	28'x28'	5
PC Laboratory	2400	40'x60'	15
Multimedia Lab	1000	30'x30'	6

Together, just the 37,500 book collection, the 10 PCs to support the catalog and Internet access, the 20 PC training room, and the multimedia lab, require 7602 square feet of floor space, just under half of the proposed 15,500 sq. ft of finished space in the 25,500 square foot proposed library building. This space requirement is not negotiable. Any space savings will come from creative use of

the *remaining* square footage, and that will depend entirely on the interior design of the library. If space is a premium, the services of an outstanding interior designer is called for, and should work with the Colleyville librarian during design of the building.

There is no rational way to calculate space savings by replacing books on shelves with computers on tabletops. Books and computers are not the same thing and cannot be comfortably arranged in a building the same way. Having fewer (or no) books will save floorspace, and significantly reduce the cost of building construction, but might require more computers. Having ANY books requires a commitment to being able to house the *minimum required* for state accreditation if the library building is expected to have *maximum flexibility* to accommodate the next community's conceptual model.

### **Service Delivery Measures**

After hundreds of years of practice, public library programs have become pretty much standardized, as have measures of public library service. Most of what can be done "in meat" in terms of programs, can be done virtually. Most programs adapt well to a combination of presentation modes. Some of what can be done virtually cannot be done physically.

There are hundreds of books and thousands of journal articles about how to present creative library programs, and hundreds and thousands more about measuring library service, whether in terms of service to patrons, or value to the community. Bottomline with library programs is, they need to be designed around the interest, resources, and inclinations of the community. What works in a small public library in Oregon may not work for a small public library in Texas. What works in a public library in deep south Texas many not work in the Colleyville.

This Report is not going to attempt to summarize or analyze all the articles and schools of thought about measuring library value. How Colleyville values its library will depend entirely on how it uses it, and how the library makes itself useful. Again, it is impossible to even think about the actual NEEDS of the community without a needs analysis, and it is too much of stretch of mind, and academic to begin considering values associated with those unknown needs.

The TSLs and ALA standards for accreditation discussed earlier provide a basic guide for quantitative measures of library service, although they do not (yet) address measures for bookless libraries. Perhaps Colleyville will be instrumental in the development of those new measures. The most important measures of library service are qualitative, are difficult to measure, and often peculiar for each population served.

Without a user needs study, it is impossible to determine what programs and services will best serve Colleyville, but the examples provided throughout this report serve as a starting place.

Standards and services for book-based, hybrid, and virtual libraries are necessarily different by design. Book based services are tied to a collection and are available at a given time and particular place. Virtual services are tied to technology and are available regardless of time and place. Nevertheless, they may be roughly categorized as:

- Reference/Research/Readers advisory - services that satisfy a patron's specifically articulated question, information need, or reading preference;
- Books and resources for children, Young Adults, and Adults - resources made available for individual patron use; and
- Programs and activities.

All three of these areas have been addressed throughout this Report and are conceptually summarized here:

#### Conceptual Service Delivery Measures

<b>Book Based Model</b>	<b>Hybrid Model</b>	<b>Virtual Model</b>
Primarily tied to physical collection, limited in-library database and Internet-based resources during library hours of operation only. Professional time predominantly spent servicing the collection; majority of investment is collection-centered.	Primarily tied to physical collection and limited database resources made available from within the library during library hours of operation, but including remote access to library catalog, databases and passive web presence. Professional attention "split" between physical collection and virtual presence.	Primarily tied to virtual resources and tangible resources available nationwide, and to specialized electronic databases from within and by remote logon access to library 24x7, including extended virtual hours for librarian consultations, combined physical and virtual programs, and highly interactive web presence.

Programs for book-based libraries and virtual libraries are, in essence, the same: they are each meant to encourage and spread literacy and knowledge and improve the quality of life in the community. With virtual programs, the medium of delivery is ALSO electronic, which does NOT mean the patron is required to only use electronic resources. Virtual mode ENHANCES the physical experience of information and learning, it does not REPLACE or supplant it. In virtual mode

the patron does not have to be IN the library to participate in library activities. Programs and events are not limited to a specific time, or one-time only.

