

JAY INSLEE
Governor



STATE OF WASHINGTON
Office of the Governor

June 30, 2014

Iris Palmer, Senior Policy Analyst
Kelle Parsons, Postsecondary Policy Analyst
National Governors Association
Center for Best Practices
Hall of the States
444 North Capitol Street NW, Suite 267
Washington, DC 20001

Dear Ms. Palmer and Ms. Parsons:

The enclosed application, entitled “The Governor’s STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington’s Technology-Based Economy,” is submitted to the National Governor’s Association Center for Best Practices in response to the RFP, NGA Policy Academy on Aligning the Education and Training Pipeline to the Needs of the Economy.

As Governor of the state of Washington, I have made a focus on education the number one priority of my administration. Aligning the state’s education and career training system with the workforce needs of the economy and the employment opportunities that it presents is central to this mission. Washington is fortunate to possess a vital and dynamic environment for business and industry, with many employers centered in the technology sector. Science, technology, engineering, and math (STEM) industries – such as aerospace, agriculture, clean energy, high-tech, health and life sciences, and manufacturing – form the backbone of the state’s innovation economy. Washington is a leader in STEM-related businesses and occupations. Nationally, it ranks first in the concentration of STEM jobs, first in the creation of software companies, and second in the “New Economy” index for innovation and entrepreneurship.

Our state’s dynamic and growing high-technology economy creates many high skill and high wage job opportunities for its residents. However, it also creates challenges for the state’s postsecondary education and training system. Thus, in Washington, effectively aligning the education and career training system with the economy means focusing on STEM education. In 2013, I worked with state senators and representatives to pass a key piece of legislation (House Bill 1872) that establishes a multi-sector STEM Education Innovation Alliance, with a set of tools that could help align the state’s education, training and workforce systems with the economy. The NGA Policy Academy grant program could play a key role in advancing the STEM Education Innovation Alliance agenda, catalyzing efforts to bring disparate resources



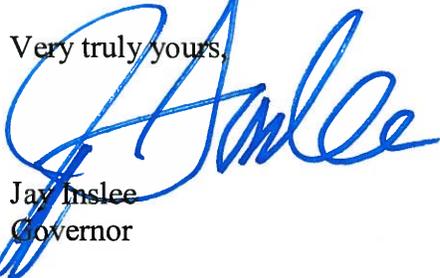
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together and promoting best practice strategies by leveraging the Policy Academy's deep set of resources and cross-state collaborative structure.

I have asked the Washington Student Achievement Council, with Gene Sharratt as its executive director, to lead this effort. The Council was created in 2012 with a mission to increase postsecondary attainment rates through collaborative partnerships and strategic planning across the P-20 continuum. Working in collaboration with an outstanding group of professionals from key government agencies, as well as business, industry, and labor groups, the Council is well-positioned to guide this important project.

Thank you for your consideration of this proposal. In the case that it is not selected for the full award, please include it in the secondary selection process for a smaller grant and set of services from the NGA Center.

Very truly yours,



Jay Inslee
Governor

Enclosure

Proposal Title

The Governor’s STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington’s Technology-Based Economy

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The Governor's STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington's Technology-Based Economy

1. Definition of the Problem

SUMMARY

Background: Washington's dynamic STEM-based economy. Washington is fortunate to possess a vital and dynamic environment for business and industry, with many employers centered in the technology sector. Science, technology, engineering, and math (STEM) industries – including aerospace, agriculture, clean energy, high-tech, health and life sciences, and manufacturing – form the backbone of the state's innovation economy. Washington is a leader in STEM-related businesses and occupations. Nationally, it ranks first in the concentration of STEM jobs,¹ first in the creation of software companies,² and second in the "New Economy" index for innovation and entrepreneurship.³ A 2011 study by the Georgetown University Center on Education and the Workforce projected that this trend is likely to persist, with Washington's STEM economy continuing to expand and experiencing a 24 percent increase in STEM jobs by 2018. This rate of increase is seven points above the national average and 94 percent of these jobs will require some post-secondary education.⁴

The Challenge: aligning the education system with employers' needs for STEM-educated workers. Washington's dynamic and growing high-technology economy creates many high-skill and high wage job opportunities for its residents. However, it also creates challenges for the state's postsecondary education and training system. For example, a 2013 report by the Washington Roundtable, an organization representing business and industry leaders, revealed that there were 25,000 unfilled jobs in Washington due to a lack of qualified candidates. Eighty percent of those jobs were in high-demand health care and STEM fields like computer science and engineering.⁵

This same report projected that, if this trend continues, local companies will experience approximately 50,000 vacancies by 2017, due to skill gaps in key fields. STEM and health care jobs account for 90 percent of these projected vacancies. The other side of this statistic suggests that significant numbers of native Washingtonians cannot find good paying jobs, or any job, because they do not have the requisite skills. As a result employers in Washington have relied heavily on candidates trained in other states and nations.⁶ Filling jobs, increasing

¹ Enterprising States: Recovery and renewal for the 21st century, U.S. Chamber of Commerce, 2011.

² Cyberstates 2010: The Definitive State-by-State Analysis of the U.S. High-Tech Industry, Tech-America Foundation, 2010.

³ Kauffman Foundation and the Information Technology and Innovation Foundation (ITIF) The 2010 State New Economy Index, 2010.

⁴ Georgetown University Center on Education and the Workforce, 2011.

⁵ Great Jobs Within Our Reach: Solving the Problem of Washington state's growing job skills gap. The Boston Consultancy Group and the Washington Roundtable. March 2013.

⁶ Washington Student Achievement Council, Workforce Training and Education Coordinating Board, and State Board for Community and Technical Colleges. *A Skilled and Educated Workforce, 2013 Update*. Olympia, WA: Washington Student Achievement Council.

the state's competitiveness for new jobs, and fostering opportunity for all Washingtonians requires a world-class education, training and workforce system aligned to the state's technology-based economy.

Taking Action: The NGA Policy Academy Program and the Governor's STEM Education Innovation Alliance. For all these reasons, Washington is in need of a vehicle for aligning the state's education and career training system with the job opportunities and employer needs of its STEM-driven economy. In 2013, Governor Inslee worked with state senators and representatives to pass a key piece of legislation (E2SHB 1872) that establishes a multi-sector STEM Education Innovation Alliance, with a set of tools that will help align the state's education, training and workforce systems with the economy. The NGA Policy Academy grant program will play a key role in advancing the Governor's STEM Education Innovation Alliance agenda, catalyzing efforts to bring disparate resources together and promoting best practice strategies by leveraging the Policy Academy's cross-state meeting structure.

WHY A FOCUS ON STEM IS THE KEY TO ALIGNMENT IN WASHINGTON

Educational and Economic Interdependence. A state's education system, workforce, and economy are all deeply interdependent. Its economic vitality depends on the skills of the workforce, and the skills of the workforce depend on the quality and adaptability of the education system. Conversely, to effectively prepare students for success, the education system must be responsive to the workforce needs of the economy and, ultimately, of the state's employers. If a state's education system, workforce, and economy are well-aligned, then individuals, communities, employers, and the overall economy can rise and expand in a virtuous spiral. If they are misaligned – if employers have difficulties finding workers with the skills they need and individuals have difficulties finding good-paying jobs – it can lead to a vicious downward spiral.

This interdependence makes it imperative that Washington's postsecondary career training and higher education system be responsive to the evolving workforce needs of the state's economy. A vehicle for educators to learn more about the particular skills employers are seeking in their workers – and those they are having difficulty finding – is crucial to achieving and maintaining an effective alignment.

The education and training pipeline, population characteristics, and the status of educational attainment in the state. Studies have shown that by 2018, nearly three-fourths of available jobs in Washington will require some level of postsecondary education.⁷ However, only about 50 percent of the current adult population in Washington has completed a postsecondary certificate, apprenticeship, or degree.⁸ If effective actions are not taken to close this gap, and it persists in the future, many companies may either have to import talent or export operations.⁹ Focused coordination of postsecondary educational resources with the needs of

⁷ Washington Student Achievement Council, Washington State Board for Community and Technical Colleges, & Workforce Training and Education Coordinating Board (Forthcoming). A skilled and educated workforce. Olympia, WA: Washington Student Achievement Council.

⁸ Washington Student Achievement Council Staff Analysis of 2009-2011 American Community Survey 3-year PUMS data file.

⁹ Washington Roundtable & The Boston Consulting Group. (2013). Great jobs within our reach: Solving the

employers is imperative to maintain the vitality of the state's economy and help residents advance their educational attainment and succeed in their careers.

The state's changing demographics also bring unique opportunities and challenges. Most of Washington's future population growth is expected to come from groups that historically have been less likely to participate in and complete postsecondary programs. Since 2000, Washington's—and the nation's—population growth has been almost entirely due to increases in underrepresented populations. For example, Washington's Hispanic population has grown more than 70 percent since 2000.¹⁰ Raising the overall educational attainment level of these key populations will be essential to expanding their employment opportunities and meeting the wide-ranging needs of the economy.

Washington and the “New Minimum” for Education. Recent national studies have shown that employer demand for workers with at least some postsecondary education or career training is rising. A recent report by the Georgetown Center on Education and the Workforce projects that by 2020, 65 percent of all jobs in the economy will require some level of postsecondary education and training beyond high school. In Washington State, with its vital and growing technology sector, this percentage is even higher than the national average, closer to 70 percent.¹¹ Given this trend, a high school diploma can no longer be considered sufficient for workers to compete for good-paying jobs or to meet the skills demand in Washington's dynamic and evolving economy.

In recognition of this challenge the Washington Student Achievement Council recommended, and the legislature and Governor adopted through the passage of House Bill 2626, aggressive goals for secondary and postsecondary attainment in the state.

The Key Role of STEM Education in Washington. Given the prominence of our state's technology-driven economy, STEM education needs to be a prime area of focus. According to Washington STEM, an organization dedicated to advancing excellence, equity, and innovation in science, technology, engineering, and math education, the state is facing some difficult challenges. The following statistics outline a few of these challenges:

- Washington currently ranks number one nationally in the concentration of STEM jobs
- By 2018, STEM jobs in the state are projected to increase by 24 percent.
- In Washington, the mismatch between the skills required for available jobs and individuals with those skills is growing faster than every other state but one.

problem of Washington state's growing job skills gap. Retrieved from <http://www.pacmtn.org/Impact/reports/documents/BCGWRTGreatJobsWithinOurStateJune2014.pdf>

¹⁰ Longanecker, D. (2012). Knocking at the college door. Retrieved from <http://www.wiche.edu/info/knocking-8th/profile/wa.pdf>

¹¹ A. Carnevale, N. Smith, and J. Strohl, *Recovery: Job Growth and Education Requirements Through 2020* (Washington, DC: Georgetown University Center on Education and the Workforce, August 2013), <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/Recovery2020.FR.Web.pdf>.

- Washington ranks fourth in the country for technology-based corporations but only 46th for participation in STEM education programs.¹²

Washington’s critical STEM skills gap. The demand for workers in STEM occupations in Washington is increasing at every education level.¹³ The STEM supply problem goes beyond the need for more professional scientists, engineers, computer scientists, and mathematicians. There is also a need for more qualified technicians and skilled STEM workers in Advanced Manufacturing, Utilities and Transportation, Mining, and other technology-driven industries. Innovation and technology change have led to demand for STEM competencies beyond the traditional STEM occupations. Previously, STEM work had been concentrated among a relatively small number of elite workers. Today, competencies necessary for innovation are scattered across a wider swath of the economy and a broader reach of occupations.

