



Legislative Fiscal Bureau

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Joint Committee on Finance

Paper #185

Medical College of Wisconsin Translational Research Equipment (Building Program) and Translational Research (Medical College of Wisconsin)

Base Agency

[LFB 2007-09 Budget Summary: Page 384, #1, Page 625, #1, Page 629, #2 and Page 632, Item #6]

CURRENT LAW

Building program projects with costs exceeding \$500,000 are required to be enumerated in the authorized state building program. To enumerate a project, the Legislature lists the project title and budget in a nonstatutory provision enacted as part of the biennial budget bill. In addition, the Legislature must authorize any new bonding or other monies needed to fund the project.

BUILDING COMMISSION

Enumerate the acquisition of \$12 million in translational research program equipment in Wauwatosa at the Medical College of Wisconsin (MCW). Authorize the Building Commission to issue up to \$10 million in GPR-supported bonding to aid in the acquisition and installation of the equipment.

Modify the following provisions of current law related to MCW's biomedical research and technology incubator as follows: (a) change the MCW's biomedical research and technology incubator debt service appropriation to allow for debt service payments to be made for grants, rather than just construction grants; (b) modify the legislative findings, which state that it is in the public interest and a policy concern of the state to assist MCW in the construction of a biomedical research and technology incubator, to also reference the installation of equipment; and (c) modify the grant requirements that have to be met before the Building Commission can make a grant to the MCW to refer to the cost of installation of equipment.

GOVERNOR

Provide \$2,500,000 GPR in 2008-09 to MCW for a translational research program. Define translational research as the transfer of knowledge gained from basic research to new and improved methods of preventing, diagnosing, or treating disease, as well as the transfer of clinical insights into hypotheses that can be tested and validated in a basic research laboratory. Specify that MCW could not use these moneys to supplant funds available for translational research from other sources. Require MCW to report annually to the appropriate standing committees of the Legislature and the Governor on the research projects conducted under this program in the previous fiscal year.

DISCUSSION POINTS

Building Commission Recommendation

1. The Building Commission unanimously approved the enumeration of a translational research program equipment purchase at MCW in Wauwatosa as part of the 2007-09 state building program at a cost of \$12 million, including \$10 million in GPR-supported bonding and \$2 million in federal funding. The funding would be provided to MCW to purchase and install a 7 Tesla magnetic resonance imaging (MRI) long-bore scanner. MCW estimates that the equipment would cost \$6 million and that the building renovations required for installation of the equipment would cost an additional \$6 million for a total project cost of \$12 million. MCW anticipates that it would be able to secure \$2 million in federal grant money for this project.

2. In 1992, MCW developed a technique known as functional MRI along with two other medical centers. This technique is used to diagnose and monitor patients with a variety of disorders, including brain tumors, stroke, epilepsy, drug abuse, Alzheimer's disease, Parkinson's disease, Huntington's disease, attention deficit disorder, multiple sclerosis, head injury, visual disorders, gastrointestinal disorders, and schizophrenia.

3. The primary component in an MRI system is the magnet. The magnet in an MRI system is rated using a unit of measure known as a Tesla, which is named after Nikola Tesla, a famous physicist who identified the concept of a rotating magnetic field. MCW indicates that the 7 Tesla MRI appears to be the optimal level of strength that can be used for human medical research without compromising patient safety. Currently, MCW owns and operates two lower strength 3 Tesla MRI scanners, which are used for a mix of patient care and human and animal research, and one 9.4 Tesla MRI scanner, which is used exclusively for animal research. These MRI scanners were purchased using a mix of federal funds and MCW institutional funds. MCW also has access to four 1.5 Tesla MRI scanners which are owned by Froedtert Hospital in Milwaukee and are used for both patient care and human research. In addition, there are two 1.5 Tesla MRI scanners located at the Children's Hospital; however, these are used exclusively for patient care.

4. The technique of functional MRI allows researchers and clinicians to diagnose and monitor patients with certain diseases and disorders by tracking certain chemicals found in their

brains. As these chemicals may be present in very low concentrations, they may send off only very small MRI signals. Such signals may not be detected by the technology currently in use at MCW but might be detected by the 7 Tesla MRI scanner.

5. MCW indicates that the purchase of the equipment would have a statewide benefit by increasing the flow of out-of-state research funding to Wisconsin, creating new jobs, and through the future transfer of this research into new companies and products that would support the expansion of the state's economy. In addition, MCW indicates that the equipment would ultimately result in improved diagnosis and treatment of diseases that would improve the health of Wisconsin citizens. Finally, MCW indicates that MRI researchers at MCW have established numerous close collaborative efforts with investigators at other institutions in the state, including Marquette University, UW-Milwaukee, UW-Madison, and the Milwaukee School of Engineering.

6. One of the criteria that the Building Commission has established for local or non-state projects is a 50% match requirement. In order to meet this requirement, the Committee could reduce the recommended GPR-supported bonding to \$6 million, which would require MCW to raise \$4 million from other sources in addition to the \$2 million in federal funding MCW has indicated would be available for the equipment.

7. In considering the level of matching funds from MCW, two recent major projects can be used for comparison. The 2005-07 Wisconsin Institute for Discovery project enumeration at UW-Madison was funded with \$50 million in GPR-supported and \$100 million in gifts, grants, and other receipts, or a 2-to-1 non-state to state funding match. Similarly, the 2005-07 state building program included the enumeration of a \$40 million Children's Research Institute at Children's Hospital in the City of Wauwatosa, which was provided \$10 million in state GPR-supported bonding that covered 25% of that project's cost.