The American Library Association, <http://www.ala.org>, and the Texas Library Association, <http://www.txla.org>, adopt annual themes for library programs for patrons of all ages, and provide member libraries full promotional packages and guides for those programs. These programs include summer reading programs, adult literacy programs, book club programs, etc. Most of the programs are book-based and tied to the physical gathering of humans, and are meant to encourage reading and a love of books. Recently, some of the programs, such as connect@theLibrary have been concerned with computer and information literacy.

### **Personnel Requirements**

The best investment a library can make is in librarians. Without them the library is nothing more than a book warehouse. Librarians are the brains, the energy, and the creativity of the library. The Library of the 21<sup>st</sup> Century will be built by librarians, not by books, or technology, or architects, and if Colleyville wants to build a world-class Library for the 21<sup>st</sup> Century for itself, it needs world class librarians: not a lot of them, just a few very good ones.

Librarians and their communities must match: they must match in energy, harmony, inclination, motivation, and desire. The librarian must "tune in" to the community and think for it, and ahead of it. The librarian must build channels of community that do not yet exist. They must speak the language and understand the life of these communities. Librarians use the specialized knowledge gained from an advanced university degree, along with that particular flair for information that makes librarianship as much a calling as it is a profession, on behalf of the community, and do it one patron at a time.

There are many types of librarians: some stereotypically bookish and backroom-ish, some very exciting and vibrant. Some librarians work at their jobs, others practice their art. All are concerned with the individuals right to equal, private, and adequate access to data, information, knowledge, and wisdom. Some librarians book oriented, some are technology oriented. The really good ones love technology and books equally, recognize the power and limitations of each, and use both. Librarians are in high demand, as they possess the unique training, skills, and talents that bring harmony to the information age. Librarian salaries are rising. Seasoned librarians are in short supply.

Most far-sighted businesses and governments have come to understand that having low-paid, relatively uneducated service workers on the front line of information is a BIG mistake. There's nothing worse than having to ask something of a clueless person who doesn't listen, doesn't understand, and doesn't know they don't know. In recent models of public library service, the

person at the checkout counter, the person sitting behind the information desk, the person answering the phone, or the person shelving books is a kid who knows very little about the art and science of librarianship. In traditional public library settings, the librarian is often busily sequestered in a secret back room doing magical, mysterious work few can imagine. This model of library management rose out of a school of misguided thinking that calculated that the most highly educated (and so more expensive) employees are more productive and better used if they are not bothered by interruptions from the public. Big Mistake.

When a library patron comes to (or calls or otherwise contacts) the library, they are in two of the most vulnerable human states: ignorance and need. It is hard for humans to confess they don't know, and harder still to ask for help, particularly if the need is private, or sensitive. Librarians study human psychology and understand how to turn this most unpleasant moment into satisfaction.

Many library patrons think anyone who works in a library is a librarian. Some can't imagine why anyone would have to go to graduate school to learn how to keep books neatly shelved, and stamp the date on the little paper flap glued to the inside cover. Anyone who has ever experienced the assistance of an outstanding librarian knows better. Librarians change their communities, and are committed to positive change. They are convinced that information is power, and that the freer the information, the more powerful its positive impacts.

In the Library of the 21<sup>st</sup> Century, librarians will be on the front lines of information, and the service workers (if there need be any) will be in the background. The Library Task Force suggests hiring more service workers than librarians, undoubtedly because service workers are cheaper to employ and distribute across time, and so provide more meat for the dollar. But the number of library employees is as irrelevant as the number of books. Any library, every library, is going to spend between 60% and 75% of its annual budget on personnel, and should spend as much of it as possible for librarians.

