1. What Other Institutions are Doing

A number of reports and papers that are broad and national in scope are available to describe the primary developments influencing libraries in higher education today. For example, the paper 2010 Top Ten Trends in Academic Libraries: a Review of the Current Literature from the Association of College and Research Libraries Research Planning and Review Committee identifies emerging developments across libraries in higher education through a scan of the current literature and from a survey sent to more than 9,000 ACRL members. It projects the following trends:

- Academic library collection growth is driven by student and faculty demand and will include new types of resources
- Budget challenges will continue and libraries will evolve as a result
- Demands for accountability and assessment will increase
- Digitization of unique library collections will increase and require a larger share of resources
- Explosive growth of mobile devices and applications will drive new services
- Increased collaboration will expand the role of the library within the institution and beyond
- Libraries will continue to lead efforts to develop scholarly communication and intellectual property services
- Technology will continue to change services and required skills

The more in-depth Association of College and Research Libraries Environmental Scan 2010 is an expanded report from the same Research Planning and Review Committee. It covers similar ground but describes additional trends including the potential impacts of an increasing emphasis at some institutions on online education, of political and budgetary pressures (especially at public institutions), and of changing demographics among students and faculty. During the past decade information Literacy programs were developed on campuses to coincide with institutional accreditation requirements for library instruction; the ACRL environmental scan projects that these programs will face broadened challenges in helping students and faculty adjust to a still widening universe of information sources and retrieval methods.

In particular, the report observes, “There is a massive amount of literature addressing scholarly communication, which encompasses the information-seeking behaviors and needs of researchers and scholars, publishing – scholarly, digital, and self, open access, and preservation and repositories. There also are sub-themes for each of these topics.” (p. 12)

Publishing and the means through which scholars and researchers acquire and share information are rapidly evolving, and the library profession is already embedded in this process. Academic research libraries are no longer confined to acquiring, organizing, and preserving published or archival works. Today many are already working to meet new demands to support grant-funded research and in ways ranging from providing explanations of copyright for digital content to enabling full-scale data management through institutional repositories. A new institutional focus on building repositories to house and disseminate research reports and data has been a response to changes in grant requirements. For example, grant proposals submitted to the National Science Foundation (NSF) must now include a data management plan conforming to NSF policy on the dissemination and sharing of research results—including primary data samples and other supporting materials. National Institutes of
Health (NIH) guidelines now state that research data should be made as widely and freely available as possible while safeguarding the privacy of participants. (ACRL Environmental Scan, p. 14)

Consequently, a growing number of academic research libraries are becoming engaged in e-science, an emergent area that exploits technologies for computation, data curation, analysis and visualization, and collaboration—often involving large data sets. An Association of Research Libraries (ARL) E-Science Working Group in August 2009 conducted a survey to “build an understanding of how libraries can contribute to e-science activities in their institution” and “identify organizations and institutions that have similar interests in e-science to leverage research library interests.” The survey gathered responses from 57 of the 123 ARL member libraries in North America. Twenty-one of these institutions provided infrastructure or support services for e-science, 23 were in the planning stages, and 13 did not yet support e-science. After analyzing the survey results, the authors identified a small set of six representative institutions for further case study analysis. Findings from this work are described in the report E-Science and Data Support Services: A Study of ARL Member Institutions released in August 2010.

It is not unusual for scholarly works on printed paper to be preserved, with care, for several hundred years. However, the preservation of digital information will pose difficult and in many instances still unresolved technological, legal, and economic challenges, which in 2010 were outlined by a Blue Ribbon Task Force on Sustainable Digital Preservation and Access, with funding and support from the National Science Foundation, The Andrew W. Mellon Foundation, and others. The task force report is called Sustainable Economics for a Digital Planet: Ensuring Long-term Access to Digital Information. Nonetheless, many libraries have begun digitizing portions of their print collections including books, and some are partnering through consortium projects like the Hathitrust to store and share previously published digitized works. Meanwhile, the preservation of large, valuable, and aging printed collections will continue to pose significant challenges to libraries, and in 2010 these challenges were outlined in detail in the Association of Research Libraries report Safeguarding Collections at the Dawn of the 21st Century: Describing Roles & Measuring Contemporary Preservation Activities in ARL Libraries.