8. However, MCW officials indicate that when this equipment purchase request is taken in conjunction with the construction of MCW's biomedical research and technology incubator, where the 7 Tesla MRI scanner would be housed, MCW would exceed the match requirements. Under 2001 Act 16, the state provided \$25 million in GPR-supported bonding to aid in the construction of an \$88 million MCW biomedical research building. MCW provided the remaining \$63 million in funding from gifts, grants, and other receipts. Adding the current request, the two biomedical research enumerations would total \$100 million, with state funding for the projects being \$35 million, or 35% of the total costs of the two enumerations.

9. While health-related non-state projects have been deemed worthy and have been funded with GPR-supported borrowing in recent years, given the statewide demands on the state's general fund budget, such projects may no longer be considered a priority use of GPR-supported borrowing. It is likely that the first debt service payment on the GPR-supported bonds issued for the equipment purchase would not occur until 2008-09, or later. Therefore, there would likely be minimal, if any, GPR debt service costs in the 2007-09 biennium associated with the bonding recommended for the project. However, under a twenty-year, flat repayment structure, the annual debt service costs once the bonds are fully issued would result in debt service payments of an

estimated \$800,000 GPR annually. In total, the state costs associated with the exhibit would be an estimated \$16 million GPR over the twenty-year period. These annual debt service costs would be in addition to the existing debt service associated with MCW's business and biomedical research incubator, which is estimated at \$1,893,700 in 2006-07.

Translational Research Program Funding

10. The Governor's budget would provide funding to support the operation of the 7 Tesla MRI scanner. According to documents from MCW, these funds would support maintenance contracts, nursing and biomedical support services, technical support, equipment updates, data analysis stations, biostatistical and research support staff, and new scientists. MCW reports that 74 faculty, staff, and graduate students are involved in imaging research.

11. Over the past five years, scientists working at MCW in the field of functional MRI have secured more than \$35 million in federal research grants. In addition, functional MRI research at MCW has resulted in 10 patents are that currently in commercial development. MCW hopes that by investing in this new technology it will be able to maintain or increase the amount of federal grant money it receives. MCW has identified its functional MRI research as conforming to the National Institute for Health's (NIH) new emphasis on patient-oriented research.

12. MCW requested \$4.3 million biennially be added to its base budget to support the operation of the 7 Tesla MRI scanner. The Governor's budget provides \$2.5 million to MCW in 2008-09, which is the base year for the 2009-11 biennium. Under the Governor's recommendation, MCW would have biennial funding of \$5.0 million in the 2009-11 budget for this purpose. As an alternative to SB 40, the Committee could choose to provide MCW with \$2,150,000 in 2008-09. This would have the effect of providing MCW with a biennial amount of \$4.3 million in the 2009-11 biennium.

13. Currently, there are two GPR appropriations that support operations at MCW. The first of these appropriations, equal to \$2,052,500 GPR annually, is used to subsidize tuition for Wisconsin state residents enrolled at MCW. The second of these appropriations, equal to \$3,371,900 GPR annually, supports the recruitment and training of medical students and residents in family and community medicine. The purpose of both of these appropriations is to train physicians who are likely to practice in the state.

14. At present, MCW does not receive any GPR funding to support its research program. Instead, MCW uses a mix of federal and institutional funds to support these activities. As an alternative to SB 40, the Committee could decide to delete this provision. MCW would then have to rely on non-state funding to support the operation of the 7 Tesla MRI scanner, if acquired, as it does for the operation of its existing MRI scanners.

ALTERNATIVES TO BASE

A. 2007-09 State Building Program Enumeration

1. Approve the Building Commission's recommendation to enumerate the acquisition of \$12 million in translational research program equipment at MCW in Wauwatosa as part of the 2007-09 state building program. Authorize the Building Commission to issue up to \$10 million in GPR-supported bonding to aid in the installation of the equipment.

ALT A1	Change to Bill Revenue	Change to Base Revenue
BR	\$10,000,000	\$10,000,000

2. Modify the Building Commission's request by enumerating the acquisition of \$12 million in translational research program equipment at MCW in Wauwatosa as part of the 2007-09 state building program to be funded with \$6 million in GPR-supported bonding, \$4 million in gifts, grants, and other receipts, and \$2 million in federal funds. Authorize the Building Commission to issue up to \$6 million in GPR-supported bonding to aid in the acquisition and installation of the equipment. (This alternative would result in a 50% match to the state funding.)

ALT A2	Change to Bill Revenue	Change to Base Revenue
BR	\$6,000,000	\$6,000,000

3. Maintain current law. (The project would not be enumerated in the 2007-09 state building program and no funding would be provided.)

B. MCW Operating Budget

1. Approve the Governor's recommendation. Provide \$2,500,000 in 2008-09 to MCW for translational research.

ALT B1	Change to Bill Funding	Change to Base Funding
GPR	\$0	\$2,500,000

2. Modify the Governor's recommendation to reduce funding by \$350,000 in 2008-09. This would provide MCW with \$2,150,000 in 2008-09 for translational research.

ALT B2	Change to Bill Funding	Change to Base Funding
GPR	- \$350,000	\$2,150,000

3. Delete provision.

ALT B3	Change to Bill Funding	Change to Base Funding
GPR	- \$2,500,000	\$0

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