This Report suggests that MOST of the personnel budget be spent for a few very good librarians, and that the librarians be left alone to figure out how to get the extra assistance they need, if indeed they need any. Community service, school/work programs, active Friends of the Library volunteer groups, professional practicum students from the nearby Library Schools, and government funded work training programs all work well at the library, and provide bodies without requiring a budget.

The suggested library personnel budget and personnel distribution are outlined in the following Summary Tables.

## Summary Tables

### Colleyville Public Library

Conceptual Design Model			
	<b>Book-Based Library Model</b>	<b>Books/ Technology Hybrid Library Model</b>	<b>Technology-Based Virtual Library Model</b>
<b>TSLS Accreditation Population Served</b>	Community 25,001	Area 25,001><266,233	Federation 25,001><350,000
<b>OPENING DAY COLLECTION</b>			
<b>Existing Collection</b>	11000	11000	11000
<b>First Year Capital Investment, Books</b>	15000 books, \$200K	37,500 books, \$400K	None
<b>Collection Location</b>	Locally Held	Locally Held	Remote or Locally Held
<b>Collection Philosophy</b>	Small, select collection of outstanding "just in time" books to support electronic sources and services. Build collection gradually.	Mid-sized opening day generic library collection to support "just in case" philosophy of book need.	No books, or small, select collection of outstanding books to support electronic sources and services, or "rotating collection" from federation.
<b>Collection Development</b>	Annualized, Entrepreneurialized, as needed to support patrons and programs. Outstanding books only.	Capitalized, for large opening day collection.	Specialized and entrepreneurialized, as needed to support patrons and programs
<b>Opening Day Book Buy-in</b>	\$200K	\$400K	\$0

<b>TECHNOLOGY</b>			
	<b>Book-Based Library Model</b>	<b>Books/ Technology Hybrid Library Model</b>	<b>Technology-Based Virtual Library Model</b>
<b>AUTOMATED LIBRARY SYSTEM</b>			
Server(s) Core catalog Cataloging component OPAC Networking Services Security and Management ILL, Resouce Sharing & Document Delivery <b>Opening Day System Buy-in</b>	Purchased (or home grown Amazon.com) ↓ \$50K-150K	Purchased/Leased ↓ \$100K-250K	Federated or Home Grown ↓ Commercial ISP ↓ Federated or Aftermarket (OCLC) \$50K-\$100K
<b>HARDWARE &amp; SOFTWARE (24 Month Rotation) \$K</b>			
Network Typology   10 PCs 10 PC Lab Labtops Multimedia Lab Hardware/Software Buy-in <b>Total Technology Buy-In</b>	Based on Automation Vendors required LAN Configuration. Leased or Purchased  \$30 \$35 \$30 \$35 \$130 \$180K-235K	Based on Automation Vendors required LAN Configuration, Leased or Purchased  \$30 \$35 \$30 \$35 \$130 \$230K-385K	Dedicated Line to Existing Automation System, Fiber to Desktop, Peer-to-Peer networks, hosted domain and servers.  \$30 \$35 \$30 \$35 \$130 \$180-235K
<b>Total Opening Day Buy-in</b>	<b>\$430K - \$585K</b>	<b>\$730K - \$1,035K</b>	<b>\$230K - \$385K</b>

<b>Annual Budget (\$K) *Entrepreneurializable</b>					
	<b>Book-Based Library Model</b>	<b>Books/ Technology Hybrid Library Model</b>	<b>Technology-Based Virtual Library Model</b>		
<b>Technology *</b>					
Virtual Domain	7	7	7		
Telecommunications	20	20	20		
Hardware/Software	100	156	100		
Total Technology	127	183	127		
% of Budget *	17%	23%	18%		
<b>Personnel</b>	7 FTE	9 FTE	4 FTE		
4 FTE Librarians	400	400	400		
Aides/Assists(Programmable)	(3) 90	(5) 150	0		
Total Personnel	490	550	400		
% of Budget	66%	70%	57%		
<b>Collection * (Books &amp; Electronic)</b>	80	140	140		
% of Budget	11%	18%	20%		
<b>Supplies &amp; Services</b>	40	40	40		
% of Budget	5%	5%	6%		
<b>TOTAL \$K</b>	<b>737</b>	<b>783</b>	<b>707</b>		
<b>% Entrepreneurializable</b>	<b>28%</b>	<b>41%</b>	<b>38%</b>		

