

**SB376\_USM\_FAV.pdf**

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Position: FAV



**SENATE BUDGET AND TAXATION COMMITTEE**

**Senate Bill 376**

**Higher Education – MPowering Joint Steering Council – Funding**

**January 24, 2024**

**Favorable**

Chair Guzzone, Vice Chair Rosapepe and members of the committee, thank you for allowing the University System of Maryland (USM) the opportunity to offer testimony on Senate Bill 376.

The USM is comprised of twelve distinguished institutions, and three regional centers. We award eight out of every ten bachelor's degrees in the State. Each of University USM's 12 institutions has a distinct and unique approach to the mission of educating students and promoting the economic, intellectual, and cultural growth of its surrounding community. These institutions are located throughout the state, from Western Maryland to the Eastern Shore, with the flagship campus in the Washington suburbs. The USM includes three Historically Black Institutions, comprehensive institutions and research universities, and the country's largest public online institution.

During the summer of 2021, Montgomery County, the University System of Maryland (USM) and Montgomery College signed a Memorandum of Understanding (MOU) to create the "Montgomery/Maryland Life Sciences Education and Innovation Partnership" to facilitate collaboration among industry and the academic partners on cutting-edge research. The partnership will allow students from across Maryland to have opportunities to gain work experience and conduct translational research with Montgomery County's industry leaders. It is envisioned that the Montgomery/Maryland Life Sciences Education and Innovation Partnership will guide the future of post-pandemic education, leveraging existing assets to create an economic development powerhouse for Maryland in life and regulatory sciences.

Establishing a physical presence of world-class, postgraduate research programming has been central to this commitment. A structure and physical plant that would be scalable to the future aspects, needs, and opportunities fueled by the life sciences industry. The Partnership is committed to the idea that Maryland remains a premier location for biotech industry advancement. The proposed center of excellence will provide the opportunity for co-location, collaboration, and synergy among industry, academia, Federal and nonprofit research organizations within Montgomery County.

UMB and UMCP, in partnership with the University of Maryland Medical System, Montgomery County, Md., and collaborators at the Universities at Shady Grove and the University of Maryland, Baltimore County, announced a transformative new medical research and academic institute that will use artificial intelligence (AI), virtual reality, and other emerging technologies to improve healthcare in Maryland. The new institute will leverage recent advances in AI and computing to create a premier learning health care system that evaluates both de-identified and secure digitized medical health data to diagnose, prevent, and treat diseases in patients.

The University of Maryland Institute for Health Computing is the latest strategic initiative of MPower, which brings together the complementary strengths of UMB and UMCP to strengthen Maryland's innovation economy, promote interdisciplinary research, and create more educational opportunities for students. The institute will catalyze a clinical data science ecosystem in North Bethesda, Md., and attract Food and Drug Administration and National Institutes of Health investigators; UMB and UMCP faculty, medical bioinformatic educational programs, and students; and industry partners, allowing for the expansion of computational "dry" laboratories, virtual meeting rooms, and classrooms.

The funding proposed by the legislation will allow for additional, permanent resources to support the Institute as it scales up to increase the volume of research conducted and to secure extramural funding, as well as to support other economic impact initiatives including job creation, company formation, and private investment.

For these reasons, the USM urges a Favorable Report on Senate Bill 376.



Contact: Susan Lawrence, Vice Chancellor for Government Relations, [slawrence@usmd.edu](mailto:slawrence@usmd.edu)

**2024 GBCC SB 376 Support.pdf**

Uploaded by: Ashlie Bagwell

Position: FAV



**Testimony on behalf of the Greater Bethesda Chamber of Commerce**

*In Support of  
Senate Bill 376—Higher Education—Mpowering Joint Steering Council--Funding*

*January 23, 2024  
Senate Budget and Taxation Committee*

On behalf of the Board of Directors and the 600+ members of the Greater Bethesda Chamber of Commerce, I am writing to express our support for the proposed amendment to **Senate Bill 376, Higher Education – Mpowering Joint Steering Council – Funding**.

Located in the Pike District, North Bethesda's urban core, The University of Maryland Institute for Health Computing (IHC) is a transformational life science partnership founded to research and improve the health of citizens in Maryland and beyond. The bill seeks to codify dedicated operational funding for the IHC in graduated amounts commencing in FY 2026.

