

The Massachusetts Governor's STEM Advisory Council
One Ashburton Place, Room 1401
Boston, MA 02108

June 9, 2014

Senator Stephen M. Brewer, Chairman, Senate Committee on Ways and Means
State House Room 212
Senator Jennifer L. Flanagan, Vice Chair, Senate Committee on Ways and Means
State House Room 208
Senator Richard J. Ross, Minority Whip
State House Room 520
Representative Brian S. Dempsey, Chairman, House Committee on Ways and Means
State House Room 243
Representative Stephen Kulik, Vice Chair, House Committee on Ways and Means
State House Room 238
Representative Viriato Manuel deMacedo, House Committee on Ways and Means
State House Room 124

Dear Members of the Conference Committee

We are writing with regard to the state's STEM (Science, Technology, Engineering and Mathematics) initiative, and to respectfully request your consideration of two items that will help strengthen the STEM initiative over the long term and maintain our national leadership on this issue.

With the tremendous support of the Legislature, the Massachusetts STEM initiative is being emulated throughout the nation as a "best practice." Our statewide STEM Plan "Expanding the Pipeline for All", and implementation strategy are yielding a significant return on the Commonwealth's investment. These actions have leveraged tremendous advocacy and funding from the private sector and nonprofits – as well as data proven results. The impact on Massachusetts students is clear.

We are now working more collaboratively than ever before toward a shared set of goals defined in the state plan. And we are expanding the STEM Public Awareness Campaign, the @Scale program, and business engagement efforts. At the same time, we are developing a "data dashboard" to hold the state STEM initiative accountable for measuring progress in the growth of our workforce, education, innovation, and economic development.

As we move forward, there are two elements necessary to sustain the momentum and continue to build the Commonwealth's STEM initiative:

1) Continue to fund the STEM Pipeline Fund at \$1.5 million (7066-0035, Section 2E. House \$1,500,000, Senate \$500,000). Current funding from the most recent Fiscal

Years has been \$1.5 million, which is also the level recommended in House 1. This funding will:

- Enable the state STEM initiative to have the necessary resources to lead, grow and succeed.
- Provide support for the Regional STEM networks that are the catalysts for bringing together leaders from business, education, non-profit organizations and other STEM activists in every region of the Commonwealth to meet the goals of the STEM Plan.
- Provide critical “ seed capital” to all the @Scale projects leveraging matching resources to expand across the Commonwealth and the educational spectrum from K to 16.
- Empower the launch of a new business engagement effort this spring and summer led by the STEM Council, and our honorary Chair Congressman Joe Kennedy. In addition, our new Co-Chair Vertex CEO Dr. Jeff Leiden is committed to add new industry support to the Commonwealth’s very successful STEM initiative.

Now is not the time to reduce the appropriation since we expect to continue to use state funding to leverage private sector investments to maximize impact. ***We respectfully urge that the Senate recede to the House appropriation.***

2) Update the current STEM Pipeline Fund and Goddard Council legislative language (House Section 5, Senate Section 5) to reflect the progress made in the state STEM initiative since the establishment of the Governor’s STEM Advisory Council in 2009.

With the current Council created by an Executive Order, it is imperative that the Commonwealth’s STEM work be continued beyond the current Administration. Governor Patrick joined the legislature by recognizing the need to codify this council by including language in his economic development bill. This Section will serve the dual purpose of codifying the state STEM initiative to ensure its long-term viability and sustainability, while at the same time updating current statutory language that has become somewhat antiquated over time.

The primary differences between the House and Senate versions are:

- The Senate’s language that would change the name from the STEM Advisory Council to the STEAM Advisory Council to account for the inclusion of the creative arts and design communities.
- The Senate’s provision to include a member of the Massachusetts Cultural Council (MCC) on the STEM Advisory Council.

We agree with the Senate's notion that innovation, creativity, design, and communication characteristics that are important in the Arts are very important in STEM education and careers. However, to change the name to the STEAM Council would create confusion, dilute the critical focus of this initiative, and potentially divert dollars from the STEM initiative that is already funded at levels considerably below that in other states.