<b>Space Needs (ADA space included) Books shelved five high, two sided 20' stacks. Books and Technology ONLY.</b>					
	<b>Book-Based Library Model</b>	<b>Books/ Technology Hybrid Library Model</b>	<b>Technology-Based Virtual Library Model</b>		
Items in Opening Day Collection	11000	37500	11000 (optional)		
Square Footage	1134	3402	1134		
Floor Space	34'x34'	59'x59'	34'x34'		
% of 25,500 sq ft bldg	4%	13%	4%		
Target Collection	25,000	50,000	11,000		
Square Footage	2,592	5,184	1,134		
Floor Space	51'x51'	72'x72'	34'x34'		
% of 25500 sq. ft bldg	10%	20%	4%		
Technology (square footage)					
System PCs	800	800	800		
PC Lab	2400	2400	2400		
Multimedia Lab	1000	1000	1000		
% of 25500 sq. ft. bldg	16%	16%	16%		
<b>Books &amp; Technogy</b>					
Opening Day Collection % of 25,500 sq. ft.	21%	30%	21%		
Target Collection % of 25,500 sq. ft.	27%	37%	21%		

## Service Measures (Descriptions in Text of Report)

Number of Library items  
Circulation numbers  
Collection Turnover  
Number of Patrons Served  
Number of Patron Transactions  
Reference Sessions  
Programs Offered  
Program Participation  
Standard Book Based Programs: Summer Reading, Literacy Programs, Reading Clubs, Reader Advisory Service  
Technology Learning Sessions  
Library Marketing/Outreach Activity: Entrepreneurialization of Collection Development, Fund Raising, Friends of the Library and other volunteer programs, community service  
Online Activities: Chat Rooms, Forums, Seminars  
Virtual Publishing of local history and information  
Continuing Education

## Select Virtual Library Resources

### COMMERCIAL DATABASES

Dialog (<http://www.dialog.com>)

Dow Jones (<http://www.dowjones.com>)

First Search (<http://www.oclc.org>)

Lexis-Nexis (<http://www.lexis-nexis.com>)

Uncover (<http://uncweb.carl.org/>)

### TSEL DATABASES

Online Information Resources For Texas Public Libraries and State Governmental Agency Libraries at <http://www.link.tsl.state.f.fulltextdblist.html>

For Business Information:

#### **ABI Inform**

Covers business and management topics.

#### **Archives USA**

Archives USA contains a searchable index of documents, manuscripts and other artifacts found in 4,400 libraries and 100,000 special collections. It is an invaluable tool for researchers who use primary source materials.

#### **Handbook of Texas Online**

The Handbook of Texas Online is an encyclopedia of Texas history, geography, and culture. It contains over 23,000 articles on people, places, events, historical themes, institutions, etc. See the introduction for further details.

#### **Health Reference Center**

Articles on health and wellness research for a general audience. 2,000 titles indexed with full text from over 600 periodicals, newsletters, reference books, and pamphlets. Includes contact information for support groups, hotlines, and research centers. 1994 to present.

#### **MEDLINE Plus**

MEDLINE Plus is the National Library of Medicine's site for consumer health information. It includes links for common diseases and conditions, dictionaries, databases, links to organizations, directories for finding health care professionals. Use the MEDLINE Plus interface or go directly to PubMed or Internet Grateful Med.

#### **Books in Print**

Over 1.8 million records, describing in-print, out-of-print, and forthcoming books from North American publishers. New records are added weekly.