Academic and research libraries will be increasingly called upon to document and articulate the value of their contributions toward institutional missions and goals. The Association of College and Research Libraries’ Value of Academic Libraries Initiative was created to respond to these demands and its work laid out a framework that many academic libraries have begun using as contributors to campus conversations about assessment and accountability (see Value of Academic Libraries: A Comprehensive Research Review and Report). This framework is one that emphasizes assessment processes through which libraries examine and focus their impact on areas such as student enrollment; student retention and graduation; professional or graduate school acceptance; student achievement; student learning; student experience, attitude, and perception of quality; faculty teaching; faculty research productivity; faculty grants; institutional reputation and prestige.

In 2005 the Council on Library and Information Resources (CLIR) issued its highly influential report Library as Place: Rethinking Roles, Rethinking Space that explained how digital technology was redrawing library floor plans and how planners had begun thinking about how to design libraries as places for learning rather than primarily as storehouses of information. “The library is the only centralized location where new and emerging information technologies can be combined with traditional knowledge resources in a user-focused, service-rich environment that support ... social and educational patterns of learning, teaching, and research.” (p.3) Library spaces on many campuses have been and will continue to be reimagined and reinvented as vital learning spaces central to the core of
the academic enterprise. Through collaborative partnerships with areas such as campus IT, student services, and faculty, traditional library user areas have been reprogrammed as Information Commons, Learning Commons, Research Commons, and still evolving models of physical space and accompanying programs. As a result, library renovation or construction projects have been a priority on many campuses even during the economic recession. Examples can be seen in the annual review of academic library projects published each year in the December issue of *Library Journal* in its series called *Year in Architecture*.

Redesigned library spaces have become central gathering points, which can have unforeseen results. At last summer’s American Library Association Annual Conference held in New Orleans, an architect and a library dean teamed to present a cautionary program called *Vision and Evolution: Design and Post-Occupancy of the Hazel McCallion Academic Learning Centre*. They outlined how a striking new library at the University of Toronto Mississauga, opened in 2007, immediately garnered architectural awards with its design of flexible, beautiful and functional teaching, learning and collection spaces. The former library was considered cramped and busy with an average 3,000 students coming through its entrance each day. The new building with its reimagined spaces immediately saw daily entrance gate counts above 10,000. The building became a victim of its own success resulting in unexpected issues ranging from stadium-level noise to student behavior incompatible with group or individual study. Library staff and the architects quickly needed to reconvene to look at strategic renovations that would address the issues while remaining true to the original plan and design of the building.

To summarize, the future that lies ahead for research libraries will likely hold a combination of physical and virtual realities, each with challenges but also with opportunities. Indeed a recent study at the University of Colorado at Boulder found that the factors significantly related to library users’ satisfaction with digital resources included the physical library they most often visited. (See *The Physical and the Virtual: the Relationship between Library as Place and Electronic Collections*.) In other words, the frequency in which students and faculty visited the physical library was strongly correlated to the ease with which they were able to find and use information in digital formats.