THE GOVERNOR’S EFFORTS TO IMPROVE EDUCATION PATHWAYS

Governor Inslee has made the goal of strengthening Washington’s system for education and career training the number one priority of his administration designating the cultivation of a “World Class Education” system as Goal One of his Results Washington initiative.¹⁴ His vision for Washington’s education system was first formulated as part of his campaign platform and calls for an ambitious effort to dramatically improve educational attainment in the state by the year 2020. In full recognition of the challenges raised by the evolving needs of an increasingly complex and technical economy, he has directed the various state institutions and agencies that work on education issues to strive to ensure that (1) all students graduate from high school prepared with 21st century skills, (2) achievement and opportunity gaps among students are narrowed or closed, and (3) all Washington students will have access to post-secondary education or training to pursue the careers of their choice.¹⁵

The Governor’s energized approach wholeheartedly embraces the view presented in the recent NGA report, *America Works, Education and Training for Tomorrow’s Jobs*, that a postsecondary degree or relevant certification has become the “new minimum” for today’s workforce.¹⁶ His approach emphasizes that raising attainment levels must begin with a focus on improving transitions throughout a student’s progression through the system, but particularly on the transition from high school to postsecondary studies.

As part of his Results Washington initiative, a data-driven performance management and continuous improvement system, the Governor has developed a mechanism for clearly communicating the state’s education goals and tracking progress toward them. Key outcome measures and leading indicators are identified for these goals, and the results are tracked,

¹² Washington STEM. *Why STEM, Why Now?* Retrieved from <http://www.washingtonstem.org/Why-Stem/The-Challenge#.U6lehfdVUV>, June, 2014.

¹³ Carnevale, Anthony P., Smith, Nicole, and Michelle Melton. (2011) STEM. Georgetown Public Policy Institute, Center on Education and the Workforce.

¹⁴ http://www.results.wa.gov/sites/default/files/NewStrategicFramework_1.pdf.

¹⁵ WA Governor’s Office. An Innovative, Accountable Education System: Building A Better Future For Every Child and a Stronger Economy For Washington. Retrieved from <http://www.jayinslee.com/policy/policy-pdfs/Inslees-Education-Platform.pdf>, June, 2014.

¹⁶ National Governor’s Association, Chair’s Initiative, 2013-14. *America Works, Education and Training for Tomorrow’s Jobs*. Washington, DC: National Governor’s Association.

updated, and displayed in charts and graphs on the Results Washington web portal.¹⁷ The process is set up to encourage state agencies to work together in developing strategic plans to meet the goals.

THE GOVERNOR’S STEM EDUCATION INNOVATION ALLIANCE

In response to Washington’s STEM education challenge, Governor Inslee proposed the creation of the STEM Education Innovation Alliance, which was approved by the Washington State legislature in 2013 in E2SHB 1872. The STEM Alliance is designed to bring together members from business, labor, nonprofit, and education organizations as partners to advise the Governor and provide vision and guidance in support of STEM education initiatives. Its approach is broad and comprehensive, with a preschool-through-graduate school focus, and is focused on aligning the state’s education system resources with the workforce needs and employment opportunities of its largely STEM-driven economy.

The Alliance will approve a framework of goals and indicators for STEM learning and issue its first report card benchmarking Washington’s STEM vision, regional networks and programs spanning P-20 education. Expanding the number of student internships and mentorships is anticipated to be an early recommendation. It also endeavors to improve education pathways from high school to postsecondary programs and subsequent careers through multi-faceted strategies. For example, the Alliance may work on increasing industry-developed high school skills programs and expanding opportunities for students to earn college credit for high school courses.

The NGA Policy Academy program and the Governor’s STEM Education Innovation Alliance. The NGA Policy Academy grant program will play a key role in advancing the Governor’s STEM Education Innovation Alliance agenda, catalyzing efforts to bring disparate resources together and promoting best practice strategies by leveraging the Policy Academy’s cross-state meeting structure. It presents a great opportunity to accelerate progress in this vital area by facilitating the coordination of STEM education and workforce initiatives for greater impact. By providing a structure for statewide meetings, the Policy Academy will help unify the efforts of Regional STEM Networks in the state for the exchange of insights on how best to improve student success in STEM skills that will grow our economy.

2. State or Territory Action Plan

The following State Action Plan will provide Governor Inslee the opportunity to build upon and significantly advance his administration’s efforts to better align the state’s education, training and workforce systems with the human capital needs of Washington’s innovation economy. The Action Plan is integrated and coherent across the four reinforcing components (Vision, Data, Partnerships, Resources and Incentives) and with other state and national initiatives.

¹⁷ The Results Washington site can be accessed from <http://www.results.wa.gov/>.

Vision

Since the beginning of his administration, Governor Inslee has focused on education as his first priority. Recognizing that the skills needed to succeed are constantly evolving, he is committed to ensuring that all students graduate from high school STEM literate and prepared with 21st century skills, ready for careers or to pursue postsecondary certificates or degrees. In Washington, this focus on STEM education is necessary both to promote the health of the economy and to boost student prospects for seizing the high skill – high wage opportunities our thriving innovation economy offers. These societal elements are deeply interconnected. The key to Washington’s long-term prosperity, on the individual level as well as for business and industry, is the cultivation of a vital synergy between the state’s education and career training system and its economy.

Leadership structure for strategic planning. On behalf of the Governor’s Office, Gene Sharratt, the executive director of the Washington Student Achievement Council, will provide leadership for Washington’s participation in the NGA Policy Academy program and the efforts of the STEM Education Innovation Alliance. He will work in close collaboration with Governor’s Office staff and the Washington STEM policy director. The Washington Student Achievement Council will convene meetings of the Alliance and work with members from the education community, relevant state agencies, business, industry, and labor associations to advance the state’s STEM education and workforce goals.

Reinforcing, leveraging and advancing state and national initiatives

The work outlined in this proposal relates to and is reinforced by other state and national initiatives, which in turn will contribute to coherence, focused action and sustainability. The Governor’s Results Washington provides a vision and measurable goals in five areas: education, economy, environment, healthy community and efficient government, and the Washington Student Achievement Council (WSAC), a cabinet-level agency appointed by the Governor, recently released a ten-year Education Roadmap outlining ambitious education attainment goals by 2023. The work outlined for the Governor’s STEM Education Innovation Alliance has been designed to be congruent with these efforts and provides a multi-sector vehicle to focus on STEM, a critical arena in which greater alignment between education and the economy is urgently needed.

The work of the NGA Improving Student Learning at Scale collaborative currently underway in Washington will be connected and leveraged in two important ways: 1) The WSAC will serve as the fiscal agent and convener, and 2) the STEM community in Washington State increasingly connects effective implementation of Common Core State Standards (and Next Generation Science Standards) as foundational levers for providing every young person in the state with a solid STEM education. The state’s action plan will also build upon the work of Washington STEM, a nonprofit launched in 2011 to advance excellence, innovation and equity in STEM education. Washington STEM has played an important role in convening educators, business leaders, policy makers and community leaders around the importance of STEM education for the next generation, supports a statewide system of regional STEM networks (one of these has

received implementation funds through a Federal Race to the Top District grant), and provides access to promising practices from other states through the multistate STEMx network.

Proposed strategies, major activities, and approximate timeline

In addition, prior to this meeting, the Governor will appoint membership and formally announce the creation of the Governor’s STEM Education Innovation Alliance. The Alliance will begin with the Framework for Action and Accountability developed by Washington STEM, which outlines a set of measurable goals and indicators to track progress in improving STEM education and workforce outcomes (See table 1 below). This will be further refined, and a range of targeted strategies explored, through the sharing of best practices in cross-state discussions and policy academy forums.

Table 1: Washington STEM Framework for Action and Accountability

Goals	Metrics
Goal 1: Increase the number and diversity of STEM literate students in the education to career pipeline.	Indicator 1: Student interest in STEM fields
	Indicator 2: Student STEM achievement among PreK-12
	Indicator 3: Student readiness for college-level study in STEM fields
	Indicator 4: Enrollment in postsecondary STEM programs of study
Goal 2: Increase the diversity and capacity of teachers and schools to deliver high-quality, effective STEM education to diverse populations	Indicator 5: STEM classes led by effective educators in PreK-12
	Indicator 6: Teachers/School leaders with STEM-related degrees
Goal 3: Increase capacity and pathways in post-secondary and adult training/learning programs to increase the number and diversity of STEM literate adults	Indicator 7: Graduates from post-secondary institutions with degrees in STEM fields
	Indicator 8: Alignment of STEM education programs with workforce needs in key economic sectors
	Indicator 9: Narrowing or closing of Stem employment skill gaps
Goal 4: Increase Washington STEM stakeholders/partners capacity to establish and accelerate shared STEM education and workforce goals	Indicator 10: Funding/resource allocation for STEM education/training in Washington State

September 2014

The first in-state policy workshop and site visit. This will be held as early as possible. By meeting early with NGA Center staff the Washington team will be able to take full advantage of the expertise and cross-state resources of the Policy Academy. The Washington team will collaborate with NGA Center staff to refine our action plan and identify potential obstacles to improving alignment as well as advantageous opportunities that will help to advance it. The state's transition plan and possible technical assistance resources will be discussed, and the budget will be finalized.

Ongoing through June 2016

Monthly status calls between the core team and the NGA Center Staff.

October 2014

First policy academy meeting. Discussions will center on emerging research, common challenges and strategies, and sharing of best practices experience across policy academy states. State action plans, metrics, and planned budget allocations will be further developed and refined.

December 2014

The Governor and the STEM Education Innovation Alliance will partner with Washington STEM to convene the first of two annual statewide summits of education, business and community leaders, policymakers and philanthropists to share vision and advance the goals. Lessons learned at this convening will be incorporated into the action plan.

January 2015

The Governor's STEM Education Innovation Alliance submits annual report to legislature with recommendations for improving alignment.

May 2015

Second in-state policy workshop and regional STEM network meeting. Discuss progress on phase 1 of Dashboard development and provide feedback to support phase 2. Review legislative actions impacting workforce and education issues. Review STEM Network action plans aligned to vision, goals and measures of Governor's STEM Education Innovation Alliance and Washington STEM Framework for Action and Accountability.

June 2015

Interim progress and financial reports will be completed and submitted to the NGA Center staff.

June/July 2015

Second policy academy meeting. More advanced and nuanced discussion of roadblocks, successes, best practices, and particular strategies and policy implications that may arise from specific characteristics of Washington State.

September 2015

In-state policy workshop and site visit. Insights gained during the June Policy Academy meeting will be reviewed and discussed. Preparations will begin for the October meeting. Progress on dashboard development will be assessed and next steps will be formulated.

October 2015

Third policy academy meeting. At this meeting, final insights and lessons learned will be shared and discussed. In addition, an implementation roadmap will be finalized, including an in-depth sustainability plan, with the goal of maintaining momentum as preparations proceed for the 2016 legislative session. Progress in phase 2 of the dashboard development will be reviewed and feedback will be provided, as phase 3 is launched.

