

INFRASTRUCTURE SUBCOMMITTEE REPORT

Prepared for

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Infrastructure Subcommittee Report

INTRODUCTION

In a comprehensive consideration of the infrastructure needs of the University, we must have practices and decision-making processes that support the long-term infrastructure plans for the entire University. This includes buildings, modern laboratories, information technology, and utilities. Mutual support among the campuses can help avoid unnecessary duplication of core facilities. A means of eliminating non-essential redundancy through development of a centralized entity to review development plans on all campuses should be developed. One method would be appointment of a multi-campus group of broad-view faculty and staff to make recommendations to the Lawrence Campus Executive Vice Chancellor/Provost and the KUMC Executive Vice Chancellor.

FACILITY CONSTRUCTION

Part of the challenge that the University faces on all of its campuses is that the 20th-century State-funding process has all but evaporated. Adjustment to this change has not yet been fully implemented, either KU or in State administrative processes. For example, the typical State process to design, approve, bid, and construct a major building requires four years. In contrast, on the Lawrence campus, the \$40 million Multidisciplinary Research Building (MRB) was designed, approved, bid, and constructed in 15 months by combining the efforts of the KU Endowment Association and the KU Center for Research using corporate flexibility to avoid much of the current State bureaucratic process. University Architect Warren Corman estimates that the savings from avoiding inflation was at least 10% of the total cost of the project; in addition, the research scientists were able to move into the building and attract additional grants almost three years earlier than would have been possible if the State processes had been utilized.

The bottom line is that sufficient technical administrative and financial expertise exists on both campuses to eliminate or at least drastically reduce the bureaucratic processes imposed by the State. Legislation enacted in 2009 in Topeka (i.e. Senate Bill 9) will reduce by more than a year the four-year schedule for buildings that do not have State funds supporting the design or construction.

Long-term development on the West Campus in Lawrence has been hampered by a lack of funds required to develop a workable plan for delivering a suitable infrastructure for utilities. For example, when the MRB was built, there was discussion about preparing a central heating and cooling facility to handle subsequent facilities such as the new Pharmacy Building. Because of budget limitation in the MRB project, the few tens of thousands of dollars needed were not spent to prepare for the additional buildings. Less than two years later, roughly \$750,000 had to be spent to provide utility connection from MRB to the third phase of the Structural Biology Center. Partly as a result of this experience and by order of the Executive Vice Chancellor/Provost, the Lawrence Campus now has a 3% infrastructure fee on all new construction whereby 3% of the project cost for all new construction is deposited in a Campus-wide infrastructure account. In order to optimize the use of this infrastructure fund, the Master Plan for West Campus in Lawrence needs to be updated

Many KU students, faculty and staff, as well as the public, are increasingly interested in “green” construction and sustainability in general. Unless and until this makes economic sense, under current State policies we are generally constrained to use the low-bid contractor, who may or may not be committed to green construction. This issue starts with design, because if we don’t select the right architects and engineers and provide them with proper guidance and adequate funds within the project budget, discussion of green construction is moot.

The financial challenges for both new construction and deferred maintenance are daunting. The use of bonding in which some other entity pays the first 5 or 10 years of bonds has significant risk associated with it in the remaining years of the bond payments, thus its use is limited and can constrain the future flexibility of the University. For example, on the Lawrence Campus, the bonds for the MRB and for the Structural Biology Center seriously diminish flexibility in the KUCR budget for the next decade at least, while additional commitments begin on bonds that come due in 2012. Bonding via outside entities is one tool that can be used for critical facilities that could not otherwise be constructed, but it is not the solution for the majority of our future infrastructure requirements.