### **WorldCat**

Library materials owned by libraries around the world. Includes books, computer files and programs, films and slides, journals, manuscripts, maps, musical scores, newspapers, sound recordings, and videotapes. Each of the over 37 million records contains bibliographic information and library holdings.

### **Gale Literature Databases**

Three databases are included. Contemporary Literary Criticism Select contains criticism on the works of novelists, poets, playwrights, and short story writers now living or who died after Dec. 31, 1959. Contemporary Authors provides biographic details on 100,000 modern novelists, poets, playwrights, non-fiction writers, journalists and script writers whose works have been translated into English or published in the United States. Dictionary of Literary Biography outlines the lives and careers of authors from all eras and genres and summarizes the critical response to their work.

### **Electric Library**

<http://www.elibrary.com/>

Users type a question in plain English, and Electric Library searches through newspaper and magazine sources, books, maps, and images. Check out the source list, or take the Electric Library Guided Tour. Especially appropriate for students from primary school through university. The reading levels of the articles are listed in the citations.

### **Texas Newsstand**

Provides full-text coverage of the Houston Chronicle, Fort Worth Star Telegram, and the Austin American Statesman. It has abstracts from Dallas Morning News and the San Antonio Express-News. For searching help, take the ProQuest Web Tour. For more information on titles, Choose "Texas" from the ProQuest titles listing. Alternatively, each newspaper has its own web site for current displays of news and information.

### **DISCovering Science**

Provides 2,500 essays, 1,000 biographies, 1,000 article abstracts, timeline events, images, video and audio clips, and frequently asked questions about the physical and applied sciences, medicine, technology, information sciences, mathematics, environmental and earth sciences, etc.

For Teachers

### **AskERIC**

The Educational Resources Information Center (ERIC) is a federally-funded system that provides information on education-related issues. AskERIC is a project of Syracuse University that provides a search interface to the ERIC database.

**ArticleFirst**

Describes the items on the table of contents pages of nearly 13,000 titles. Includes science, technology, medicine, social science, business, the humanities, and popular culture.

**Britannica Online**

Includes the full scope of Encyclopedia Britannica's over 65,000 articles. Provides text articles, graphics, audio, and video using the World Wide Web as an interface. Access related information on the Internet through hypertext links.

**Masterfile**

Information on a broad range of topics - business, health, news, social science, general science, humanities, etc. Includes citations and abstracts from 2,375 titles and full text from over 1,000 titles. Broad selection of titles indexed.

**Periodical Abstracts**

More than 800,000 records from over 1,500 general and academic journals, TV programs, and radio shows (1987 to present). Full text articles from 530 journals. Covers business, current affairs, economics, literature, religion, psychology, and more. An impressive list of titles.

**Wilson Select**

Records with full text articles from over 800 periodical titles indexed in H. W. Wilson's General Science, Social Science, Humanities, Readers' Guide, and Business Abstracts.

**First Search**

OCLC's FirstSearch provides over 70 online databases and more than 1.5 million full-text articles. All subject matter is covered. Be sure to view a list of databases, practice on the sample databases, or take the First Search Guided Tour.

***Some may require an account or a credit card payment.***

**TEXSHARE Databases (partial list)**

<http://www.texshare.edu/LibraryServices/databases.html>

**Archives USA**

Access to holdings and contact information of more than 4,700 repositories with indexes to over 106,000 special collections.

## **CINAHL**

The Cumulative Index to Nursing & Allied Health databases, provides authoritative coverage of the literature related to nursing and allied health disciplines. Includes over 950 English-language journals as well as healthcare books, nursing dissertations, select conference proceedings, standards of professional practice, and educational software.

## **MLA Web**

Indexes critical materials on literature, criticism, drama, languages, linguistics, drama, language, linguistics, and folklore. Citations from over 3500 journals, series, books, essay collections, working papers, proceedings, dissertations, and bibliographies. Coverage is international.

## **FREE Web Sites oriented to children and students**

A & E Biography Page:

<http://www.biography.com/find/find.html>

Short biographies of many people.