December 2015

The Governor and the STEM Education Innovation Alliance will partner with Washington STEM to convene the second of two annual statewide summits of education, business and community leaders, policymakers and philanthropists to share vision and advance the goals. Lessons learned at this convening will be incorporated into the action plan.

January 2016

Governor's STEM Education Innovation Alliance submits annual report to legislature with recommendations.

May 2016

Final in-state policy workshop and regional STEM network meeting. Review progress through life of the project including final version of the STEM report card and dashboard. Revise sustainability plan in collaboration with regional STEM network partners based lessons learned through the policy academy and on outcome of the 2016 legislature.

June 2016

The Policy Academy concludes and the final financial and program reports are due. Complete transition to a post-Policy-Academy environment in which the Governor's STEM Education Innovation Alliance is prepared for independence and can effectively guide alignment efforts. Follow through with implementation of the sustainability plans and strategies.

Data

Washington currently has a number of resources it will utilize in integrating and tracking education and workforce data to inform policy, monitor progress, and measure success.

The Education Research Data Center (ERDC) is a division of the Washington Office of Financial Management. In collaboration with partner agencies, the ERDC conducts a wide range of analyses of early learning, K-12, and higher education programs as well as workforce education issues. Center staff will be relied upon to conduct research to answer key policy questions and track progress on identified goals through a dashboard that they will develop with resources provided through this grant.

The Washington Student Achievement Council, the State Board for Community and Technical Colleges, the Workforce Training and Education Coordinating Board, and the Employment Security Department also conduct research into workforce education issues. These agencies will assist the ERDC in its effort to identify and answer key policy questions and track progress on established indicators. Participation by these agencies will be crucial to the development and implementation of the dashboard. The involvement of all these agencies will be foundational to the long-term success of this project.

The creation of a talent supply and demand dashboard. A talent supply and demand dashboard will provide a valuable tool for tracking progress, sharing data, and focusing strategic attention on areas of the education pipeline that could be most productively improved. We propose that ERDC staff, led by Jim Schmidt, the Director, create a dashboard for this purpose. This project would be funded in part by resources made available through the NGA Policy Academy program. The remainder of the cost would be covered by an in-kind contribution of ERDC staff time and effort.

The ERDC is currently engaged in two projects that will form a strong foundation on which the dashboard will be built:

- (1) The ERDC is completing a federally funded effort to track and connect longitudinal data on individuals and cohorts as they move through P-20 education and subsequent training programs into jobs, and
- (2) As a result of recently-enacted legislation (E2SHB 1872), it has been charged with the responsibility to create annual STEM Benchmark Report Cards, using key metrics associated with the Washington STEM Framework for Action and Accountability. These annual report cards will allow the Governor and legislature to productively review key education and workforce data points in order to more effectively tailor state policies and budget priorities for continued progress.

These assets will be leveraged to develop the talent supply and demand dashboard and, with resources made available through the NGA Policy Academy program, will be refined to provide the crucial information needed to advance alignment between the state's education system and the workforce needs of the economy.

Key Policy Questions:

To help ensure the dashboard is appropriately designed to illuminate key aspects of the education to career pipeline, a comprehensive set of policy questions will be developed through discussions with key Washington stakeholders, NGA Center staff and the members other state groups participating in the Policy Academy program. The following partial list will form a foundation on which further questions will be developed:

- How many and what percentage of students complete high school prepared for college or career training in STEM fields?
- How many and what percentage of students leave high school with college credit in STEM studies?
- How many and what percentage of college or career training program graduates in STEM fields obtain high-wage jobs in Washington?

- What are the projected STEM-related job openings by industry, salary and level of educational attainment in 5, 10, 15 years?
- What are emerging skillsets that are in demand across key STEM industries and occupations?
- What impact has a given policy initiative or program funding increase had on enrollments or completion rates in STEM programs?
- What are the major barriers to increasing and diversifying the STEM talent pipeline in the state? What are the major “choke points”? What are policy levers that could be pursued to address those choke points and barriers?
- What’s the return on investment of current state and federal funding for STEM? Are there redundancies that can be eliminated, or synergies that can be created for greater impact? Are there any critical gaps or “choke points” that need new investment? How can private funding be best leveraged to drive innovation and systemic improvements?

Dashboard development timeline

The following is a suggested working timeline for development of the STEM Report Card and Dashboard. It is meant to be flexible and may be adjusted in consultation with NGA Center staff or as a result of discussions with other participants at policy academy meetings.

Phase I:

September 2014 - Convene workgroup to design a STEM education and workforce dashboard

October 2014 - Determine consistent definitions for STEM, STEM literacy, STEM preparedness

November 2014 - Research preliminary indicators for the STEM Report Card

January 2015 - Report to Legislature with preliminary recommendations

March 2015 - Post initial results to ERDC web site

Phase II:

April to June 2015 - Follow-up on recommendations of STEM Alliance and Legislature

June 2015 to September 2015 - Research and develop additional and/or replacement STEM indicators

April 2015 to October 2015

Develop information from state education agencies that indicates the extent that activities and resources are aligned with and support the STEM framework for action and accountability. Develop data from workforce agencies regarding current and projected STEM job openings in the state. Work with the Employment Security Department to create an annual report on current and projected job openings in STEM fields and submit the report for inclusion in the STEM education report card.

Phase III:

July 2015 - Start development of STEM dashboard

July 2015 to September 2015 – Develop requirements and business rules

October 2015 to January 2016 – Database design and development and ETL development (extract/transform/load)

February 2016 to April 2016 – Dashboard development

April 2016 to June 2016 – Dashboard testing and data load testing

Partnerships

Establish the state structure to support and coordinate state and regional industry-education partnerships.

During the grant period, the Governor and members of the STEM Education Innovation Alliance will partner with Washington STEM to hold an annual statewide convening of education, business and community leaders, policymakers and philanthropists to achieve the following goals: 1) build understanding of the Governor's vision and goals, 2) support alignment of activities and resources (public and private) against that vision and goals, 3) spur partnerships and commitments to action, and 4) share data, challenges and promising practices. Washington STEM has successfully convened the state's two previous statewide STEM Summits in 2012 and 2013 with participation from the Governor and key stakeholders from across the state. These meetings have built a shared understanding among key leaders in the state of the challenges and potential solutions for better aligning Washington's education system with the talent needs of the economy, and for the need to urgently focus on STEM. With this foundation in place, the Governor is well-positioned to spur action through future annual statewide summits.

Given Washington's robust and expanding technology and STEM-related industrial sector, partnerships with STEM-related groups will play a key role going forward. E2SHB 1872 called for state investment in a statewide system of STEM networks to facilitate such industry and education partnerships. Washington STEM has provided seed funding to six communities to launch and connect regional STEM networks in South King County (Puget Sound), Spokane, Tri-Cities, Vancouver, Yakima Valley, and Snohomish. These regions are home to the state's industry leaders in key sectors and job creators such as aerospace, technology, and clean energy, and have demonstrated clear community leadership to work together and build education and training systems aligned with the needs of local and state economies. The regional STEM Networks are creating unified systems of STEM education in their own communities – fostering partnerships among educators and employers and, with existing actors like Washington Mathematics Engineering Science Achievement (MESA) chapters, aligning resources and increasing impact. Washington STEM's role in this process is to create a system of networks that spreads best practices among communities and drives the scaling of effective practices across the state. This foundation will be built upon with assistance from the NGA Policy Academy to create a unified system that will form, evaluate and spread high-impact industry and education partnerships statewide.

Utilize rigorous criteria to identify high-quality partnerships, expand or fill gaps as necessary. Many partnerships rely on qualitative indicators of success or outputs (e.g. numbers of students served or employees engaged). The NGA Policy Academy offers a pertinent opportunity for the Governor's STEM Education Innovation Alliance to agree on desired outcomes and impacts for high-quality partnerships, criteria to evaluate such partnerships, and help spur and spread effective partnerships. The NGA Policy Academy also provides a forum to address the persistent gaps that exist for these types of partnerships for rural, Native and other underserved communities.

With the support of the NGA, the Governor's STEM Education Innovation Alliance will build upon and advance work underway by Washington STEM, regional STEM networks and key partners to establish criteria to vet and identify industry - education partnerships. Effectiveness will be defined as inspiring and preparing young people and adult workers for high demand stem jobs, and measured against Framework indicators. An existing biannual regional stem network convening structure will be leveraged to support the work to establish the criteria in 2015, and in

2016, support a review of effective partnerships and development of strategies and tactics to spread promising and high impact partnerships.

Resources and Incentives

Develop or update an asset map of state and federal funding and programs. An asset map of state and federal funding and programs intended for improving education, workforce training, or economic development will be developed. Non-financial incentives that could potentially impact workforce and education will also be mapped. The Alliance will analyze these various resources to see if there are changes the Governor could make with potential to improve the state's STEM education and workforce training system.

There is work already planned on developing this type of map for STEM-related issues. WA STEM has an intern already on board for summer 2014, prepared to research and map out state and federal STEM education and workforce funding streams. This initial asset map will facilitate an initial analysis of return on investment, assessment of opportunities for greater alignment and more robust asset mapping if needed.

Explore options to expand existing performance funding mechanisms to increase the effectiveness and efficiency of the state's postsecondary, workforce and career tech systems. Some innovations have been tried in the state that can be built upon and expanded where effective, or new innovations incentivized. For example, the *Student Achievement Initiative* is the performance funding system for community and technical colleges. Its purposes are to both improve public accountability by more accurately describing what students achieve from enrolling in our colleges each year, and to provide incentives through financial rewards to colleges for increasing the levels of achievement attained by their students. It represents a shift from funding entirely for enrollment inputs to also funding meaningful outcomes. The NGA Policy Academy offers the Governor's STEM Education Innovation Alliance an outstanding opportunity to explore the effectiveness of performance funding mechanisms and the experience of leaders in other states, and to identify potential application in Washington State.

3. Cross-Agency Leadership Team

Leadership structure for coordinating priorities and plans. The membership of the STEM Education Innovation Alliance includes representatives from the education community, key agencies, as well as business, industry and labor groups, whose work and expertise can be leveraged to improve alignment of the state's education and career training system with the employment opportunities and evolving workforce demands presented by Washington's dynamic economy. These include the primary agencies that are responsible for providing guidance and coordination for various parts of the state's education system and those that are engaged in work related to workforce issues:

Marcie Maxwell, Senior Policy Advisor, Governor's Office. In addition to Governor Inslee's direct engagement with the efforts of the team, Ms. Maxwell will represent the Governor's Office.

Gene Sharratt, Executive Director, Washington Student Achievement Council. Governor Inslee has asked the Washington Student Achievement Council to act as the fiscal agent for the grant and Dr. Sharratt, as Executive Director, will direct the leadership team's overall activities.

Daryl Monear, Associate Director for Academic Affairs and Policy, Washington Student Achievement Council, will be the key person responsible for directing the day to day activities of the state's participation in the Policy Academy.

Randy Spaulding, Director of Academic Affairs and Policy at the Washington Student Achievement Council will serve as fiscal agent for the grant.

Jim Schmidt, Director, Education Research Data Center, Office of Financial Management, will lead the Education Research Data Center's activities in creating the Talent Supply and Demand Dashboard.

