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The Crisis in Special Libraries: An Overview and Case Study

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Part One: Transportation’s Information Crisis

"Why we need to preserve the profession’s memory"1 was the title chosen by Francis Francois, former executive director of the American Association of State and Highway Transportation Officials (AASHTO), for a presentation at this year’s annual meeting of the Transportation Research Board (TRB).

In short, his answer is that without such a memory the profession lacks an “important tool for understanding issues and making decisions.” It will lose the information needed to select “actions to address future issues affecting transportation,” he said. Mr. Francois also asked the question, “Where does a professional turn to find the ... information for which he or she has a need?” and answered, “A good transportation library.” He went on to say, “There are, in fact, some of these libraries in existence, but not as many as there used to be ... In recent years we have seen a number of industrial libraries maintained by private sector entities closed and their contents discarded. The same has occurred in some public agencies, especially where budget cuts have occurred.”

A more graphic picture of this problem was painted by Lee H. Rogers at an earlier TRB annual meeting in a presentation titled “Have we lost the message before gaining the knowledge?”2 In his paper he claimed, “In our haste at development, markets, and change, we may be losing the underpinning of our profession ... A growing trend has developed in U.S. government agencies and private firms to disband and scale down comprehensive professional libraries ... Consulting firms and planning agencies have purged their offices of books, reports, and documents ... In many U.S. government agencies, the security procedures and remote locations of libraries and resource centers have discouraged professional use of such resources. With the decline of outside users, such resources are ultimately considered by agency management to be redundant and subject to discard.” (p.170)

In a section of his paper labeled “Examples of myopic actions,” he states, “From the International Bank for Reconstruction and Development to the World Bank to the U.S. Agency for International Development to the U.S. Department of Transportation and U.S. Department of Commerce, reports, evaluations, and studies within transportation have frequently been dumped within a decade of their release ... [thereby] losing valid professional resources for measurements of success and evaluation of evolving transportation needs ... Trade organizations evolved from public orientation for their industry to lobbying groups [resulting in] disbanding libraries and resource departments as a budgetary consideration.” (p.171)

He continues, “The real issue is not what has already been lost but to raise professional concern about what can be done to safeguard the materials that remain. Once books and physical materials are discarded they cannot be retrieved. One of the current concerns is the loss of about 60 percent of the floor space of the [U.S.] DOT library.” (p.171)

Mr. Francois’ presentation continued with his suggestion that the information needed to provide the profession’s memory “will be there only if some transportation professional has preserved it.”

The only organized group of transportation professionals actively involved in the systematic development and preservation of the profession’s collective memory is transportation librarians. Mr. Francois recognized the importance of these professionals, stating, “There are some state departments of transportation that have established libraries, some of which have better collections and larger staffing than others. It is growing more difficult to maintain these facilities because of cost, especially when the agency management and the jurisdiction’s elected officials are not aware of the importance of the collection ...”

This fixation on the highly visible and readily tallied costs of transportation libraries and lack of knowledge of their difficult-to-measure benefits and savings lies at the root of the problems noted in the presentations by Francois and Rogers. It is easy for man-
agers to see the considerable amount of space occupied by a well-stocked, well-staffed library. It is difficult to determine the space saved throughout an organization by the corresponding reduction in the need for small collections of information resources scattered among dozens of offices and departments. It is easy to calculate the total dollars invested in library staffing and purchases. It is difficult to calculate the costs of hundreds or even thousands of employees attempting to find information without professional assistance. Enormous amounts of staff time can be wasted searching the Internet, traveling to remote libraries, and calling colleagues in often futile attempts to locate, borrow, or purchase articles, reports, magazines, and books needed to perform needed research, carry out daily work assignments, or investigate innovative practices.

Libraries have costs, but ultimately libraries save an organization money. More important, libraries and librarians add considerable value to an organization and its information resources. A library reduces an organization's overall space needs and the costs of acquiring information resources by providing a centralized collection of materials that can be shared throughout the organization. Most important, librarians enhance the value of every employee. Librarians are educated and experienced in the skills and expertise needed to identify, locate, and acquire information and information resources as efficiently and inexpensively as possible. An organization that takes advantage of these skills frees up the time of its other staff that would otherwise be spent searching for and acquiring information. This time allows them to use their skills and expertise to study and analyze the information and apply it in improving the organization's activities and decision making.