It is especially important to convey a clear message to the public and the employer community that the Commonwealth is committed to making sure we have a strong labor force prepared in the STEM disciplines. We have come a long way over the years in educating the public that STEM means science, technology, engineering and mathematics. This has happened at both the state and national level. STEM is the name of thousands of efforts across the nation and the one used by the federal government. STEM is the name that has made Massachusetts the hub of innovation.

The heart of the STEM initiative is to provide a pipeline of workers for the jobs of the future. The sectors that stimulate the economic engine of the Commonwealth and are constrained by the shortage of well-prepared workers include: manufacturing, life sciences, cleantech, information technology, cyber security and engineering. These sectors are high priorities for the STEM talent initiative.

The Pre-K-16 educational system still has work to do to integrate fully the four current areas of STEM at the level at which they need to be. The addition of the arts would detract from the focus of supporting student learning in the current STEM areas. Even without specific inclusion of arts in the acronym STEM, educators are using the arts as an instructional strategy to increase interest and achievement in STEM. As reflected in the state's STEM plan, every student should have a broad based, liberal arts education that includes all subject areas – including the arts.

Therefore we feel strongly that it would be a mistake to foster a perception that the mission of the Council might include the arts.

We do not object to the inclusion of representation from the MCC on the Council. ***Therefore we respectfully recommend that the Senate recede to the House language, with the exception of the inclusion of the Massachusetts Cultural Council. We also support any additional changes you may choose to make to this section to align with the Governor's language in his economic development bill since we collaborated with the Patrick Administration on that effort.***

Given the tremendous progress and success we have seen, and the continued importance of STEM talent to employers and the long-term health of the state economy, we respectfully ask for your favorable consideration of these two items.

Thank you for your great support of this effort.

Sincerely,

Members of the STEM Advisory Council

Alex Sanchez, Senior Principal Systems Engineer, Raytheon Company

Barnas Monteith, Chairman, MA State Science and Engineering Fair; Managing Partner and Co-Founder, Advanced Diamond Solutions, Inc.

Bruce Johnson, Director, Technology and Innovation, MITRE

Christos Zahopoulos, Ph.D., Executive Director, Northeastern University Center for STEM Education

Gary DiCamillo, Chairman, Mass. Business Roundtable's Education and Workforce Development Task Force; Partner, Eaglepoint Advisors, LLC

*Ioannis Miaoulis, President and Director, Museum of Science

Isa Zimmerman, IKZ Advisors, STEM Education and Leadership

*James Brosnan, Superintendent, Northern Berkshire Vocational Regional School District

*J.D. Chesloff, Executive Director, Massachusetts Business Roundtable

Jim Stanton, Director, Partnerships for a Skilled Workforce, Inc.

*John Hodgman, Professor of the Practice, Gordon Institute at Tufts University

*Joyce L. Plotkin, President, The DIGITS Project

Kevin O'Sullivan, President and CEO, Massachusetts Biomedical Initiatives

Marcy Reed, Senior Vice President, National Grid

Mark DiNapoli, President and General Manager, Suffolk Construction Northeast Division

Mary Grant, President, MCLA

Mary McLaughlin, Vice President Greater Boston Region/South, Comcast

*Melinda Boone, Superintendent, Worcester Public Schools

Michael Tamasi, Principal, Boston Centerless/AccuRounds

*Rebecca Cusick, 4th Grade Teacher, Fall River Public Schools

Susan Windham-Bannister, President and CEO, Massachusetts Life Sciences Center

Steve Vinter, Engineering and Site Director, Google Inc.

Ted Acworth, Founder and CEO, Artaic Innovative Mosaic

Yvonne Spicer, Vice President-Advocacy for Educational Partnerships, Museum of Science

Zorica Pantic, President, Wentworth Institute of Technology

*Members of the Executive Committee

CC: Senate President Therese Murray
Speaker of the House Robert DeLeo
Senator Karen Spilka, Majority Whip; STEM Council Member Representing
the State Senate
Representative Thomas Conroy, STEM Council Member Representing the
State House of Representatives