For a broad look at libraries generally there is the report *Perceptions of Libraries, 2010* based on U.S. data from national surveys conducted by Harris Interactive on behalf of OCLC, which is a nonprofit, membership-based library service organization that produces WorldCat, the online public access catalog shared by libraries around the world. The report provides information about information consumers and their online habits, preferences, and perceptions. Its information is placed in the context of technological and economic shifts since 2005, and looks at varying age and employment groups. It found that among college students surveyed, 99% used email and 92% used social networking and social media sites (such as Facebook). It found that college students overwhelmingly (83%) begin their information searches using search engines such as Google, although at lower rates than in 2005 (92%). Substantially more students in 2010 (43%) than in 2005 (31%) felt that information from library sources was more trustworthy than from general internet search engines. Satisfaction with both Google and library databases in 2010 trended down from 2005, while borrowing print books from libraries and library leisure reading stayed relatively stable. The ERIAL (Ethnographic Research in Illinois Academic Libraries) project at Illinois Wesleyan, DePaul University, Northeastern Illinois University, and the University of Illinois's Chicago and Springfield campuses enlisted anthropologists to examine students’ study behavior (Duke & Asher, 2012). It also found that students relied heavily on Google and general internet sources, but found that, without intervention, students were not able to navigate or assess general internet resources particularly well. Students looked most often to teaching faculty for expert information about what library resources to use in their course assignments while faculty often had
difficulty keeping up with new library resources and modes of scholarly communication. Librarians on these campuses actively sought new ways to bridge these gaps.

2. What Tulane is Doing Now

Tulane University, through its libraries, is a member of the Association of Research Libraries (ARL), a group recognized as the top 114 research libraries in North America. The facilities, services, and resources of the Tulane libraries serve the university’s students and faculty, but are also a major cultural resource for researchers and scholars from throughout the Gulf South region, from other parts of the United States, and internationally, especially for scholarly work in the areas of Latin American studies, jazz studies, and New Orleans history.

The main library, Howard-Tilton Memorial, supports research broadly across the university's academic programs and research activities. Its general collections are housed in the Howard-Tilton building on Tulane's uptown campus and at an off-site storage facility a few miles away. The Howard-Tilton building also houses the Latin American Library, which holds one of the world’s principal collections for Latin American studies. The Howard-Tilton Memorial Library Special Collections Division is located in Jones Hall across from the Howard-Tilton building. It includes the Hogan Jazz Archive, Louisiana Research Collection, Rare Books, University Archives, and the Southeastern Architectural Archive. Howard-Tilton’s Architecture Library is located on the second floor of Richardson Memorial Hall within the School of Architecture.

Three more full-service libraries also support the university's professional schools; these are the Rudolph Matas Library (health sciences), the Turchin Library (business), and the Tulane Law Library. In addition, Tulane is host to a number of other smaller, specialized libraries that enhance research and these include the Amistad Research Center, the Minna F. Koch Memorial Library of Botany, the Nadine Vorhoff Library and Newcomb Archives, and the Alfred H. Clifford Mathematics Research Library.

**Local and Global Linkages**: Tulane's libraries, with more than 4.2 million volumes, represent a depth and a variety of collections of international scope present only at the world’s top research institutions. The collections support the diverse academic profile of the university through a range of collections policies and a liaison program that assigns librarian bibliographers to work in concert with each academic department supported. Much of Tulane’s wealth of rare or archival collections has a regional focus—on Latin America, Southern Mexico, and Central America, or on New Orleans and Louisiana.

Tulane’s libraries have built a large array of digital resources accessible to students and faculty through the campus network. This includes hundreds of research databases and access to articles from more than 70,000 subscription-based journals and other periodicals. It also includes an unusually large number of published digital collections methodically acquired in a rebuilding process after Hurricane Katrina. Today most of the main library’s 700,000 ebooks are from these historical digital collections. The library is employing a web-scale new discovery tool (SearchAll) to provide broader, centralized access to its digital resources, and is using other technology applications to enhance library use online. A new Tulane University Digital Library (TUDL) hosts digital holdings unique to the university, by digitizing selected archival collections.