In his concluding remarks, Mr. Francois asked another question as to whether the transportation profession needed to increase its efforts in relation to library and information services. His answer: "I think the answer is clearly yes. If we do not, then much of the information will be lost or forgotten. And the transportation profession will lose an important tool for improving the quality of their work."


Part Two: Minnesota Department of Transportation—A Case in Point

Minnesota Department of Transportation is currently involved in a reorganization process labeled "Shaping Our Future." The process is intended to "streamline" the organization in accordance with a "distributed services model." As usual in reorganizations, the library was one of the first organizational elements looked at. In the process of providing our management with a review of our library services I came across an article titled "The Skills Imperative: Talent and U.S. Competitiveness." Since our management is committed to the concept of lifelong learning, I used the opportunity to explain how libraries and librarians fit into the process by forwarding the following excerpts and my comments about them to management.

"... access to quality education and lifelong learning opportunities must be increased for everyone."

The role of the library in lifelong learning is generally little understood by managers and seldom discussed outside library circles. Libraries are the leading providers of lifelong learning. Although this role is not widely recognized, it has been recognized and supported by many true leaders in society. Recognition of this role was behind Andrew Carnegie investing the lion's share of his fortune in building public libraries in virtually every city of any size in the United States in the early part of the last century. It is also behind the Bill and Melinda Gates Foundation's current investment of several hundred million dollars in grants to school and public libraries.

Libraries are the lifeblood for independent research and self-initiated, self-directed education and training, as reflected in Carl Sagan's comment, "I think the health of our civilization, the depth of our awareness about the underpinnings of our culture and our concern for the future can all be tested by how well we support our libraries." (p. 2) Lifelong learning using library resources and networks begins where
formal classroom education and training leave off. Libraries are, in fact, the primary source of learning and information for those who perform such education and training, or as I frequently put it, where the experts go when they need to know.

"...[In the nineties] to an unprecedented degree, intellectual capital drove economic prosperity. Machines were the chief capital asset in the Industrial Age, and workers, mostly low skilled, were fungible. In the Information Age, precisely the opposite is true. The key competitive asset is human capital, and it cannot be separated from the workers who possess it."  

The failure of management to fully understand the preceding is what has led to the closing of libraries based on the concept of 'it's all on the Internet.' Knowledge and skills in information identification and organization is the human capital librarians provide. The much-talked-about levels of frustration encountered by individuals attempting to use Internet search engines demonstrates how that human capital cannot be separated from librarians who have invested years of education and experience in understanding information production and information organization and in honing search skills.

Our competitiveness rests, as Carnevale and Rose noted in The New Office Economy, on "value-added quality, variety, customization, convenience, customer service, and continuous innovation" (p. 10).

Carnevale and Rose's listed attributes provide the underpinnings for competitiveness that are provided by librarians and library staff. These include:

Value-added quality
Mn/DOT produces and acquires considerable numbers of information resources. Librarians and other library staff add value to these resources by:

— creating Web-based applications that provide employees with desktop access to electronic resources;
— organizing print and audiovisual resources so that resources can be efficiently located when needed;
— providing systems and services for sharing resources to minimize duplication and costs of acquiring and maintaining resources;
— identifying, cataloging, and preserving important resources to ensure future access to their information content.

Continuous innovation
Special libraries contribute to an organization's efforts to innovate by providing staff convenient access to the information on the latest development in their respective disciplines on a continuous basis. These services fill the gaps between the intermittent learning opportunities offered by conferences and seminars. In addition, special libraries, due to limited staffing and resources, are among the most innovative of organizations, and Mn/DOT Library is considered among the most innovative in an innovative field. Examples include:

1974—Among the earliest libraries adopting the use of online database searching
The expertise of 50 materials consultants in one volume

This innovative resource for materials properties, their evaluation, and selection is the first to offer complete coverage and applications of the full range of industrial materials in use today, including metals, plastics, ceramics, and composites all in one volume!