The Greater Bethesda Chamber of Commerce strongly supports the mission of IHC in North Bethesda and requests the committee's passage of Senate Bill 376.

# **SB376 Higher Education – MPowering Joint Steering**

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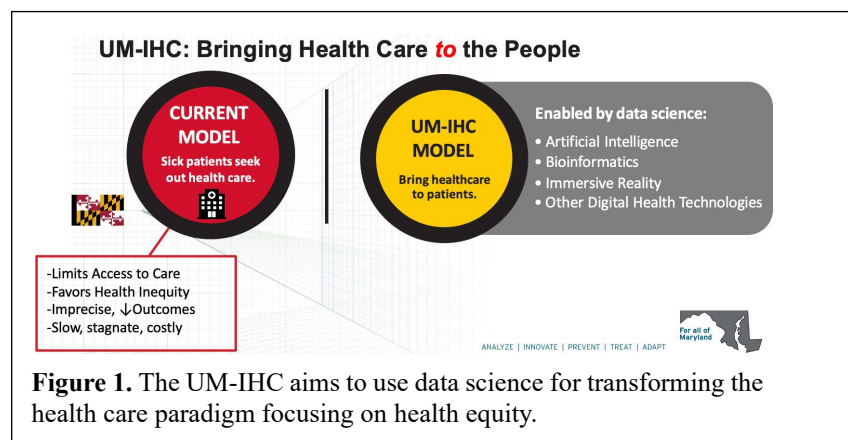
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## TESTIMONY IN SUPPORT OF SB 376 Higher Education – MPowering Joint Steering Council

January 24, 2024

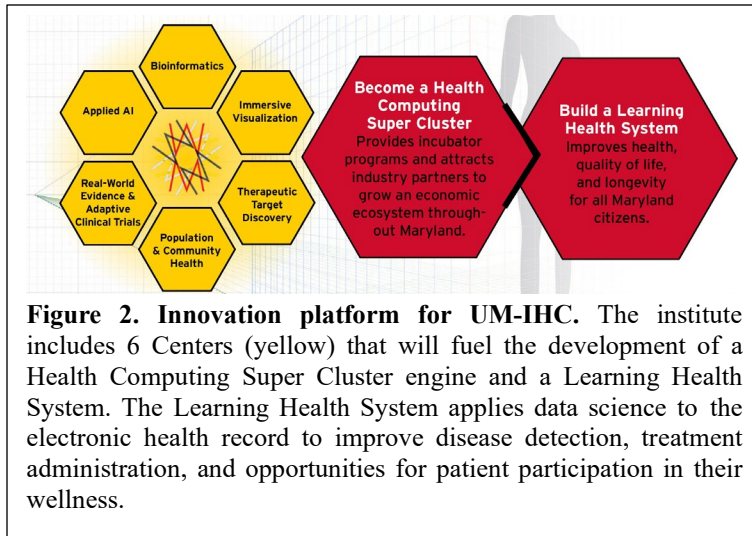
### Background and Goals

The University of Maryland-Institute for Health Computing (UM-IHC) is a unique collaboration between Montgomery County; the University of Maryland, College Park (UMCP); the University of Maryland, Baltimore (UMB); and the University of Maryland Medical System (UMMS). The UM-IHC serves as a hub for life science innovation and collaboration in Montgomery County, connecting federal agencies, startups, and private companies in the field. The institute leverages cutting-edge computation, artificial intelligence, and immersive visualization to advance biotech research and improve population health. Strategically located in North Bethesda to foster economic development and job creation by attracting and supporting life science businesses and entrepreneurs, the institute advances interdisciplinary research and innovation in the field of life science by providing a platform for collaboration among industry, federal agencies, and universities. The overarching goals of the UM-IHC are to leverage data science to decrease disease burden and improve wellness among all Maryland citizens by focusing on health equity and, in doing so, stimulate substantial economic expansion in the life sciences sector throughout the state. The UM-IHC seeks to transform the health care paradigm by using data science to build a proactive system defined by early disease detection, greater opportunity for patient engagement in health care, and deployment of treatment interventions that are efficient and effective. This approach addresses existential problems that plague current health care systems, which are costly, inefficient, and often biased (**Figure 1**).