EFFECT OF PREVIOUS BUDGET CUTS

With budget cuts, the mantra from the State, the Board of Regents, and from the KU administration has been to cut “administration” or non-academic and support units

first and to hold “instruction” harmless, while still maintaining growing research enterprises. This has resulted in repeated budget cuts to support units such as Facilities Operations and Environment, Health and Safety that have jeopardized the University’s ability to withstand inspections from agencies such as the Environmental Protection Agency (EPA). This is true throughout the Regents system, as KSU paid a fine of more than \$90,000 in 2004 (reference:

http://www.epa.gov/region7/businesses/consent_agree_final_order/2004/kansas_state_univ_manhattan_ks021004.pdf)

Both KUMC and the Lawrence Campus have difficulty in satisfying the requirements of the EPA and other government regulatory agencies regarding laboratory safety and operations. The interdependency of academic, research, and administrative functions must be more broadly recognized. Progress and growth in academic and research areas will become more and more dependent on an increasingly sophisticated and capable administrative structure and physical infrastructure to support them in the face of a tidal wave of external regulation. This reality must be recognized by the entire University community.

The one-university mantra has made budget-cutting efforts more challenging because cuts on one campus may have unintended deleterious effects on the other campus. For example, certain library assets housed on one campus may be more essential on the other campus.

SCIENTIFIC CORES: DEVELOPMENT, OPERATION AND REVIEW

This section defines and describes operational guidelines for facilities that are necessary to modern laboratory research in many fields of investigation. As discussed here, a core is a facility providing equipment, services and/or technical expertise that is available to a large number of users from within or outside of the university. It typically may be associated with a center, institute or other institutional entity, and may or may not have received federal funding. Its utilization may or may not be restricted to members of that center or institute.

Assumptions

Cores represent essential components of the research infrastructure at both the University of Kansas in Lawrence and the University of Kansas Medical Center in Kansas City. They provide opportunities to acquire specialized equipment, to develop new cutting-edge approaches to science, to provide highly specialized knowledge,

training, and service beyond the scope of most laboratory personnel, and to provide a cost-effective and efficient means to perform routine laboratory activities common to many research programs.

Cores are not only important for conducting research, but are essential for obtaining research funding. For example, a core can make a critical difference in competing for investigator-initiated research grants by providing assurances that aspects of the research can be completed successfully even if the principal investigator is not skilled in that area. Moreover, cores are integral components of many larger grants; cores represent the primary function of the Intellectual and Developmental Disabilities Research Center and other center grants, and play significant roles in COBRE and INBRE grants.

Because of their many benefits, the development and operation of cores must be encouraged by the University. This can be best accomplished through targeted start-up funding and by providing lower levels of ongoing support, possibly from indirect grant funds. However, resource allocation must be determined by the need, functionality and performance of the core, and must be supported by metrics that will be reviewed on a regular basis.

Expectations

Justification for a new core must be very strong, must avoid overlap with existing cores, and must have a large potential user base. Where overlap currently exists, efforts need to be made to consolidate wherever possible to make operations more cost-effective. A core must have a plan for becoming at least partially self-supporting. This is likely to occur through both user fees and support from external grants awarded to centers or individuals. Cores are unlikely to be totally self-sufficient, particularly in the early stages of development. Thus, the need for institutional funds is likely to be greatest soon after a core is established, and where appropriate, may diminish over time.

Cores should seek investment from multiple user groups or entities (centers, programs, institutes, departments) whenever possible. A core should strive to maximize its user base within the constraints of its resources. Cores must adapt to changing needs and environments. Services that may be relevant at one time may be better outsourced at some later stage. A core must review its services periodically to ensure relevance and cost-effectiveness; users should be surveyed to ascertain whether existing services are needed and if new services are required.

Review processes

Review of cores is currently done on an *ad hoc* basis in response to requests by the Vice Provost for Research and Graduate Studies at KU-L or by the Associate Vice Chancellor for Research and Graduate Education at KUMC. While there is excellent communication across the two campuses, the review process would benefit from a more formal bicampus evaluative process. The review should be done by individuals knowledgeable and familiar with scientific core activities on both campuses. These reviews should be based on objective data, and result in recommendations regarding justification for establishing new cores, operational success of existing cores, and allocation or reallocation of resources to existing and new cores. Criteria for continued support include a strong degree of relevance to University research objectives, a substantial user base, service quality that is perceived by users as being high, and a largely self-supporting fiscal structure.