Distinguished Women of Past and Present

<http://www.netsrq.com/~dbois/index.html>

Many biographies of women.

Edison National Historic Site; Kids Corner

<http://www.nps.gov/htdocs2/edis/list.htm>

Biographical information about Edison and his inventions.

Four Thousand Years of Women in Science

<http://www.astr.ua.edu/4000ws/summary.shtml>

Short biographies of women in science.

Children's Music Web

<http://www.childrensmusic.org>

Includes indexes to web sites, musical performers, song lyrics, and concert listings.

Texas Bluebonnet Award

[http://www.txla.org/html/tba\\_info.html](http://www.txla.org/html/tba_info.html)

Aesop's Fables

<http://www.pacificnet.net/~johnr/aesop/>

This site contains 438 fables and illustrations.

American Girls

<http://www.americangirl.com/>

American Girls Fans.

Babysitter's Club

<http://scholastic.com/annmartin/index.htm>

Berenstain Bear's

<http://www.berenstainbears.com/>

Little Explorer's Picture Dictionary

<http://www.EnchantedLearning.com/dictionary.htm>

Vocabulary University

<http://www.vocabulary.com>

Why Files

<http://whyfiles.news.wisc.edu/>

Zoonet

<http://www.mindspring.com/~zoonet/>

Capitals of the United States

<http://www.scottforesman.com/sfaw/resources/statescapitals/>

Infoplease Kid's Almanac

<http://kids.infoplease.com/>

National Geographic

<http://www.nationalgeographic.com>

Facts about all fifty states and Washington D.C.

<http://www.ipl.org/youth/stateknow/skhome.htm>

Texas Senate Kids

<http://www.senate.state.tx.us/kids/>

## **FREE Web Sites oriented to the general population**

### **Hoovers Online**

<http://www.hoovers.com>

Company information, both 'free' and as part of a subscription, in the form of company capsules, financials, and news stories.

### **NorthernLight**

<http://www.northernlight.com>

A search engine that arranges the results into 'folders'. Some documents are sold via the web site for a variety of prices. Many documents are 'free' from 'open' sources.

### **Dallas Business Journal**

<http://www.amcity.com/dallas/index.html>

Coverage begins August 1998. Most of the materials are the larger articles.

### **Dallas Morning News**

<http://www.dallasnews.com>

The Dallas Morning News has a searchable archive (<http://archive.dallasnews.com/>) that covers most stories that have been published in the newspaper since August, 1984. The search is free but there is a fee to download the document. Their search engine will provide you with an abstract of your search request. Stories are available approximately 48 hours after publication.

### **New York Times**

<http://www.nytimes.com>

The New York Times requires a 'free' registration to gain access.

### **Washington Post**

<http://www.washingtonpost.com>

You can search The Washington Post archives for free, but a fee will be charged to see the full text of any article published more than two weeks ago. Stories published in the past 14 days are available at no cost on their main search page.

### **CEO Express**

<http://www.ceoexpress.com>

Perhaps the best collection of business information collected on one busy page. The company research column starts with annual reports and ends with online research tips.

### **Supreme Court of Texas Opinions -**

<http://www.supreme.courts.state.tx.us/>

Opinions of the Supreme Court are released each Thursday at 9:00am CST. Current opinions are uploaded by 5:00pm CST of release date. Coverage begins in 1997.

### **Texas Legislature Online -**

<http://www.capitol.state.tx.us/>

Information updates to this Web site occur approximately 5 to 15 minutes after they are entered into the Legislature's internal LIS system. The internal system is updated from several different departments depending upon who is responsible for what information (ie. committee agendas, bill status, amendments, etc...). This departmental information is entered the same day as events take place. Standard operating procedure is to make updates as soon as or shortly after legislative events happen. Coverage begins December 12, 1996. You will not find 'Staff Analysis' or 'Legislative Histories' at this site.