### Overview of UM-IHC

UM-IHC is uniquely equipped to have a significant impact in Maryland. Our focus on both economic development and research sets us apart from other university institutes. Our proximity to life science companies and federal institutions enables us to collaborate more effectively, share



**Figure 2. Innovation platform for UM-IHC.** The institute includes 6 Centers (yellow) that will fuel the development of a Health Computing Super Cluster engine and a Learning Health System. The Learning Health System applies data science to the electronic health record to improve disease detection, treatment administration, and opportunities for patient participation in their wellness.

ideas, and conduct overlapping research. Accomplishing our goals requires top-notch data scientists, clinical content experts across disease and therapeutic areas (physicians, nurses, social workers, pharmacists, and other allied experts), and an accessible and diverse clinical population. Each of these entities is well-represented at UM-IHC via on-site contributions from UMCP, UMB, and UMMS— institutions that have made significant contributions in the fields of computer science, biomedical and

clinical innovation, and clinical operations. Additionally, we have access to the remarkably diverse de-identified UMMS patient dataset. This is crucial for research that has a positive impact on the health of both state and global populations. The UM-IHC is distinguished nationwide by its competency in advancing ideas using data science from concept/discovery to clinical application at the neighborhood level and commercialization at scale. Success at UM-IHC hinges on adequate financial support to advance programs in six UM-IHC Centers (**Figure 2**): Applied Artificial Intelligence, Bioinformatics, Therapeutic Target Discovery, Extended Reality and Immersive Visualization, Population and Community Medicine, and Real-World Evidence and Adaptive Clinical Trials.



## Impact

Montgomery County has over 300 biotech companies, and Maryland has over 40,000 biotech workers. Our area, which is commonly referred to as the Capital Biotech hub, ranks third in the nation (just below Mission Bay and Boston) based on patents, grants, lab space, and venture capital funding. To grow the Capital Biotech hub, UM-IHC