- An international roster of contributors with a broad range of experience and practical knowledge about materials and their uses in a wide variety of industries
- Analytical approaches to materials selection
- Extensive information on sources of properties data, procurement and data management, properties testing procedures and equipment, analysis of failure modes, and manufacturing processes and assembly techniques
- More than 100 photographs of equipment and applications as well as hundreds of graphs, charts, and tables


Available through your vendor

0-471-35924-6 • Cloth • 1,522 pp. • $225.00
of online database searching
1977—Began using ARPANET, forerunner of the
Internet, for e-mail communication
1983—Acquired one of the first six authorized PCs
in Mn/DOT and within one month had automated
circulation system up and running
1989—Began using CD-ROM-based databases and
publications
1991—Began using the Internet and Gopher services
for accessing information
1994—Among the first few offices within Mn/DOT
creating Web sites to improve customer service
1995—First Minnesota state agency library to
barcode resources for inventory and circulation con-
trol
1996—Created dial-in services to enhance library ac-
cess for city and county engineers
1996—First Mn/DOT office to use networked CD-
ROM servers to improve access to information
resources
1998—Instituted In-depth Research and Informa-
tion Service
2001—Collaborated with National Transportation
Library to begin work toward first-ever regional net-
work of transportation libraries

Libraries are the leading providers of lifelong learn-
ing and have the potential to meet the individual
learning needs of every worker. They cannot reach
this potential if managers continue to view libraries
as nonessential luxuries whose primary purpose is
to store old books. Especially in the field of trans-
portation with its historical benign neglect (at best)
of its information resources and services, increased
investment in libraries and library networks is es-
ternal to provide workers with increased skills and
to drive needed innovation.

3. Deborah Van Opstal, “The Skills Imperative: Tal-
ett and U.S. Competitiveness.” Issues in Science
and Technology, 18:1, Fall 2001. [http://
www.nap.edu/issues/18.1/p_van_opstal.html] ac-
cessed March 12, 2002.

1980.

5. Anthony P. Carnevale and Stephen J. Rose. Edu-
cation for What? The New Office Economy: Execu-
tive Summary. [http://www.ets.org/research/download/

Part Three: Mn/DOT Library Dodges the Bullet—
Again

Since its creation in 1976, Minnesota Department of
Transportation has enjoyed a national and even in-
ternational reputation as an innovative organization.
The size and complexity of Mn/DOT Library and
its range of services, especially in comparison with
other state DOTs, is both a result of this emphasis
on innovation and a major contributor to the
department’s maintaining that reputation over the
years.

Mn/DOT Library is the only library in Minnesota
focusing both broadly and deeply on transportation
issues. This subject expertise, while primarily serv-
ing Mn/DOT needs, is also provided to transportation
practitioners throughout the state, especially city
and county engineers and consultants under contract
to Mn/DOT, and the general public.

All Mn/DOT Library staff are involved in one or more
doing a variety of library networks and professional
associations. In addition to these networks and asso-
ciations, a special, cooperative relationship exists be-
tween the Office of Research Services and the Uni-
versity of Minnesota’s Center for Transportation
Studies. Staff of both organizations collaborate on
providing access to transportation-related informa-
tion through a program labeled “Minnesota Trans-
portation Libraries.”

Several years ago, when Mn/DOT Library was
merged with the former Office of Research Admin-
istration, the director of the newly formed Office of
Research Services had no experience managing li-
braries. In order to identify best practices in librar-
ies, he asked that benchmarking of Mn/DOT’s li-
brary services be done. Since many studies have
shown that there are few (if any) reliable, direct me-
asures of the value of library services, it was decided
that benchmarking would be done not against gov-
ernment or university transportation libraries, but
against special libraries in corporations due to their
need to meet corporate, bottom-line values.

The libraries at 3M and Cargill were chosen as
benchmarks since both corporations have the same
access to surrounding public and academic libraries
DOT, have reputations for strong management and continuous innovation. Results of the benchmarking demonstrated that the range of services provided by Mn/DOT Library were very similar to those of the corporate libraries, with several exceptions.

After the benchmarking, an additional librarian position was added to provide staffing needed for an in-depth research service similar to one operated by Cargill’s library. In addition, more emphasis was placed on getting as many library services as possible on employee desktop computers via the Intranet, and librarians began serving on departmental teams, similar to the practice at 3M.