The following members will participate as members of the leadership team on behalf of their respective government, business, or industrial sectors. Additional members will be appointed as the Governor's STEM Education Innovation Alliance is launched:

Eleni Papadakis, Executive Director, Workforce Training and Education Coordinating Board

Paul Francis, Executive Director, Council of Presidents

Marty Brown, Executive Director, State Board for Community and Technical Colleges

Randy Dorn, Superintendent, Washington State Office of Superintendent of Public Instruction

Brian Bonlender, Director, Department of Commerce

Maud Daudon, President and CEO, Seattle Metropolitan Chamber of Commerce

Stephen Mullin, President, Washington Roundtable

Sheri Nelson, Government Affairs Director, Association of Washington Business

Dean Allen, CEO, McKinstry Co.

Aimee Kennedy, Vice President, Education, STEM Learning, and Philanthropy, Battelle

Sam Whiting, President and CEO, Thrive by Five Washington

Tim Probst, Director, Workforce Development Strategic Initiatives, Employment Security Department

Vi Boyer, President and CEO, Independent Colleges of Washington

Jeff Charboneau, Washington Student Achievement Council, 2013 National Teacher of the Year, National Board Certified STEM teacher

Patrick D'Amelio, CEO, Washington STEM

4. Cross-Agency Sustainability Strategy

Maintaining momentum during the NGA policy academy, and sustaining the energy and commitment to cross-agency collaboration as we move forward after it ends, will be keys to the long-term success of our efforts. Our strategy for ensuring sustainability is grounded in building a broad base of support with numerous partnerships, including leaders from business and industry, as well as those from prominent government agencies involved directly in education or workforce issues. A number of actions are planned to maintain participants' interest level and the collaborative drive necessary to carry the work forward:

- Governor Inslee is strongly committed to doing everything he can to ensure that education, jobs, and the economy are coordinated and aligned, creating an environment

of creative and prosperous synergy. This is why he so strongly supported E2SHB 1872, which created the framework for the Governor's STEM Education Innovation Alliance. The Policy Academy will provide critical support to ensure that this STEM Alliance gets off to a strong and effective start. In the remainder of his current term, and looking forward to a potential second term, the Governor and his partners in government agencies and the business sector will be able to leverage NGA Policy Academy resources to build on alignment efforts that are already underway.

- Frequent communication with participants and organizations to solidify collaborative relationships will be a foundational component of this work.
- Early engagement and partnership with external groups like Washington STEM, which have varied and extensive connections with non-governmental groups from business and industry, will help deepen and diversify participation across a broad spectrum.
- Encouraging multiple individuals from groups and organizations to participate so that there is a deep core of connections that goes beyond just the top leadership. This will help ensure continuity in the event that individuals in leadership positions who may have been actively involved leave their positions for different jobs. If relationships and collaborations have been developed with multiple individuals at each organization, stability will be promoted.
- The annual statewide summits and more frequent in-state meetings will be promoted and organized to maximize inclusion of a broad representation of employers in the state, as well as key statewide, regional, and local governmental organizations.
- The objectives of the NGA Policy Academy, improving alignment between the state's education and career training systems and the workforce needs of the economy, are consistent with one of the fundamental goals of the Washington Student Achievement Council's *Roadmap*, a ten-year plan for increasing educational attainment in the state. The Roadmap calls for aligning postsecondary programs with employment opportunities in the state, improving coordination of existing employer feedback mechanisms, ensuring that students have greater access to work-based learning opportunities.¹⁸ The work of the Council to advance these common goals will complement the efforts of the Policy Academy, help to maintain commitment to the agenda, and provide stability going forward once the Policy Academy program is over.
- The Governor's *Results Washington* initiative, a data-driven system for performance assessment and continuous improvement of government programs and services, also focuses in part on the state's education system and how it links with economic prosperity.¹⁹ This initiative will also help sustain commitment during the period of concerted activity organized around the NGA Policy Academy and foster stability going forward.
- Stability in cross-agency partnerships will also be maintained, even as turnover in elected officials may occur in the course of elections or as agency leadership may change over time, through the establishment of cohesive and collaborative relationships that run deep within the various organizations.

¹⁸ Washington Student Achievement Council. *The Roadmap: A Plan to Increase Educational Attainment in Washington*. Olympia, WA: Washington Student Achievement Council.

¹⁹ Results Washington, World-Class Education. Retrieved from <http://www.results.wa.gov/what-we-do/measure-results/world-class-education>, June, 2014.

ATTACHMENT A

State or Territory Action Plan Template

For each strategy or activity listed below, please provide a brief description or answer for each category in the space provided.

COMPONENT 1 – VISION: Declare a Statewide Vision to Connect the Education and Training Pipeline with the Needs of the State’s/Territory’s Economy				
Governors can publicly articulate and lead a vision to connect the education and training pipeline (K-12, career tech and workforce training programs, and higher education) with the needs of their economy. The declaration should include specific goals, actions, and metrics to assess progress to achieve stronger results for the state’s citizens and its economy.				
Proposed Strategies/Activities to Strengthen this Component:	Lead People & Key Organizations	Resources (grant funds, state funds, state staff support, NGA staff support, etc.)	Timeline & Deliverables	Measures of Progress and Success
1. Appoint and announce Governor’s STEM Education Innovation Alliance.	Marcie Maxwell , Senior Policy Advisor, Governor’s Office Gene Sharratt , Executive Director, Washington Student Achievement Council Caroline King , Chief Policy Officer, Washington STEM	<ul style="list-style-type: none"> Staff support from Governor’s office, WSAC and Washington STEM 	September 2014 Governor’s STEM Education Innovation Alliance appointed.	Governor’s STEM Education Innovation Alliance members’ vetted and recruited. Governor’s STEM Education Innovation Alliance established and publically announced.
2. Hold first in-state policy academy meeting to achieve two goals: 1) Work with NGA to refine state’s action plan, identify technical assistance resources and finalize budget. 2) Governor’s STEM Education Innovation Alliance adopts Washington STEM Framework for	NGA Center for Best Practices Governor’s STEM Education Innovation Alliance* Marcie Maxwell Gene Sharratt Caroline King	<ul style="list-style-type: none"> NGA Center for Best Practices staff support for agenda development and meeting facilitation Governor’s STEM Education Innovation Alliance Staff support from Governor’s office, WSAC and Washington STEM NGA grant funds to 	September 2014 First in-state policy workshop and site visit held. October 2014 First Policy Academy meeting	State’s Action Plan and budget finalized. Areas for technical assistance identified and action plan to secure agreed upon. Governor’s STEM Education Innovation Alliance convened. Washington STEM Framework for Action and Accountability adopted to establish vision, goals and indicators to track progress.

<p>Action & Accountability, which establishes vision, goals and indicators to measure progress.</p>		<p>support convening</p>		
<p>3. The Governor and the STEM Alliance will partner with Washington STEM for convening annual statewide meetings of education, business and community leaders, policymakers and philanthropists to share vision and advance the goals.</p>	<p>Governor's STEM Education Innovation Alliance Marcie Maxwell Gene Sharratt Caroline King</p>	<ul style="list-style-type: none"> • NGA grant funds • In-kind contribution from Washington STEM • Staff support from Governor's office, WSAC and Washington STEM 	<p>Annual statewide summits held. 1st - December 2014 2nd - December 2015</p>	<p>Number of attendees. Percentage of attendees providing a positive evaluation of the Summit. Percentage of attendees making commitments to align their work and resources to help achieve the goals and vision of the Governor's STEM Education Innovation Alliance.</p>
<p>4. Governor's STEM Education Innovation Alliance submits annual report to legislature with Talent Supply & demand Dashboard results recommendations to advance goals through policy and budget vehicles.</p>	<p>Governor's STEM Education Innovation Alliance Jim Schmidt, Director, Washington State Education Research Data Center Marcie Maxwell Gene Sharratt Caroline King</p>	<ul style="list-style-type: none"> • NGA grant funds • In-kind contribution from Washington STEM • Staff support from ERDC, Governor's office, WSAC and Washington STEM 	<p>January 2015 January 2016 Annual reports submitted to the legislature.</p>	<p>Annual reports to the legislature spur data-driven policy debates about how to improve education and workforce outcomes and economic growth. Annual reports to the legislature result in the enactment of enabling policies, incentives and resources.</p>

<p>5. Hold second in-state policy workshop and site visit. Goal: Work with NGA to gauge progress against state’s action plan, share best practices and challenges, and refine state action plan.</p> <p>Attend Policy Academy meetings.</p>	<p>NGA Center for Best Practices</p> <p>Governor’s STEM Education Innovation Alliance</p> <p>Marcie Maxwell</p> <p>Gene Sharratt</p> <p>Caroline King</p>	<ul style="list-style-type: none"> • NGA Center for Best Practices staff support for agenda development and meeting facilitation • Governor’s STEM Education Innovation Alliance • Staff support from Governor’s office, ERDC, WSAC and Washington STEM • NGA grant funds to support convening 	<p>May 2015 - Second in-state policy workshop and site visit</p> <p>June 2015 - Interim progress and financial reports completed</p> <p>June/July 2015- Second Policy Academy meeting</p> <p>October 2015 - Third Policy Academy meeting</p> <p>May 2016 – final in-state policy workshop</p> <p>June 2016 – The Policy Academy concludes</p> <p>Final financial and program reports are submitted.</p>	<p>State’s Action Plan and budget reviewed and revised if appropriate.</p> <p>Governor’s STEM Education Innovation Alliance reviewed key data points from Talent Supply & Demand Dashboard and made preliminary recommendations for annual report to legislature.</p>
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COMPONENT 2 – DATA: Integrate and use education and workforce data to inform policy, track progress, and measure success

Governors can support the alignment and use of education, workforce, and economic development data, including longitudinal data systems and current labor market data, to answer key policy questions and establish policy and budget priorities.

Proposed Strategies/Activities to Strengthen this Component:	Lead People & Key Organizations	Resources (grant funds, state funds, state staff support, NGA staff support, etc.)	Timeline & Deliverables	Measures of Progress and Success
1. Convene workgroup to design and create a talent supply and demand dashboard.	Jim Schmidt , Director, Washington State Education Research Data Center	<ul style="list-style-type: none"> • Staff support from Governor’s office, ERDC, WSAC and Washington STEM • NGA Center for Best Practices staff support • NGA grant funds • In-kind contributions from ERDC • Potential area for technical assistance 	September – December 2015 Talent Supply and Demand Dashboard 1.0 STEM Education Benchmark Report Card	Talent Supply and Demand Dashboard 1.0 requirements established, indicators and measures identified, and data collected, analyzed and communicated through STEM Education Benchmark Report Card.
2. Governor’s STEM Education Innovation Alliance reviews STEM Benchmark Report Card data in order to review goals, baselines and targets; discuss what’s working/challenges; set priorities and issue recommendations.	Governor’s STEM Education Innovation Alliance Jim Schmidt , Director, Washington State Education Research Data Center Marcie Maxwell Gene Sharratt Caroline King	<ul style="list-style-type: none"> • Staff support from Governor’s office, ERDC, WSAC and Washington STEM • NGA Center for Best Practices staff support • NGA grant funds • In-kind contributions from ERDC 	January 2015 November 2016 Preliminary recommendations for annual report to legislature.	Governor’s STEM Education Innovation Alliance reviewed key data points from Talent Supply & Demand Dashboard and made preliminary recommendations for annual report to legislature.