**Teaching and Learning**: At the main library, many primary services, including research assistance and technology help, have been consolidated within a prototype Learning Commons where library services are offered in partnership with Tulane’s Technology Services. The main library offers all the standard
services offered competitively by other large research libraries: a comprehensive library instruction program, interlibrary loan and document delivery services; graduate student and faculty carrels; campus wireless network access; photocopiers, scanners and networked printing. Even with its growing collections of digital resources, students and faculty check out large and increasing numbers of physical items, mostly books, from the main library’s circulation service points (more than 110,000 annually). In the Learning Commons, large-screen computers are configured to meet the demands of multimedia and digital-based assignments. The area has other features such as a 50" touch screen LCD display for group presentations and a high-resolution flatbed and document scanner. On the 4th floor of the main library is a Music and Media Center that is the primary service point for a new general circulating collection of more than 40,000 music and nearly 20,000 audio-visual recordings. The Matas Library (health sciences) on the downtown campus and the Tulane Law Library also provide a broad range of services for their professional schools. The Turchin Library at the A.B. Freeman School of Business, with a smaller staff and facility, provides a more limited range of resources and services. This is true of the other specialized libraries as well.

**Research Synergies/Data Management:** The main Howard-Tilton Library and the Matas Library have been working in partnership with Tulane Technology Services on developing a program of research support services addressing e-science, including those that would address data dissemination, management, and curation needs brought about by grant requirements from the funding agencies such as the National Science Foundation (NSF) and the National Institutes of Health (NIH). The program envisions an institutional repository for Tulane University.

**Student Experience:** Mostly due to the condition of its two main library buildings, Tulane’s library facilities today are an obvious weakness. The 40,000 square-foot ground floor level of the Howard-Tilton building was effectively destroyed by flooding after Hurricane Katrina in 2005. It remains gutted. It housed large collections and the building's heating, ventilation and air-conditioning (HVAC) mechanical systems. A “temporary” HVAC system is still in use. The ground floor of Jones Hall, which housed a portion of the library’s archival collections, flooded as well. The university will reconstruct the library’s flooded spaces in two additional floors atop the Howard-Tilton building through build-back and hazard mitigation programs offered by the Federal Emergency Management Agency (FEMA). Construction for this project is projected to begin in summer 2012.

Despite obvious compromises to the Howard-Tilton building, retrofitting a portion of its 1st floor to create the prototype Learning Commons and reading areas on the 3rd floor to create a similar Study Commons after Katrina produced dramatic increases in average entrance door counts. Today the library is easily the most popular study space on the uptown campus.

**Building Opportunities:** In the FEMA-funded build-back project, spaces within the new top (6th) floor of the main library will be reconfigured in an architecturally dramatic new space with Media, Music, Art, Architecture, Microform (rar facsimile), and Rare Book collections focused around a central service point. The two new floors from the build-back project will return the library to pre-Katrina capacity, but the library will still lack space for growth and its off-site facility is full. Renovation of the lower floors of the building and provision for future growth and enhanced user and collections spaces will need to be addressed in a separate, broader project called the Library Renewal Plan. The purpose of the Library Renewal Plan is to define the space needs and building improvements required for the main library facilities at Tulane's uptown campus location to serve the university for the future. The presently gutted ground floor of the main library will not again be used for library collections. Instead, it provides
an area larger than a football field for another use universally cited as a critical campus need: a large number of new classrooms.

**What Tulane Should Do**

- Capitalize more directly on Tulane’s library assets
  - Tulane has one of the top research libraries in North America. The university should examine or consider its current resource assets such as libraries when considering new programs or areas of emphasis
  - Encourage use of library assets among faculty and researchers, and thereby students
- Focus on the Library Renewal Plan as a means to
  - Address optimal library, learning, and study spaces for the next several decades
  - Utilize the empty ground floor in the main library to address the critical campus need for new classrooms uptown
  - Expand Learning Commons and other popular technology-equipped user areas
  - Provide a more efficient, coordinated, and centralized location for some library services and resources presently located apart from the main Howard-Tilton building, thereby potentially freeing additional campus space for new classrooms
- Increase focus on preservation and digitization of unique library collections
- Adapt delivery of resources to accommodate mobile/wireless devices and new technology applications
- Explore opportunities for increased collaboration among potential campus partners and among other libraries to support teaching and learning; develop focus on library instruction (information fluency), research support, and changes in scholarly communication

**Works Cited**