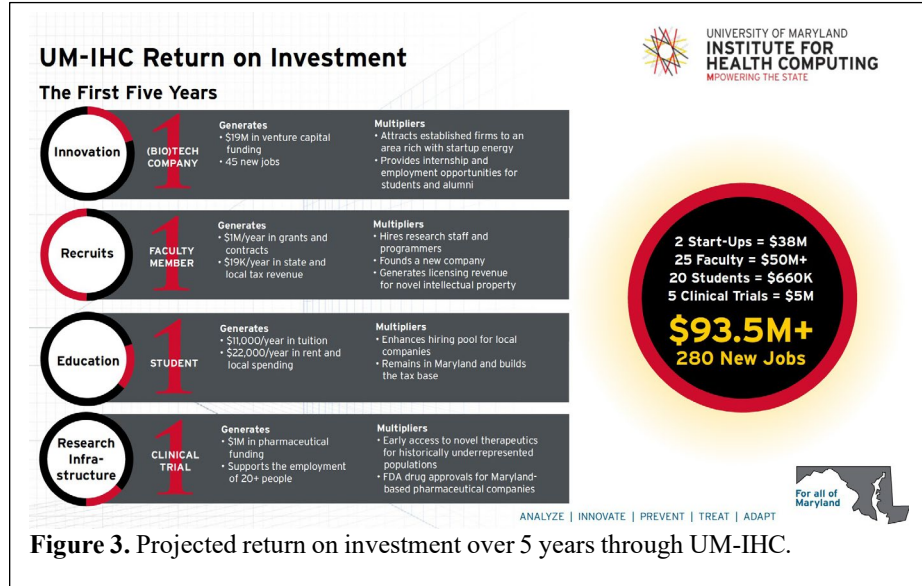


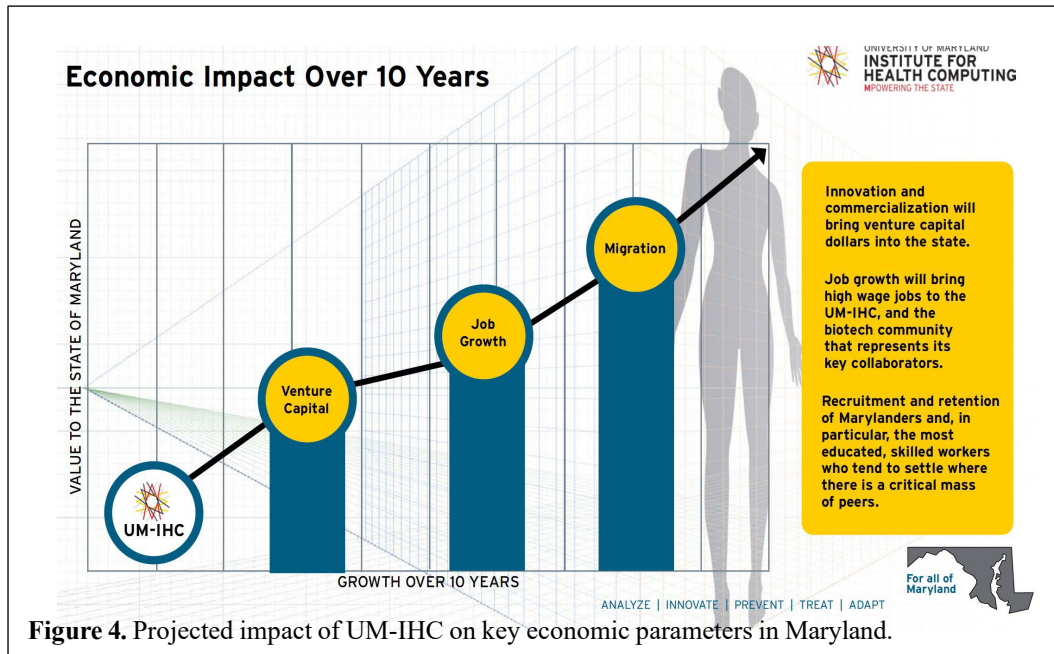
Figure 3. Projected return on investment over 5 years through UM-IHC.

will collaborate with local startups, federal agencies, and private companies by providing resources and expertise. These collaborations will contribute to both foundational and translational research. UM-IHC will host biotech community-building activities by organizing events, workshops, and symposiums. UM-IHC realizes that creativity and knowledge are the driving forces for economic development and is devoted to developing the next generation of talent. We will also provide executive education classes for professionals who want to gain cutting-edge skills. State funding is critical to ensure the success of the UM-IHC, which is committed to generating a substantial return on investment across several economic parameters (Figure 3).

The biotech community is witnessing the emergence of novel technologies in computational biology, artificial intelligence, immersive visualization, and computing resources and algorithms to handle big data that are leading to health care innovations. Computational biology is the crucial foundation enabling and advancing gene therapy and personalized medicine. Artificial intelligence and data science are driving the development of new drugs and therapies. We have seen the power of generative artificial intelligence to generate text, images, and videos. This technology is entering the biotech and medical communities and is poised to make a significant impact. Also, extended-reality devices are giving rise to a new area of immersive treatments. These devices allow health care professionals to interact with virtual content and enable scientists and medical professionals to understand and create novel therapies for pain, addiction, stress, anxiety, and phobias that differ from traditional drug-based treatments. Our use of immersive visualization with immense computation and artificial intelligence in health-related research empowers us to tackle problems previously thought impossible.

## **Utilization of State Funds**

We anticipate UM-IHC will have a strong, favorable, longitudinal economic impact on Maryland. The institute will fuel the recruitment of venture capital to invest in Maryland companies at every stage of development in the health and human disease space and attendant job growth across all domains in the life science/biotechnology sector. Job growth will, in turn, drive migration to Maryland (**Figure 4**).



**Figure 4.** Projected impact of UM-IHC on key economic parameters in Maryland.

The UM-IHC aims to set the benchmark nationally by realizing the learning health care system model on a large scale, contributing to economic expansion by interfacing data science with a statewide medical system. Benefits include rural health care access, urban health equity, data-driven care, artificial intelligence-enabled medicine, enhanced patient safety, and lowered cost of clinical care.