Information on all University cores, irrespective of funding source, was compiled within the past year by an administrative committee appointed by Vice Provost Steve Warren.

CREATING KU'S WORLD-CLASS INFORMATION ENVIRONMENT

To support world-class research, instruction, creativity, and healthcare, KU should design and implement a high-end technical infrastructure spanning all four campuses that anticipates the needs of our faculty, staff, and students. This infrastructure will provide:

- Easy, secure, policy-based access to information resources and technology-based services
- Seamless interoperability of technologies
- Capacity to meet demand as it arises
- Reliable, predictable performance
- Capability for collaboration, experimentation, and innovation

We will provide leadership in establishing an information architecture that drives this technical infrastructure. KU will pursue the early adoption of new infrastructure technologies when the benefits are compelling and the risks acceptable. Investment decisions will be driven by user needs, capability and functionality, cost, and the University's emerging information architecture.

To develop and manage the infrastructure, Information Technology and Library leadership from Kansas City, Wichita, Lawrence, and Overland Park will initiate a regular recurring (initially biweekly) planning process for

- Optimizing communication and collaboration
- Identifying common activities and minimizing unnecessary duplication
- Identifying, as useful, common technology standards and best practices
- Executing inter-campus initiatives including shared purchases where cost-effective.
- Assessing the environment for emerging technologies, business processes, legislative and regulatory changes, *etc.*
- Keeping informed about new developments from the State's perspective
- Assessing on an ongoing basis user requirements and satisfaction

We have identified the following strategic goals for building a world-class information environment during the three years commencing with FY2009.

- 1) *Identity management.* Create seamless access to resources and services for faculty, students, staff, and affiliates through identity management strategies that render location and administrative affiliation irrelevant.
- 2) *Coordinated purchasing.* Maximize institutional financial investments and productivity potential by coordinating the specification and purchase of application software, equipment/hardware, and supporting services whenever feasible.
- 3) *Promote collaboration and communication across campuses and beyond.* Evaluate and deploy technologies and protocols that enable effective, high-quality communication and collaboration on and among KU campuses with colleagues and partners anywhere in the world.
- 4) *Assure fast, reliable, and adaptable converged networks.* Design and deliver consistently reliable and expansive broadband connection continuity and quality of service (QOS) configuration among campuses.
- 5) *Protect Institutional Information assets and operational integrity.* Ensure the University's ability to recover and resume its business in the event of disaster or sustained emergency with integrated planning for Business Continuity/Disaster Recovery.

- 6) *Develop a mutually-supportive service environment.* Identify and implement strategies for sustainable service partnerships and shared service approaches where feasible with a plan for Service Management & Customer Support for relevant Library and Information Technology services activities.

RECOMMENDATIONS

Recommendation 1: KU should undertake a comprehensive effort to access the infrastructure necessary to support world-class research and educational activities. The goal of this effort must be to lower the barriers to success in a globally interconnected world with enormous opportunities but limited resources. Enhanced success in this environment will require hard decisions in terms of what to invest in and support locally and what to acquire from the global marketplace.

Recommendation 2: Core labs that provide analytical and other service-related capabilities to multiple investigators should, where appropriate be supported by partial cost-recovery from user fees and grant resources to offset institutional funding. They will undergo periodic bicampus review, with continued resource allocation based on objective criteria concerning quality and impact of the core.

Recommendation 3: To further develop and manage the infrastructure, Information Technology and Library leadership from Kansas City, Wichita, Lawrence, and Overland Park will initiate a regularly recurring planning process.

Recommendation 4: The Chancellor should consider appointment of a multi-campus group of broad-view faculty and staff to make University-wide infrastructure recommendations to the Lawrence Campus Executive Vice Chancellor/Provost and the KUMC Executive Vice Chancellor.

Recommendation 5: Budget models should be developed that provide for sustainable operation of infrastructure, critical services and utilities.