<p>3. Governor’s Policy Office uses STEM Benchmark Report Cards and Alliance recommendations to inform policy development prior to legislative session.</p>	<p>Marcie Maxwell</p>	<ul style="list-style-type: none"> • Staff support from Governor’s office, ERDC, WSAC and Washington STEM • NGA Center for Best Practices staff support 	<p>Fall 2014 Summer-Fall 2015 Summer-Fall 2016 Development of enabling policies, incentives and resource investments.</p>	<p>Talent Supply & Demand Dashboard spurs data-driven policy analysis and development about how to improve education and workforce outcomes and economic growth. Talent Supply & Demand Dashboard spurs the design of enabling policies, incentives and resources.</p>
<p>4. Governor’s STEM Education Innovation Alliance issues STEM Education Benchmark Report Card to legislature with recommendations.</p>	<p>Governor’s STEM Education Innovation Alliance Jim Schmidt Marcie Maxwell Gene Sharratt Caroline King</p>	<ul style="list-style-type: none"> • Staff support from Governor’s office, ERDC, WSAC and Washington STEM • NGA Center for Best Practices staff support In-kind contributions from ERDC 	<p>January 2015 January 2016 Annual reports submitted to legislature.</p>	<p>Annual reports to the legislature spur data-driven policy debates about how to improve education and workforce outcomes and economic growth. Annual reports to the legislature result in the enactment of enabling policies, incentives and resources.</p>
<p>5. Refine STEM Benchmark Report and build interactive Talent Supply & Demand Dashboard.</p>	<p>Jim Schmidt Marcie Maxwell Gene Sharratt Caroline King</p>	<ul style="list-style-type: none"> • Staff support from Governor’s office, ERDC, WSAC and Washington STEM • NGA Center for Best Practices staff support • NGA grant funds • In-kind contributions from ERDC • Potential area for technical assistance 	<p>June 2015 – June 2016 Talent Supply and Demand Dashboard 2.0</p>	<p>Talent Supply and Demand Dashboard refined and upgraded in alignment with feedback from Governor’s STEM Education Innovation Alliance and key stakeholders and users.</p>

COMPONENT 3 – PARTNERSHIPS: BUILD INDUSTRY-EDUCATION PARTNERSHIPS TO GET RESULTS

Governors can strengthen state structures (e.g., P-20 Council, state Workforce Investment Board) to launch new or improve existing partnerships that support more precise alignment between their state education and workforce training systems and the needs of their economy. Governors can also support and promote active and emerging regional partnerships that connect education and training pipelines to high-wage careers within key industries in their economies.

Proposed Strategies/Activities to Strengthen this Component:	Lead People & Key Organizations	Resources (grant funds, state funds, state staff support, NGA staff support, etc.)	Timeline & Deliverables	Measures of Progress and Success
<p>1. The Governor and the STEM Alliance will partner with Washington STEM for convening annual statewide meetings of education, business and community leaders, policymakers and philanthropists to advance the goals.</p>	<p>Governor’s STEM Education Innovation Alliance Marcie Maxwell Gene Sharratt Caroline King</p>	<ul style="list-style-type: none"> • NGA grant funds • In-kind contribution from Washington STEM • Staff support from Governor’s office, WSAC and Washington STEM 	<p>December 2014 December 2015 Annual statewide summits held.</p>	<p>Number of attendees. Percentage of attendees providing a positive evaluation of the Summit. Percentage of attendees making commitments to align their work and resources to help achieve the goals and vision of the Governor’s STEM Education Innovation Alliance.</p>
<p>2. Convenings held for Governor’s STEM Education Innovation Alliance with regional STEM Networks designed to foster industry and education partnerships and share promising practices across the state.</p>	<p>Governor’s STEM Education Innovation Alliance Marcie Maxwell Gene Sharratt Caroline King Regional STEM Network Directors</p>	<ul style="list-style-type: none"> • NGA Center for Best Practices staff support • NGA grant funds • In-kind contribution from Washington STEM • Staff support from Governor’s office, WSAC and Washington STEM 	<p>Summer 2015 Summer 2016 Convenings of Governor’s STEM Education Innovation Alliance and regional STEM Networks held.</p>	<p>Regional STEM Network action plans aligned to vision, goals and measures of Governor’s STEM Education Innovation Alliance and Washington STEM Framework for Action and Accountability. Promising practices for starting, growing and sustaining industry-education partnerships are identified and shared. Strategies developed to scale promising practices for starting, growing and sustaining industry-education partnerships.</p>

<p>3. Establish criteria of effective industry-education partnerships.</p>	<p>Governor's STEM Education Innovation Alliance</p>	<ul style="list-style-type: none"> • NGA Center for Best Practices staff support • Staff support from Governor's office, ERDC, WSAC and Washington STEM • Possible area for technical assistance 	<p>Summer 2015</p> <p>Criteria to vet the effectiveness of industry-education partnerships established.</p>	<p>User friendly criteria developed, understood and agreed upon by leading providers of industry-education partnerships, lead agencies, regional STEM networks.</p>
<p>4. Utilize criteria to create and/or vet regional and state systems to foster effective partnerships and share learnings/best practices. Monitor and report on effectiveness of partnerships through annual reporting to legislature.</p>	<p>Governor's STEM Education Innovation Alliance</p> <p>Partnership participants</p> <p>Regional STEM Network Directors</p> <p>Jim Schmidt</p>	<ul style="list-style-type: none"> • Staff support from Governor's office, ERDC, WSAC and Washington STEM 	<p>January 2015</p> <p>January 2016</p> <p>Annual reports to legislature.</p>	<p>Promising and high-impact industry-education partnerships are identified.</p> <p>Strategies developed to scale promising and high-impact industry-education partnerships.</p>

COMPONENT 4 – RESOURCES AND INCENTIVES: Modify the Use of Resources and Incentives to Support the Attainment of the Integrated Vision

Governors can identify and change the current use of funds and incentives in the states’/territories’ education and workforce training systems to better align results and improve quality in meeting the needs of their economies.

Proposed Strategies/Activities to Strengthen this Component:	Lead People & Key Organizations	Resources (grant funds, state funds, state staff support, NGA staff support, etc.)	Timeline & Deliverables	Measures of Progress and Success
<p>1. Develop asset map to identify sources, uses and outcomes of existing state and federal funds to improve STEM education.</p>	<p>Caroline King</p>	<ul style="list-style-type: none"> • In-kind contribution from Washington STEM • NGA Center for Best Practices staff support • Staff support from Governor’s office, ERDC, WSAC and Washington STEM • Possible area for technical assistance 	<p>November 2014</p>	<p>Asset map of relevant state and federal investments created.</p>
<p>2. Identify recommendations to improve ROI of state and federal STEM investments. Embed in Governor’s STEM Education Innovation Alliance annual report to legislature.</p>	<p>Governor’s STEM Education Innovation Alliance Marcie Maxwell Gene Sharratt Caroline King</p>	<ul style="list-style-type: none"> • NGA Center for Best Practices staff support • Staff support from Governor’s office, ERDC, WSAC and Washington STEM • Possible area for technical assistance 	<p>January 2015 January 2016 Annual report to legislature</p>	<p>Recommendations developed for enabling incentives and investments. Amount of state and federal dollars realigned.</p>

<p>3. Through annual summits, work with private sector to align private and public resources towards common goals and indicators of effectiveness.</p>	<p>Governor's STEM Education Innovation Alliance</p> <p>Marcie Maxwell</p> <p>Gene Sharratt</p> <p>Caroline King</p>	<ul style="list-style-type: none"> • NGA Center for Best Practices staff support • Staff support from Governor's office, ERDC, WSAC and Washington STEM 	<p>December 2014</p> <p>December 2015</p> <p>Contributed private funds.</p>	<p>Number of private donors who attend Summit.</p> <p>Percentage of private donors providing a positive evaluation of the Summit.</p> <p>Percentage of providing donors making commitments to align their work and resources to help achieve the goals and vision of the Governor's STEM Education Innovation Alliance.</p> <p>Amount of private dollars realigned.</p>
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ATTACHMENT B

Budget Proposal

Cost Category	Grant Amount	In-Kind Contributions
Convening Expenses		
Four in-state meetings of the STEM Alliance (includes site visits)	5,000	15,000
Summit Planning Expenses		
Annual WA STEM Summit (December 2015 and December 2016)	40,000	40,000
Staffing Expenses		
.35 Policy Associate (WSAC) (2 years)	48,000	
.25 Associate Director (WSAC) (2 years)		51,000
Consulting / Analysis Expenses		
Contract with ERDC for Dashboard Development	68,000	23,000
Facilitation Expenses (e.g. contract for services)	-	
Communication Expenses		
Development of STEM infographic and cross sector communication materials	7,000	
Travel Expenses	2,000	2,000
Reporting Expenses	-	
Other Expenses	-	
Grant total	\$ 170,000	\$ 131,000

Budget Narrative

Washington requests \$170,000 to take advantage of the policy academy, convene the Governor's STEM Education Innovation Alliance, develop an action plan to align education and workforce resources, and develop the STEM report card and dashboard.

Convening Expenses: four all-day meetings of the Governor's STEM Education Innovation Alliance are planned between September 2014 and June 2016. Two meetings will include the required site visits. The meetings will leverage the existing regional STEM networks which allow for significant match to cover meeting costs. Anticipated expenses include facilities, equipment, light refreshments, and lunch.

Summit Planning Expenses: Two multi-day summits are planned. These statewide meetings will convene education, business and community leaders, policymakers and philanthropists. They are essential to develop consensus around the critical issues facing our state and to

provide a forum to connect these leaders with one another. Washington STEM has committed to cover 50% of the cost for the two state summits.

Staffing: The Washington Student Achievement Council will act as fiscal agent for the program. As such WSAC will contribute significant staff time to the coordination of the program including coordination with NGA staff, administration of grant funds, reporting requirements, meeting logistics, and other tasks required to ensure the success of the Policy Academy. The budget will provide for 35% time of a Policy Associate to manage much of this work. In addition, 25% of Dr. Daryl Monear's time will be included as match. Dr. Monear is Associate Director of Academic Affairs and Policy and is the lead on education and workforce issues for the Council. *Grant Fiscal Agent:* Dr. Randy Spaulding, Director of Academic Affairs and Policy at the Washington Student Achievement Council will serve as fiscal agent for the grant.

Consulting / Analysis Expenses: The development of the report card and dashboard will require approximately 1,300 hours of research and development time. The ERDC has committed to contribute approximately 400 hours as in-kind match leaving approximately 900 hours that would be covered through grant funds.

Communication Expenses: Developing common language and understanding is critical to improving alignment of education and workforce issues. To broaden the impact of the Policy Academy simple communication tools including 1-2 page information sheets and/or infographics will be developed to help build understanding around the alignment efforts and facilitate a shared understanding across sectors.

Travel Expenses: The Governor's STEM Education Innovation Alliance members will provide their time as part of the state's in-kind contribution, or as volunteers to implement and support of the activities outlined above. Many of the appointees will have travel covered by their employer (shown as match), and an estimated \$2,000 of partnership funds will be required to cover travel for alliance members whose travel cannot be covered by their employer. Travel to the multi-state policy academy meetings is not included in the provided budget. Per the RFP it is our understanding that reimbursement for travel cost associated with the Policy Academy meetings will be provided as an addition to the expenditures outlined above.