## **Distribution of Funds**

State funds would be split among:

- (1) Personnel (40%). UM-IHC personnel include researchers, clinical experts, computer scientists, database engineers, analytics specialists, epidemiologists, biostatisticians, and health economists, staff, post-docs, graduate students, and undergraduate students.
- (2) Computational infrastructure (30%). Artificial intelligence, immersive technology, and big data require fast computational clusters, storage units, power infrastructure, cooling systems, security, immersive devices, and networking infrastructure, along with extended reality equipment, and other hardware and software.
- (3) Startups (10%). UM-IHC will provide computational resources and expertise to startups to turn incredible ideas into products.
- (4) Educational Initiatives (20%). UM-IHC will organize classes, workshops, events, and symposiums for local companies, students, and industry professionals.

## **Conclusion**

With state funding, UM-IHC will have the resources to conduct research benefitting the state and global communities, leading to the growth of our local economy and the development of biotech talents in Maryland. This will propel the Capital Biotech hub to the forefront of biotech research and cement Maryland's position as a leader in this field.

# **SB376 Higher Education – MPowering Joint Steering**

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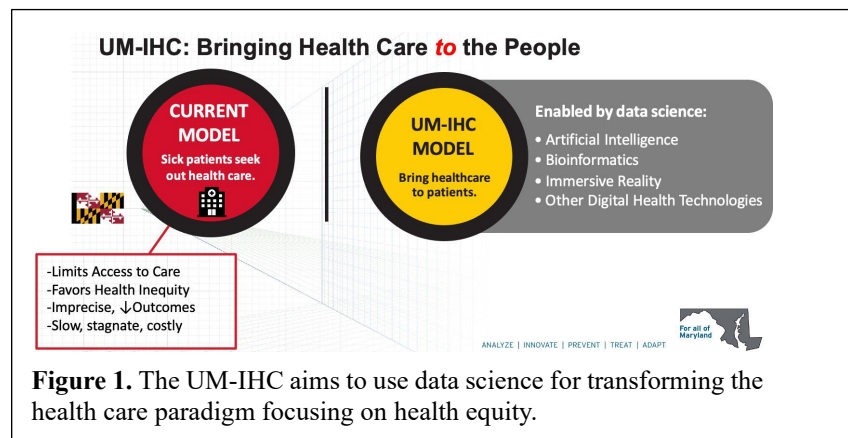
Position: FAV

## TESTIMONY IN SUPPORT OF SB 376 Higher Education – MPowering Joint Steering Council

January 24, 2024

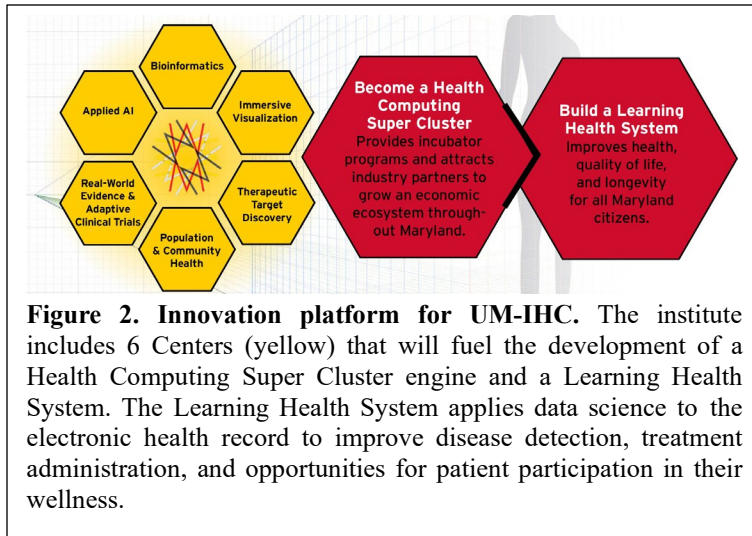
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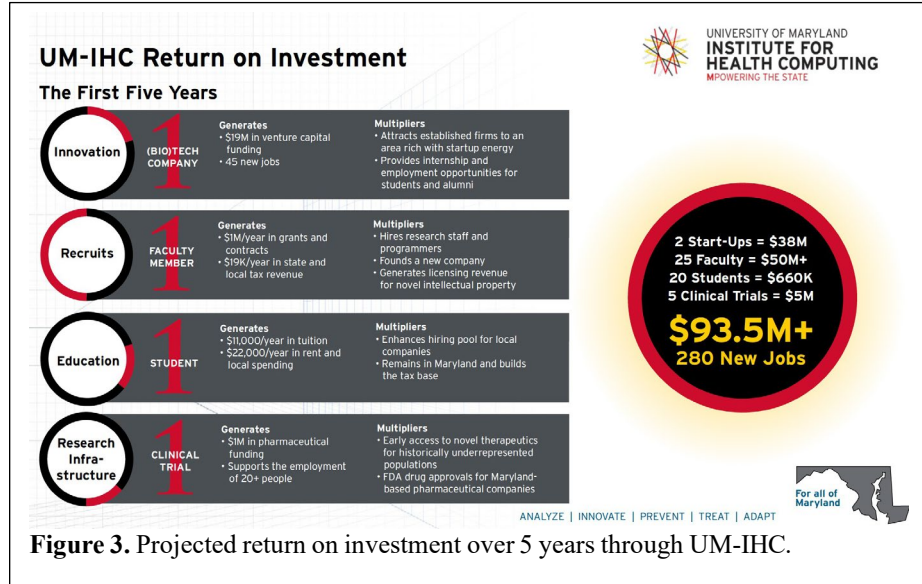