Current Mn/DOT Reorganization Efforts

The 1990s were a period of unprecedented change for state transportation agencies. They struggled to comply with the provisions of two successive federal funding packages that changed how transportation programs are funded and how state DOTs are required to relate to other agencies, both federal and local. The legislation also increased funds for transportation improvements. Unfortunately, the long-needed funding coincided with a public distaste for big government. This meant that every transportation authority was under pressure to get more work out the door with the same or even lower levels of staffing.

This situation was recently made even worse in Minnesota with the legislative approval of more than $400 million in additional funding, along with the provision that all of the funds had to be obligated within two years. In order to accomplish this, all design, environmental review, land acquisition, bid-letting and other processes preceding construction had to be accelerated. Mn/DOT needed to be “streamlined” with all available resources focused on “product delivery.”

Mn/DOT management decided a review of the entire organization was needed to identify resources that could be diverted to product delivery. Any unit within the department that didn’t deliver the product (construction projects) or directly support those units that did was looked at as a source of staff and monies that could be diverted. As always in difficult times, research, including Mn/DOT Library, was one of the first areas looked at for potential savings. And, of course, some managers viewed operating a library as an expendable “luxury” that didn’t fit Mn/DOT, especially in light of the recent economic downturn.

As part of the reorganization process, the director of each office under review would meet with the manager in charge of the reorganization process. This would lead to a list of options to be considered for the office in question. Prior to that meeting, our new office director (not the same one mentioned earlier who had since retired), with less than one year’s experience managing the office, asked the library to prepare a report “explaining why it exists.” We decided to title the paper “Library Accomplishments” to make it sound less defensive.

After the meeting between the reorganization manager and our office director, the options the manager suggested be considered for the library were: moving the library to less visible, less valuable space; reducing library staffing; and reducing library space. For anyone familiar with the process, not very surprising. But, since we have just learned, unofficially, that after further consideration, the manager in charge of the reorganization is recommending to senior management that none of these options need to be implemented, we thought our colleagues might like to see the information we provided.

Library Accomplishments -What Does Mn/DOT Library Accomplish?

- We provide information to Mn/DOT employees faster, better, and more cheaply than they can for themselves.
- In fiscal year 2001, Mn/DOT Library services provided an estimated total of $8,386,500 in reduced costs and added value for a benefit-to-cost ratio of 12:1.
- 4,500 information resources were provided in response to specific requests, for an estimated savings of $191,250. NOTE: Library networks were used to borrow about 500 of these resources for use by Mn/DOT employees from 175 other organizations in 45 states and 3 foreign countries.
- 3,600 requests for information on specific topics were responded to, for an estimated savings of $468,000.
- Reduction in duplicate subscriptions provided by the library’s centralized magazine subscription and routing service saved an es-
estimated $180,000.
- Mn/DOT employees’ reading of the 4,500 requested information resources provided by the library provided an estimated value of $5,100,000.
- Mn/DOT employees’ reading of the 40,000 information resources provided through the library’s routing services provided an estimated value of $2,400,000.
- Viewing and use of Mn/DOT Library’s Web pages provided an estimated value of $47,250.
- The MN/DOT Library is composed of one library director, three reference librarians, one technical services librarian, and two library clerks.

—developing and providing services and procedures that allow departmental units and employees to share information resources
—taking advantage of discounts available through various vendors and membership agreements in purchasing and licensing information resources
—organizing and presenting most frequently needed information resources and services on the library’s Internet and Intranet pages
—borrowing needed resources from cooperating libraries in lieu of purchasing

Estimates of Annual Mn/DOT Cost Savings and Cost Avoidance Attributable to Mn/DOT Library Services

Reference Services
600 in-depth reference questions handled each year
x 16 (estimate of hours of customer’s time saved per question)
x $30 (estimate of hourly value of customer’s time)
= $288,000 savings

3,000 quick reference questions handled each year
x 2 (estimate of hours of customer’s time saved per question)
x $30 (estimate of hourly value of customer’s time)
= $180,000 savings