Grant Fiscal Agent: Dr. Randy Spaulding, Director of Academic Affairs and Policy at the Washington Student Achievement Council will serve as fiscal agent for the grant.

ATTACHMENT C

Letters of Support

State Higher Education Executive Office & Fiscal Agent: Dr. Gene Sharratt, Washington Student Achievement Council

Chief State School Officer: Randy Dorn, Superintendent, Washington State Office of Superintendent of Public Instruction

Others:

Jim Schmidt, Director, Education Research Data Center, Office of Financial Management

Eleni Papadakis, Executive Director, Workforce Training and Education Coordinating Board

Paul Francis, Executive Director, Council of Presidents

Marty Brown, Executive Director, State Board for Community and Technical Colleges

Brian Bonlender, Director, Department of Commerce

Maud Daudon, President and CEO, Seattle Metropolitan Chamber of Commerce

Stephen Mullin, President, Washington Roundtable

Sheri Nelson, Government Affairs Director, Association of Washington Business

Dean Allen, CEO, McKinstry Co.

Aimee Kennedy, Vice President, Education, STEM Learning

Sam Whiting, President and CEO, Thrive by Five Washington



June 26, 2014

National Governors Association
Center for Best Practices
ATTN: Iris Palmer and Kelle Parsons
444 North Capitol Street, Suite 267
Washington, D.C. 20001-1512

RE: NGA Policy Academy on Aligning the Education and Training Pipeline to the Needs of the Economy – Washington State Grant Application

Dear NGA Grant Selection Committee:

Governor Inslee has made the goal of strengthening Washington’s system for education and career training the number one priority of his administration. Cultivating a “World Class Education” system is Goal One of the Governor’s Results Washington initiative. His vision for Washington’s education system calls for an ambitious effort to dramatically improve educational attainment in the state by the year 2020. In full recognition of the challenges raised by the evolving needs of an increasingly complex and technical economy, he has directed the various state institutions and agencies that work on education issues to ensure that (1) all students graduate from high school prepared with 21st century skills, (2) achievement and opportunity gaps among students are narrowed or closed, and (3) all Washington students will have access to postsecondary education or training to pursue the careers of their choice.

The Governor’s energized approach wholeheartedly embraces the view presented in the recent NGA report *America Works: Education and Training for Tomorrow’s Jobs*, that a postsecondary degree or relevant certification has become the “new minimum” for today’s workforce. His approach emphasizes that raising attainment levels must begin with a focus on improving transitions throughout a student’s progression through the system, but particularly on the transition from high school to postsecondary studies.

As part of his Results Washington initiative, a data-driven performance management and continuous improvement system, the Governor has set up a mechanism for clearly communicating the state’s education goals and tracking progress toward them. Key outcome measures and leading indicators are identified for these goals, and the results are tracked, updated, and displayed in charts and graphs on the Results Washington web portal. The process is set up to encourage agencies to work together in developing strategic plans to meet the goals.

In response to Washington's STEM education challenge, Governor Inslee proposed the creation of the STEM Education Innovation Alliance, which was approved by the Washington State Legislature in 2013 in House Bill 1872. The STEM Alliance is designed to bring together members from business, labor, nonprofit, and education organizations as partners to advise the Governor and provide vision and guidance in support of STEM education initiatives. Its approach is broad and comprehensive, with a preschool-through-graduate school focus, and it is focused on aligning the state's education system resources with the workforce needs and employment opportunities of its largely STEM-driven economy.

The alliance will approve a framework of goals and indicators for STEM learning and issue its first report card benchmarking Washington's STEM vision, regional networks and programs spanning P-20 education. Expanding the number of student internships and mentorships is anticipated to be an early recommendation. The Alliance will work on increasing industry-developed high school skills programs and expanding opportunities for students to earn college credit for high school courses.

The NGA Policy Academy grant program will play a key role in: (1) advancing the STEM Education Innovation Alliance agenda, (2) catalyzing efforts to bring disparate resources together, (3) sharing best practices with colleagues from other interested states, (4) exploring opportunities to collaborate and generate ideas, and (5) leveraging a cross-state meeting structure.

The grant presents a great opportunity to accelerate progress by facilitating the coordination of STEM education and workforce initiatives for greater impact. By providing a structure for statewide meetings, the Policy Academy will help unify the efforts of Regional STEM Networks in the state for the exchange of insights on how best to accelerate student success in STEM skills that will grow our economy.

As executive director for the Washington Student Achievement Council, a cabinet-level position serving Governor Inslee, I would like to offer my overwhelming support for ***The Governor's STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington's Technology-Based Economy*** grant. As one of 19 agency directors who serve on Governor Inslee's cabinet, I know of his authentic interest in aligning the education and training pipeline with the identified needs of the economy.

On behalf of our nine-member Council, I urge your support for this innovative grant.

Sincerely,



Gene Sharratt, Executive Director
Washington Student Achievement Council



SUPERINTENDENT OF PUBLIC INSTRUCTION

Randy I. Dorn · Old Capitol Building · PO BOX 47200 · Olympia, WA 98504-7200 · <http://www.k12.wa.us>

July 2, 2014

National Governors Association
Center for Best Practices
ATTN: Iris Palmer and Kelle Parsons
444 North Capitol Street, Suite 267
Washington, D.C. 2001-1512

RE: Support for Governor Inslee's Washington State Grant Application

Dear Ms. Palmer and Ms. Parsons:

I am writing in support of "The Governor's STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington's Technology-Based Economy" grant application.

House Bill 1872 (HB 1872) establishes a framework to support Science, Technology, Engineering, and Mathematics (STEM) education efforts across Washington State and improve alignment with the economy. With a growing STEM skills gap in Washington State, this legislation could not be timelier. A recent report from the Boston Consulting Group found that there are currently 25,000 unfilled jobs in Washington due to lack of qualified candidates. That number could grow to 50,000 by 2017 with the majority in STEM fields. The NGA Policy Academy will provide the resources needed to implement the framework outlined in HB 1872 and bring education, business and community leaders, policymakers and philanthropists together to address the STEM gap.

The STEM Education Innovation Alliance is critically needed in Washington to:

- Help produce the capable and flexible workforce needed to compete in a global marketplace.
- Ensure our society continues to make fundamental discoveries and to advance our understanding of ourselves, our planet, and the universe.
- Generate the scientists, technologists, engineers, and mathematicians who will create the new ideas, new products, and entirely new industries of the 21st century.
- Provide the technical skills and quantitative literacy needed for individuals to earn livable wages and make better decisions for themselves, their families and their communities.
- Strengthen our democracy by preparing all citizens to make informed choices in an increasingly technological world.
- Prepare and engage all students no matter their gender, race, or background.

The cross sector team outlined in the "The Governor's STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington's Technology-Based Economy" grant application is needed to increase learning opportunities and improve educational outcomes in science, technology, engineering, and mathematics. I strongly urge the National Governors Association to support this proposal.

Sincerely,

A handwritten signature in cursive script that reads "Randy Dorn".

Randy I. Dorn
State Superintendent
of Public Instruction



STATE OF WASHINGTON
OFFICE OF FINANCIAL MANAGEMENT

Insurance Building, PO Box 43113 • Olympia, Washington 98504-3113 • (360) 902-0555

July 1, 2014

National Governors Association
Center for Best Practices
ATTN: Iris Palmer and Kelle Parsons
444 North Capitol Street, Suite 267
Washington, D.C. 2001-1512

RE: Support for Governor Inslee's Washington State Grant Application

Dear Ms. Palmer and Ms. Parsons:

Washington State's economy is highly reliant on hi-tech industries. Economic forecasts suggest that reliance will only grow in the future. Recent studies indicate that by 2018, nearly three-fourths of available jobs will require some level of postsecondary education. However, only about 50 percent of the current adult population in Washington has completed a postsecondary certificate, apprenticeship, or degree. Many companies will either have to import talent or export operations if this gap remains unclosed or grows in the future. The interdependence of the state's education, workforce and economy makes it imperative that Washington's postsecondary career training and higher education system be responsive to the evolving workforce needs of the state's economy and work towards closing this gap.

In 2013, Governor Inslee and the Legislature established a multi-sector STEM Education Innovation Alliance and provided a set of tools that could help align the state's education, training and workforce systems with the economy. The NGA Policy Academy grant program could play a key role in advancing the STEM Education Innovation Alliance agenda, catalyzing efforts to bring disparate resources together and promoting best practice strategies by leveraging the Policy Academy's cross-state meeting structure.

Washington's Education Research & Data Center (ERDC), located within the Washington Office of Financial Management (OFM), provides quality data and research to help answer questions about education in Washington State. Since 2007, ERDC has followed students as they move from pre-school through college to the workforce to find out what works best for them. Our data facilitates analyses, provides the foundation for meaningful reports, evaluations and studies, and allows policymakers and education professionals to collaborate on education research.

As the director of OFM's Education Research and Data Center, I strongly support "The Governor's STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington's Technology-Based Economy" grant application. This grant will aid in the alignment of the education and training in the state to the future needs of Washington's economy.

Thank you for your consideration.

Jim Schmidt, Director
Education Research & Data Center
Forecasting and Research Division





STATE OF WASHINGTON
WORKFORCE TRAINING AND EDUCATION COORDINATING BOARD

128 - 10th Avenue, S.W. • PO Box 43105 • Olympia, WA 98504-3105
Phone: (360) 709-4600 • Fax: (360) 586-5862 • Web: www.wtb.wa.gov • Email: workforce@wtb.wa.gov

June 27, 2014

National Governors Association
Center for Best Practices
ATTN: Iris Palmer and Kelle Parsons
444 North Capitol Street, Suite 267
Washington, D.C. 2001-1512

RE: Support for Governor Inslee's Washington State Grant Application

Dear Ms. Palmer and Ms. Parsons:

It is with pleasure that I endorse Washington's Policy Academy application, and commit to the participation of the Workforce Training and Education Coordinating Board (Workforce Board). Washington has been a leader in efforts to align education and economic development for many years. The Workforce Board has been involved with and often at the lead, of many of those efforts. I appreciated seeing Washington called out for its best practices at your Chair's forums and in the summary report. The Workforce Board commits to help the Washington team understand and leverage the resources of the state's workforce development system towards its goals.

This application describes Washington's recent efforts to drill more deeply and intentionally into education-industry alignment in the specific area of STEM. Research-based industries and technological innovation continue to be drivers of Washington's economy and job growth. New job creation and the re-engineering of traditional jobs are occurring at all occupational levels and across all industries. While our annual Skills Gap analysis has shown that we are meeting many of the basic mid-level workforce needs of our employers, our employer survey tells us that we are not hitting the mark in meeting specific technical skill needs, nor the essential skills of being an effective worker.

Involvement in this Policy Academy will give Washington the fuel to advance the work of the STEM Education Innovation Alliance (the Alliance), which was established via request legislation from Governor Inslee in 2013. The Alliance and Washington STEM, a unique and valuable partner, have created the basis for both an action plan and performance accountability

framework. The financial and collateral support of this Policy Academy will allow Washington to learn from experts in the field and other innovative states, while mobilizing resources within state to advance the Alliance's strategies.