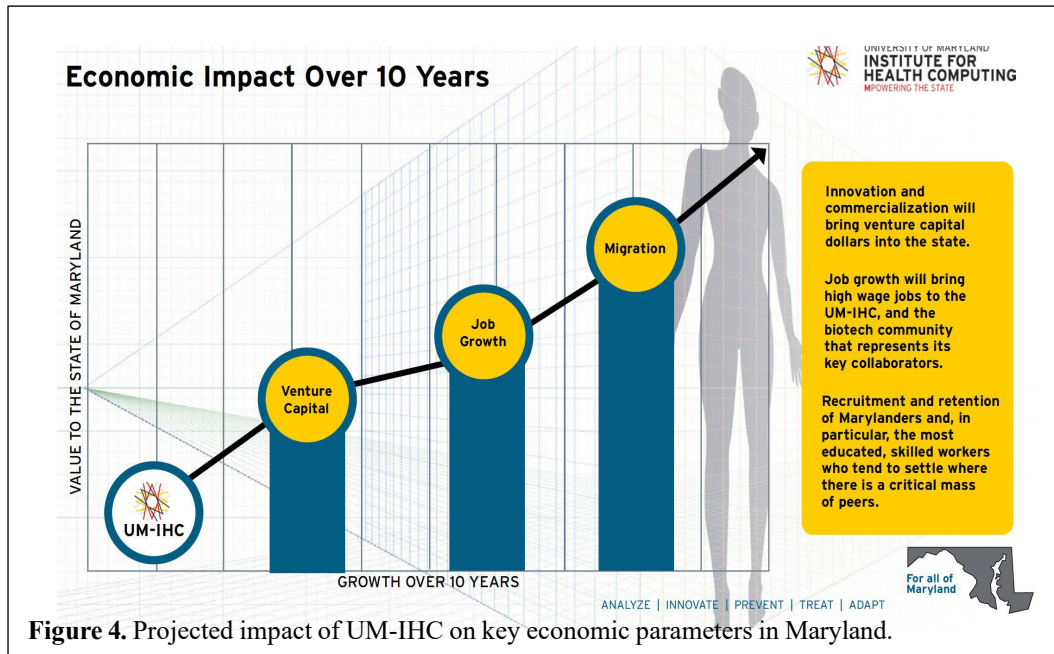
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# **SB376 King SPonsor Testimony.pdf**

Uploaded by: Senator Nancy King

Position: FAV

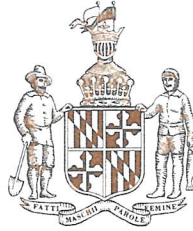
NANCY J. KING  
*Legislative District 39*  
Montgomery County

MAJORITY LEADER

Budget and Taxation Committee

*Chair*

Education, Business and  
Administration Subcommittee



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THE SENATE OF MARYLAND  
ANNAPOLIS, MARYLAND 21401

**SPONSOR STATEMENT**

**Senate Bill 376 – Higher Education – MPowering Joint Steering Council - Funding**

January 24, 2024

Mister Chairman and Members of the Budget and Taxation Committee:

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I respectfully request a favorable report on Senate Bill 376.