### **Texas Attorney General Opinion Letters -**

<http://www.oag.state.tx.us/opinopen/opinhome.htm>

All opinions issued since January 18, 1947 are online, as well as those from May 13, 1939 to August 26, 1942. All letter opinions issued since January 21, 1953 are online. All open records decisions (ORDs) issued since July 20, 1973 are online.

### **Directory of Texas State Agencies -**

[http://www.texas.gov/AGENCIES\\_homepage.html](http://www.texas.gov/AGENCIES_homepage.html)

Links to Texas Agencies, Boards, Colleges, Commissions, Courts, Departments, Offices, and Universities.

### **Texas Corporation Search -**

<http://open.cpa.state.tx.us/>

Free web search from the Comptrollers' office to obtain Letters of Good standing, and name and address of the Registered Agent, Officers and Directors.

### **Texas Administrative Code -**

<http://www.sos.state.tx.us/tac/>

The Code will be free on the Web as long as we are able to meet our budget with revenue generated by subscriptions. This section of the Office of the Secretary of State is not funded by the Legislature. The Code will be updated each Monday for the period ending the previous Friday. For example, the Code was updated December 4, 1995, to be current through November 24, 1995.

### **Texas Register -**

<http://www.sos.state.tx.us/texreg/index.html>

The Texas Register is published weekly, every Friday. Each issue will be posted on the Web to coincide with the distribution of the printed version which may mean that the issues will not be posted until the following Monday or Tuesday. Back issues can be obtained from the Texas Register offices by calling (800) 226-7199 or email Jill Ledbetter at [jledbetter@sos.state.tx.us](mailto:jledbetter@sos.state.tx.us)

**U.S. Code (unannotated)**

<http://uscode.house.gov/usc.htm>

Titles 1 through 8 of this database are currently up-to-date through January 26, 1998. Titles 9 through 50 of this database are currently up-to-date through January 6, 1997. The database includes all official U.S. Code notes and appendices, as well as the Table of Popular Names. The U.S. Code database constitutes the 1994 Edition of the U.S. Code, plus Supplement I and the contents of the most recent edition of the Law Revision Counsel's U.S. Code Classification Table. The U.S. Code Classification Table covers Public Laws 104-1 through 105-235 (enacted August 14, 1998). The text of recently adopted public laws is separately available through the University of California's GPO Gate.

**Code of Federal Regulations**

<http://www.access.gpo.gov/nara/cfr/cfr-table-search.html>

The Code of Federal Regulations (CFR) is a codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government. The CFR online is a joint project authorized by the publisher, the National Archives and Records Administration's Office of the Federal Register, and the Government Printing Office (GPO) to provide the public with enhanced access to Government information. GPO will continue to make the paper editions of the CFR and Federal Register available through its Superintendent of Documents Sales service.

### **Federal Register**

[http://www.access.gpo.gov/su\\_docs/aces/aces140.html](http://www.access.gpo.gov/su_docs/aces/aces140.html)

Database for the 1995, 1996, 1997, 1998 and 1999 Federal Register (Volumes 60, 61, 62, 63 and 64), the Federal Register is the official daily publication for Rules, Proposed Rules, and Notices of Federal agencies and organizations, as well as Executive Orders and other Presidential Documents. Helpful Hints on the web page provide instructions for searching the database. Documents may be retrieved in ASCII "TEXT" format (full text, graphics omitted), Adobe Portable Document Format, "PDF" (full text with graphics), and "SUMMARY" format (abbreviated text).

### **Municipal Codes via the Internet**

<http://www.spl.lib.wa.us/govpubs/municode.html>

Typically, this site provides free access to Municipal Codes. Folio is the usual search engine.

### **Municipal Code Corporation**

<http://www.municode.com>

### **Texas Forms**

<http://www.sos.state.tx.us/function/statforms/index.html>

The secretary of state has promulgated certain forms designed to meet statutory requirements and facilitate filings with the office; use of the forms is permissive. Forms may be obtained from the Web site or by telephone.