The Workforce Board's strategic plan for workforce development, *High Skills, High Wages (HSHW)*, shares the governor's vision and provides high level goals and strategies to effect significant improvements in Washington's performance on behalf of its students and industries. HSHW articulates a "multiple pathways" strategy that embraces the strengths, passions and interests of each student as a set of assets upon which effective programs should be designed. HSHW stresses the importance of relevant, timely career guidance information, applied and work-integrated learning modalities that tie classroom learning to the real-world, valuable employer-engagement models, and connecting students to caring knowledgeable adults that can help students navigate education and career development.

We look forward to participating on Washington's team in this Policy Academy, to coordinate and align resources to advance the STEM talent pipeline for both students and employers. Please let me know if I can provide you with further information about the Workforce Board's role.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Eleni', written in black ink.

Eleni Papadakis,
Executive Director

Council of Presidents

REPRESENTING WASHINGTON'S PUBLIC BACCALAUREATE INSTITUTIONS

June 27, 2014

National Governors Association
Center for Best Practices
ATTN: Iris Palmer and Kelle Parsons
444 North Capitol Street, Suite 267
Washington, D.C. 2001-1512

RE: Support for Governor Inslee's Washington State Grant Application

Dear Ms. Palmer and Ms. Parsons:

In 2013, Washington state Governor Jay Inslee worked with state legislators to pass a key piece of legislation (House Bill 1872) that establishes a multi-sector STEM Education Innovation Alliance, with a set of tools that could help better align the state's educational, training and workforce systems with the economy. The NGA Policy Academy grant program could play a key role in advancing the STEM Education Innovation Alliance agenda, catalyzing efforts to bring disparate resources together and promoting best practice strategies by leveraging the Policy Academy's cross-state meeting structure.

Our state's educational system, workforce, and economy are all deeply interdependent. Its economic vitality depends on the skills of the workforce, and the skills of the workforce depend on the quality of the educational system. Conversely, to effectively prepare students for success, the educational system must be responsive to local, statewide, and regional workforce and employer needs. If a state's educational system, workforce, and economy are well-aligned, then individuals, communities, employers, and the overall economy can rise and expand in a virtuous spiral. If they are misaligned – if employers have difficulties finding workers with the skills they need and individuals have difficulties find good-paying jobs – it can lead to a vicious downward spiral.

This interdependence makes it imperative that Washington's postsecondary career training and higher education system continue to do everything possible to respond to current and emerging workforce and economic development needs. A vehicle for educators to learn more about the particular skills employers are seeking in their workers – and those they are having difficulty finding – is crucial to achieving and maintaining an effective alignment.

Studies have shown that by 2018, nearly three-fourths of available jobs will require some level of postsecondary education. However, only about 50 percent of the current adult population in Washington has completed a postsecondary certificate, apprenticeship, or degree. If effective actions are not taken to close this gap, and it persists into the future, business and industry may either have to import talent or export operations. Focused coordination of sufficient postsecondary educational resources with the needs of employers is imperative to maintain the vitality of the state's economy and help residents advance their educational dreams and succeed in their careers.

As executive director for the Council of Presidents, representing Washington's six public baccalaureates, serving more than 100,000 students, I endorse "The Governor's STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington's Technology-Based Economy" grant application. This grant could assist us in better aligning Washington's educational and training pipeline to the needs of the current and projected economy in Washington.

Thank you in advance for your consideration.

A handwritten signature in black ink that reads "Paul Francis". The signature is written in a cursive, flowing style.

Paul Francis, Executive Director
Council of Presidents



June 27, 2014

National Governors Association
Center for Best Practices
ATTN: Iris Palmer and Kelle Parsons
444 North Capitol Street, Suite 267
Washington, D.C. 2001-1512

RE: NGA Policy Academy on Aligning the Education and Training Pipeline to the Needs of the Economy – Washington State Grant Application

Dear Ms. Palmer and Ms. Parsons (NGA Grant Selection Committee):

On behalf of the 34 Community and Technical Colleges in Washington, serving over 400,000 students annually, I would like to urge your strong consideration and support for Governor's Inslee's "STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington's Technology-Based Economy" grant application. Support for this innovative approach to aligning the education and training pipeline to the needs of the economy is critical to our state's economy future.

Washington's dynamic and growing high-technology economy creates many high-skill and high wage job opportunities for its residents. However, it also creates challenges for the state's postsecondary education and training system. For example, a 2013 report by the Washington Roundtable, an organization representing business and industry leaders, revealed that there were 25,000 unfilled jobs in Washington due to a lack of qualified candidates. Eighty percent of those jobs were in high-demand health care and STEM fields, such as computer science and engineering.

This same report projected that, if this trend continues, local companies will experience approximately 50,000 vacancies by 2017, due to skill gaps in key fields. STEM and health care jobs account for 90 percent of these projected vacancies. The other side of this statistic suggests that significant numbers of native Washingtonians cannot find good paying jobs, or any job, because they do not have the requisite skill sets. As a result employers in Washington have relied heavily on candidates trained in other states and nations. Filling jobs, increasing the state's competitiveness for new jobs, and fostering opportunity for all Washingtonians requires a world-class education, training and workforce system aligned to the state's technology-based economy.

The objectives outlined in the grant application complement the goals of our 34 Community and Technical College, i.e., workforce alignment with skills that match current and projected jobs. Our dual mission, to meet current workforce and skills training needs with identified job openings, and provide academic transfer degrees both meet the objectives as outlined in the grant application.

As Executive Director of the State Board for Community and Technology Colleges, we stand ready to fully support the goals as presented in the grant. This funding of this grant will pay dividends in workforce alignment, investments in skilled employees, and economic development for our state.

Please offer full consideration of this grant request. Governor Inslee, the State Board, and our students urge your support.

Sincerely,


Marty Brown, Executive Director



STATE OF WASHINGTON
DEPARTMENT OF COMMERCE

1011 Plum Street SE • PO Box 42525 • Olympia, Washington 98504-2525 • (360) 725-4000
www.commerce.wa.gov

June 30, 2014

National Governors Association
Center for Best Practices
ATTN: Iris Palmer and Kelle Parsons
444 North Capitol Street, Suite 267
Washington, D.C. 2001-1512

Re: NGA Policy Academy on Aligning the Education and Training Pipeline to the Needs of the Economy – Washington State Grant Application

Dear NGA Grant Selection Committee:

Employers are expressing increasing concern over difficulties finding Washington residents with the skills necessary to fill select types of job openings, particularly in the fields of science, technology, engineering, math, and healthcare. Though Washington's postsecondary institutions are awarding increasing numbers of degrees in many of these areas, the increases are not coming quickly enough to meet employers' needs. If the gaps between workforce skills and employer needs persist, Washington's economic development may be hindered by companies relocating all or part of their operations to other states or countries where qualified employees are available.

Washington currently lacks a coordinated mechanism for collecting employers' input on the alignment of postsecondary education with workforce and skill needs and conveying that information to postsecondary institutions. While a number of resources are currently available to provide information on employer needs, most are not clearly linked to education and training programs, making it difficult to provide actionable information to postsecondary institutions. Many of these opening are in STEM related fields.

In response to Washington's STEM education challenge, Governor Inslee proposed the creation of the STEM Education Innovation Alliance, which was approved by the Washington State Legislature in 2013 in House Bill 1872. The STEM Alliance is designed to bring together members from business, labor, nonprofit, and education organizations as partners to advise the Governor and provide vision and guidance in support of STEM education initiatives. Its approach is broad and comprehensive, with a preschool-through-graduate school focus, and is focused on aligning the state's education system resources with the workforce needs and employment opportunities of its largely STEM-driven economy.

Iris Palmer and Kelle Parsons

June 30, 2014

Page 2

The alliance will approve a framework of goals and indicators for STEM learning and issue its first report card benchmarking Washington's STEM vision, regional networks and programs spanning P-20 education. Expanding the number of student internships and mentorships is anticipated to be an early recommendation. The Alliance will work on increasing industry-developed high school skills programs and expand opportunities for students to earn college credit for high school courses.

The STEM Education Innovation Alliance will convene a statewide workgroup to review existing employer feedback mechanisms in an effort to better align these resources. This will ensure postsecondary institutions have the information needed to respond proactively to employer and workforce skill needs. The workgroup—composed of a broad coalition of public and private institutions, employers, agencies, and other stakeholders—will do the following:

- Recommend ways to align and enhance existing employer feedback mechanisms to ensure they can be used by all Washington postsecondary institutions—public, private, two-year, and four-year—to respond to employer needs.
- Recommend innovative approaches for responding to employer and workforce skill needs.
- Recommend ways postsecondary institutions should account for how they respond to employer needs.

As Director of the Washington State Department of Commerce, I would like to express my full support for “The Governor’s STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington’s Technology-Based Economy” Grant application. The successful funding of this grant would allow Washington to align the education and training pipeline to the needs of the economy.

Thank you for your full consideration of the Governor’s grant request.

Sincerely,

A handwritten signature in black ink, appearing to read 'B. Bonlender', with a long horizontal line extending to the right.

Brian Bonlender
Director



June 27, 2014

National Governors Association
Center for Best Practices
ATTN: Iris Palmer and Kelle Parsons
444 North Capitol Street, Suite 267
Washington, D.C. 2001-1512

RE: NGA Policy Academy on Aligning the Education and Training Pipeline to the Needs of the Economy – Washington State Grant Application

Dear NGA Grant Selection Committee:

The Seattle Metropolitan Chamber of Commerce, which serves over 2,200 members, many of which are in science, technology, engineering, and math (STEM) industries, strongly supports Governor Jay Inslee's "STEM Education Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington's Technology-Based Economy" grant application. Funding this grant would secure the Governor's vision for aligning the education and training pipeline to the needs of the economy.

Currently, Washington is a national leader in STEM-related businesses and occupations. Industries such as aerospace, agriculture, clean energy, high-tech, health and life sciences, and manufacturing form the backbone of our state's innovation economy. We rank first in the concentration of STEM jobs, first in the creation of software companies, and second in the "New Economy" index for innovation and entrepreneurship.

However, recent studies done by the Boston Consulting Group for the Seattle Metro Chamber and the Washington Roundtable warn that our state—specifically the Puget Sound region, where many of the STEM-related industries are concentrated—faces a persistent, growing shortage in the availability of workers with STEM degrees. These studies project that by 2017, Washington employers will have 50,000 jobs in STEM fields that will go unfilled because of a lack of qualified workers, threatening our state's ability to maintain our dynamic, innovative business environment.

Governor Jay Inslee's vision for a multi-sector STEM Innovation Alliance to align strategic plans and activities that prepare workers for STEM-related jobs and careers takes a vitally important step in harmonizing our state's efforts to address this gap. The proposal addresses our state's need for a comprehensive, coordinated strategy that enables us to make the most of the rich economic opportunities ahead, and advances the long-term goals of improved educational, workforce, and economic outcomes.

Thank you for considering this application.