Document Delivery
1,500 articles downloaded or photocopied
+ 1,000 interlibrary loans
+ 2,000 publications checked out from collections
x 1 (estimate of hours of customer’s time saved per article)
x $30 (estimate of hourly value of customer’s time)
= $135,000 savings

1,500 articles downloaded or photocopied
+ 1,000 interlibrary loans
+ 2,000 publications checked out from collections
x $50 (estimate of costs per item of acquiring through other channels if library did not exist—price + purchase order processing, payment, etc.)
x 0.25 (estimate of percent of materials that would be acquired if not available from the library)
= $56,250 savings

Routing Service

Analysis

Provides information and information resources faster (more efficiently) by:
—joining (and establishing) networks of libraries that collaborate to share information about resources in each library and expedite sharing of resources and services
—developing a well-organized collection of frequently needed, authoritative reference sources and other publications in transportation and other subject areas of interest to the department
—attending to ensure that copies of all important Mn/DOT documents are identified, cataloged, and preserved so any document can be accessed when needed.

Provides information and information resources better (more comprehensively) by:
—developing and applying knowledge about the resources and services of a wide range of publishers and other information providers
—using library staff expertise to access the latest techniques and technologies available to identify, locate, and acquire information and information resources
—applying library staff expertise regarding the wide range of formats and methods of distributing and displaying information and laws affecting the use of information and information resources (copyright and other intellectual property law) to provide customers the right information at the right time in the right format

Provides information and information resources cheaper (at a lower overall cost) by:
400 periodicals subscriptions
x $150 (average cost per subscription through other channels if library did not exist—price + purchase order processing, payment, etc.)
x 3 (average multiple subscriptions if sharing through other channels if routing service did not exist)
= $180,000 savings

Total Savings and Avoided Costs $839,250

NOTE: These are measures of only the time and dollars saved in acquiring information. They do not measure the actual value of the information itself or the benefits derived from application of the information acquired.

Estimate of Annual Added Value Attributable to Mn/DOT Library Services

1,500 articles downloaded or photocopied
+ 1,000 interlibrary loans
+ 2,000 publications checked out from collections
+ 4,000 publications from collections used in the library
x 0.75 (percent of items that would not be read if library did not exist)
x $600 average value per reading (Griffith and King, 1993)*
= $5,100,000 value added

40,000 resources distributed through routing service
x 0.1 (estimate of number of routed items that add value)
x $600 average value per reading (Griffith and King, 1993)*
= $2,400,000 value added

27,000 annual visitors to Mn/DOT Library Web sites
x 3.5 average minutes spent viewing pages per visitor
÷ 60 minutes per hour
x $30 (estimate of hourly value of customer’s time)
= $47,250 value added

**Professionals report substantial savings as a result of reading; average savings are nearly $600 per reading of journals, books, and internal reports. These savings, relative to the cost of acquiring and using information, yield a return-on-investment ratio of about 10.2 to 1.” (Special Libraries: Increasing the Information Edge, Jose-Marie Griffiths and Donald W. King, Washington, D.C.: Special Libraries Association, 1993)

Benefits and Return on Investment

$839,250 savings and avoided costs
+ $7,547,250 value added
+ $700,000 library costs (salaries, supplies, equipment, space)
Benefits-to-Cost Ratio 12:1

$839,250 savings and avoided costs
+ $7,547,250 value added
= Total benefits $8,386,500
- $700,000 library costs (salaries, supplies, equipment, space)
= Annual ROI $7,686,500

Note: This analysis does not include additional benefits derived from the library. No value estimates can be readily calculated for many potential measures. These include the value of creating metadata describing Mn/DOT publications. This metadata is added to WorldCat, which makes information created by Mn/DOT more accessible to transportation practitioners around the world. Also, it is difficult to estimate the “goodwill” value created by the loan of information resources to at least 179 organizations in 46 states, 5 Canadian provinces, and 5 other countries in FY ‘01 alone.

At the time the report was drafted, the state was projecting a deficit in the range of 5 to 10 percent of the total annual state budget, and each office was asked to provide information on the impact corresponding reductions would have on its operations. As with most special libraries required to live on the edge, the impacts would have been severe.

If you would like further information or a copy of the full report, please contact Jerry Baldwin, 651-297-4532, jerry.baldwin@dot.state.mn.us.