### **Switchboard**

<http://www.switchboard.com>

Find a Person by Profession - Doctors, Lawyers, Dentists, Accountants, Realtors, White Pages, Email

### **555-1212**

<http://www.555-1212.com>

Use a search template to look for people via last name, first name, city, state (or province) or country . Also has a reverse lookup for the United States only.

### **People Search at Yahoo**

<http://people.yahoo.com>

Use a search template to find a person's email address or telephone number.

### **Infospace**

<http://www.infospace.com>

Address, telephone and reverse directory lookups as well as links to international telephone directories.

### **Internet Address Finder**

<http://www.iaf.net/>

This is a collection of e-mail addresses. Searchable by last name or domain. Find addresses and phone numbers for individuals and business at LookUpUSA.

### **White Pages Using Hotbot.com**

<http://www.hotbot.com/partners/people.asp>

Search the white pages to find over 100,000,000 residential listings using a basic search template.

### **Who Where**

<http://www.whowhere.com>

Searches for email addresses.

### **The Financial Yellow Pages**

<http://www.wat.ch/yellowpages/searchform.htm>

The Financial Yellow Pages is a searchable index of international banks and other financial institutions.

### **Big Yellow**

<http://www.bigyellow.com/>

Big Yellow's 16 million US businesses are searchable by category or name. There is also a topical index.

### **The Congressional Directory**

<http://www.access.gpo.gov/congress/cong001.html>

Search the Congressional Directory for your representative or senator.

### **Idealist**

[http://www.idealists.org/IS/org\\_search.htm](http://www.idealists.org/IS/org_search.htm)

Locate over 8,000 non-profit organizations.

### **Search the U.S. Tax Code Online**

<http://www.fourmilab.ch/uscode/26usc/>

You can access the Code through its own hierarchical table of contents, a comprehensive (flat) table of contents (Note: this file is almost 300K and takes a while to retrieve), or an index by section number, handy when you're looking up a citation in another document.

### **Search the U.S. Treasury Online**

<http://www.treas.gov/sitemap.html>

The U.S. Treasury site allows you to access all of the programs and agencies under the umbrella of the Treasury Department, including the IRS, BATF, and the U.S. Customs.

### **IRS Forms Online**

[http://www.irs.ustreas.gov/prod/forms\\_pubs/index.html](http://www.irs.ustreas.gov/prod/forms_pubs/index.html)

Need an IRS Form? This site provides most, if not all, IRS Forms and Publications. It should save a trip to the Federal Office Building.

### **Internal Revenue Manual Online**

[http://www.irs.ustreas.gov/prod/bus\\_info/tax\\_pro/irm-part/index.html](http://www.irs.ustreas.gov/prod/bus_info/tax_pro/irm-part/index.html)

The Internal Revenue Manual has a wealth of information about IRS Service policies and procedures.

### **Criminal Tax Manual Online**

<http://www.usdoj.gov/tax/foia/criminal/titlepg.htm>

The Criminal Tax Manual, published by the U.S. Department of Justice, Tax Division, is a great resource for attorneys considering issues related to a criminal tax prosecution.

### **U.S. Attorney's Manual Online**

<http://www.usdoj.gov/usao/eousa/foia.html>

In addition to the Department of Justice Manual, the U.S. Attorney's Manual is extremely helpful in preparing your cases.

### **Estate and Gift Tax Research Online**

[http://fatty.law.cornell.edu/topics/estate\\_gift\\_tax.html](http://fatty.law.cornell.edu/topics/estate_gift_tax.html)

This site provides Estate and Gift Tax research through the Internet, including CFRs in a word-searchable form, and recent case law concerning transfer taxes.

### **Federal and State Income Tax Research Online**

[http://fatty.law.cornell.edu/topics/income\\_tax.html](http://fatty.law.cornell.edu/topics/income_tax.html)

Research tools for Federal and State income tax topics.

### **Simplified Tax and Wage Reporting System Research Online**

<http://www.ustreas.gov/stawrs>