Sincerely,

Maud Daudon
President and CEO



**WASHINGTON
ROUNDTABLE**

520 Pike Street, Suite 1212
Seattle, WA 98101-4001
phone (206) 623-0180
fax (206) 623-6576
www.waroundtable.com

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Office Manager

June 30, 2014

Richard Laine, Director
Education Division
National Governor's Association (NGA) Center for Best Practices
444 North Capitol Street, Suite 267
Washington, D.C. 20001-1512

Dear Richard,

On behalf of the Washington Roundtable, it is my pleasure to support Governor Jay Inslee's application to participate in the *National Governors Association (NGA) Policy Academy on Aligning the Education and Training Pipeline to the Needs of the Economy*.

The growth of our state's innovation economy is at risk due to a persistent and growing skills gap. A 2013 Washington Roundtable/Boston Consulting Group (BCG) report found 25,000 jobs, heavily concentrated in the STEM (science, technology, engineering and math) disciplines, had gone unfilled in our state due to a lack of qualified candidates. At the same time, 1,200 qualified students had been turned away from computer science and engineering programs at our state's higher education institutions due to lack of capacity.

The study also found that, if Washington takes steps to address the skills gap by aligning its education systems and improving STEM education, a total of 160,000 new jobs could be created statewide by 2017. That growth would result in an estimated \$720 million in annual state tax revenue and lower the unemployment rate by up to two percent.

The health of our state economy requires that Washington better prepare its students for the great jobs that our employers are already creating. STEM education is key to that preparation. Gov. Inslee's proposed STEM Education Innovation Alliance is poised to help provide the leadership and action needed to address Washington state's skills gap.

I urge you to select Washington state for the Policy Academy. I pledge our support for the work in the state and our help to share best practices and models with colleagues across the country.

Sincerely,

Steve Mullin
President

June 30, 2014

Richard Laine, Director
National Governors Association
Centers for Best Practices
444 North Capitol Street, Suite 267
Washington, DC. 20001-1512

Dear Mr. Laine:

On behalf of the Association of Washington Business, we wish to express our support of Governor Jay Inslee's proposal for the National Governors Association (NGA) Policy Academy on Aligning the Education and Training Pipeline to the Needs of the Economy. The Association of Washington Business (AWB) is the state's oldest and largest statewide business association whose membership includes more than 8,100 employers representing over 700,000 employees. AWB serves as both the state's chamber of commerce and the manufacturing & technology association. In addition, we provide a workforce/training outreach through our nonprofit entity, the AWB Institute.

AWB members have become increasingly vocal on the need for applicants with better science, technology, engineering and math (STEM) skills. As a state known for our innovation opportunities in business, we are making concentrated efforts to reinforce and support STEM education in our schools and provide partnerships between our business members and education systems. In addition, we have and will continue to support legislation to promote STEM education, believing this education is vital to the success of our students- our future workforce. Yet, there is much more that is needed to promote and support the implementation of STEM education and training throughout our state.

We believe Washington is ripe with opportunity to expand and firmly establish a national model of STEM excellence and we believe with your assistance, the support of our 8,100 members, and a grant from NGA, we can create such a model.

We appreciate your time and consideration.

Regards,



Sheri D. Nelson
Government Affairs Director

ASSOCIATION OF WASHINGTON BUSINESS
Membership Government Affairs Member Services AWB Institute

T 360.943.1600 ✉ PO Box 658, Olympia, WA 98507-0658
T 800.521.9325 🏠 1414 Cherry St. SE, Olympia
F 360.943.5811 www.awb.org

June 30, 2014

Richard Laine, Director
Education Division
National Governors Association Center for Best Practices
444 North Capitol Street, Suite 267
Washington, D.C. 20001-1512

Dear Mr. Laine,

On behalf of Washington STEM's Board of Directors, it is my pleasure to support Governor Jay Inslee's proposal for the *National Governors Association (NGA) Policy Academy on Aligning the Education and Training Pipeline to the Needs of the Economy*.

Starting with his 2013 inaugural address, Governor Inslee has championed science, technology, engineering, and math (STEM). The governor shares a core belief with Washington STEM that in our state—which is home to Amazon, The Boeing Company, Microsoft, and many smaller companies like my own McKinstry—STEM fuels job creation, economic growth and opportunity, and innovation. We also share with the governor a commitment to transform our education and training systems with a focus on STEM.

Today, many Washingtonians are excluded from the good paying jobs created by our high-tech economy, posing a major barrier to both individual opportunity and economic growth. Strengthening the alignment between education and economy creates a win-win: our world class companies can hire a world class and homegrown workforce, and Washingtonians from every community can lead productive and successful lives.

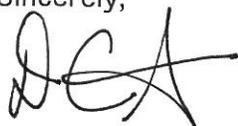
Washington STEM is a nonprofit that launched in 2011 to incubate and spread promising solutions to the state's STEM challenges and to forge collaboration among businesses, educators, communities, and private philanthropies. Washington STEM brings a statewide system of seven community-based regional STEM Networks, committed partners across the state, and technical expertise to the table. Under the governor's leadership, we have an unprecedented opportunity to align our efforts – public and private sector – and work together to build next generation education and training systems.

Washington state is well positioned to take advantage of the NGA Policy Academy in order to accelerate and enhance its existing efforts. Throughout the grant period, Washington STEM pledges to support the state's participation, learning, collaboration with other states, and success.



Thank you for your consideration.

Sincerely,



Dean C. Allen

McKinstry CEO and Washington STEM Board Chair
Signed on behalf of the Washington STEM Board of Directors

Bradford L. Smith
General Counsel and Executive Vice President, Legal and Corporate Affairs, Microsoft
Washington STEM Board Vice-Chair

Bill Lewis
Chairman, Lease Crutcher Lewis
Washington STEM Board Treasurer

Dr. Susan Enfield
Superintendent, Highline Public Schools
Washington STEM Board Secretary

Dr. Elaine Beraza
Superintendent, Yakima School District
Washington STEM Board Member

Mike Delaney
Vice President of Engineering, Boeing Commercial Airplanes, The Boeing Company
Washington STEM Board Member

Barbara Hulit
Senior Vice President, Danaher Business System, Danaher Corporation
Washington STEM Board Member

Phillip C. Ohl, PE
Chief Operating Officer, Kurion, Inc.
Washington STEM Board Member

Elizabeth Tinkham
Senior Managing Director, Accenture
Washington STEM Board Member



TIF #2021

June 27, 2014

National Governors Association
Center for Best Practices
444 North Capitol Street, Suite 267
Washington, D.C. 20001-1512

Dear National Governors Association:

I am pleased to write in support of Governor Jay Inslee's proposal to the National Governors Association (NGA) for *The Governor's STEM Innovation Alliance: Leveraging the NGA Policy Academy to Foster Washington's Technology-Based Economy*.

Battelle is the world's largest non-profit research and development organization. Established in 1929 "for the purpose of education...the encouragement of creative and research work and the making of discoveries and inventions," we have a long-standing commitment to community development and education in science, technology, engineering and mathematics (STEM). Through BattelleEd (an Ohio nonprofit corporation focused on STEM education, of which Battelle Memorial Institute (Battelle) is the sole member, we operate the STEMx™ network of states which work together to increase student engagement, prepare educators, and mobilize communities to prepare students for success in the 21st century economy. Washington is a founding member of STEMx through the participation of Washington STEM, an Alliance collaborator.

The Governor's proposal seeks to advance the agenda of the multi-sector STEM Education Innovation Alliance established by House Bill 1872 in 2013. The NGA Policy Academy grant would be used to catalyze efforts to bring disparate resources together and promote best practice strategies by leveraging the Policy Academy's cross-state meeting support. This will build upon work already underway such as the statewide Framework for Action and Accountability, whose development is being led by Washington STEM with support from Battelle.

The Governor's STEM Innovation Alliance proposal addresses needs across the STEMx network and is aligned with Battelle's interests in sharing and spreading effective STEM policy, practices and partnerships. We will support the proposal through STEMx network engagement with Washington STEM, including consultation on design questions and dissemination of learning and best practices across the multi-state network. This growing network currently includes 18 states, the District of Columbia, and the Territory of Guam. Washington state plays a leadership role in the network and is active on Action Teams for Federal & State Policy and Communications & Advocacy, whose interests align with those underlying the NGA Policy Academy. Battelle provides leadership and support to the network through its commitment to help inspire and train scientists, engineers, technology and thought leaders whose contributions will advance industry and the public good.

Thank you for your leadership in creating the NGA Policy Academy opportunity.

Sincerely,



Aimee L. Kennedy
Vice President, Education, STEM Learning and Philanthropy



June 30, 2014

Richard Laine, Director
Education Division
National Governor's Association (NGA) Center for Best Practices
444 North Capitol Street, Suite 267
Washington, D.C. 20001-1512

Dear Richard,

On behalf of Thrive by Five Washington, Washington state's lead public-private partnership for early learning, it is my pleasure to support Governor Jay Inslee's application to participate in the NGA Policy Academy on Aligning the Education and Training Pipeline to the Needs of the Economy.

Our state knows that a life-long love of science, technology, engineering and mathematics starts in the earliest years with building blocks, water play and caregivers who get excited about these topics just as they do reading.

We also know that not every child gets this experience. Only about half of our state's kindergartners have the math skills they need for a good start in school. With math the gateway to success in science, technology and engineering careers and current research suggesting that math ability is a strong predictor for long-term school success, Washington state must do better, earlier.

Last year, Thrive launched a grant program to help the early learning field grow in awareness, skill and support of STEM for our youngest children, so that all children have stronger STEM backgrounds as they enter kindergarten. Our K-12 colleagues are working with us to ensure alignment to their efforts. And our board of directors is committed to this work as well as our many partners and grantees in communities throughout the state.

We strongly encourage you to select Washington state for the Policy Academy. We pledge our support and partnership to make Washington a strong and model STEM state.

Sincerely,

Sam Whiting
President & CEO

Officers

- Sam Whiting, Thrive by Five Washington, President & CEO
Kevin C. Washington, Tabor 100, Chair
William H. Gates Sr., Bill & Melinda Gates Foundation, Past Chair
Jackie Bezos, Bezos Family Foundation, Past Chair
State Rep. Ruth Kagi, Early Learning & Human Services Committee, Co-Vice President
Don Stark, Smith & Stark, Co-Vice President
Dan Kranzler, Kirlin Charitable Foundation, Treasurer
Beverly Jacobson, Angel Care Breast Cancer Foundation, Secretary

Directors

- Tony Benton, Community Volunteer
State Sen. Andy Billig, Early Learning & K-12 Education Committee
Susan Champlain, The Boeing Company
Dr. Dimitri Christakis, Seattle Children's Hospital
Randy Dorn, Office of Superintendent of Public Instruction
Dennis Gisi, Bank Reale
Dr. Bette Hyde, Washington State Department of Early Learning
Trudi Inslee, First Lady of Washington State
Valorie Johnson, W.K. Kellogg Foundation
Lynn Kessler, Community Volunteer
Janet Levinger, Community Volunteer
State Sen. Steve Litzow, Early Learning & K-12 Education Committee
Jim McCarthy, E.K. Riley
Mary Ellen O'Keefe, North Seattle Community College
David Sanders, Casey Family Programs
Alisher Saydalikhodjayev, Microsoft
Katie Simons, Bill & Melinda Gates Foundation
Dr. Beck Taylor, Whitworth University
Michelle Vallene, Learner's Lane
State Rep. Maureen Walsh, Early Learning & Human Services Committee

