

# BROOKINGS

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## Nevada's Hidden STEM Economy—and How to Expand It

Project prospectus

Forthcoming autumn 2014

### **The proposition:**

In autumn 2014 the Brookings Institution's Metropolitan Policy Program (MPP) and Brookings Mountain West (BMW) will deliver a detailed analysis of and strategy for expanding Nevada's "hidden" STEM economy. This report will aim to provide a better understanding of the role that STEM-strong industries play in the state's economy and will offer recommendations on how to bolster this critical sector, with particular attention to the development of a STEM-proficient workforce.

### **The project:**

Recognizing the critical importance of so-called "STEM" workers to the success of Nevada's economic diversification strategy, MPP and BMW will develop and publish a fresh analysis of Nevada's STEM economy and the education and training strategies needed to expand it.

Attention to the size and skill mix of the workforce needed for a strong STEM-driven economy has become a matter of urgency in Nevada.

Informed by the 2011 MPP / BMW / SRI International report "Unify / Regionalize / Diversify," Nevada's ambitious economic diversification strategy calls for the state to complement support of its core tourism and gaming industries with efforts to foster the emergence of an array of new, in many cases technology-intensive industries like IT business ecosystems and the health-medical sector. However, even the modest growth now taking place in the new target sectors has begun to tax the skills base of the state's existing workforce.

Employers in Nevada's more STEM-intensive sectors continue to express concern about the difficulty of finding workers who possess the skills that companies need.

Meanwhile, significant education and training challenges rooted in both the state's complex demographics and stressed K-12 and postsecondary institutions have been widely noted.

In view of these pressures, MPP and BMW are working to craft a detailed trend analysis of the state's STEM economy that is attentive to workforce demand and supply issues. The report will provide a systematic review of current education and training system challenges as well as recommendations detailing how Nevada's public, private, and philanthropic sectors can work together to prepare workers of all education levels for employment in STEM-strong industry sectors.

Along these lines, this timely study will trace out the contours of Nevada's STEM economy and suggest how Nevadans can work to strengthen their state's STEM workforce in order to help chart a path toward greater prosperity in the decades ahead.

With mining in the north and gaming and tourism in the south, Nevada may seem like a strange place to discuss the STEM economy. Yet, the raw facts show that STEM skills cross many different and unexpected industries and occupations in the state. By severing the exclusive tie between STEM and highly educated workers, this study focuses attention on what matters most in the labor market: skills.

## **The analysis:**

This new report will link original analysis of Nevada's STEM worker supply and demand tensions with a systematic reframing of the responses needed to strengthen the state's STEM workforce.

Throughout, the report will use a new definition of STEM—established in previous Brookings research—based on detailed surveys of the knowledge requirements of workers. These data from the U.S. Department of Labor will be combined with industry employment trends from public data sources and job openings information from a proprietary provider (Burning Glass) to shed light on Nevada's "hidden" STEM economy.

The report will also examine the state's existing education and training systems in order to determine where the state is doing well on advancing STEM education and worker preparedness and the challenges still to be addressed.

Lastly, the report will explore how Nevada can set a path forward for STEM education that engages the many stakeholders involved.

Ultimately, the report will provide:

- Statistics on the growing demand for STEM workers during the recovery period (2010-2012) in Nevada's target sectors and how it varies by area within the state
- A description of the skills, certifications, and occupations that are in short supply regionally relative to demand—as expressed through analysis of 2013 job openings—and that offer the highest salaries at various levels of education
- A careful review of the strengths and weaknesses of the state's current STEM education and workforce training systems, including quantitative analysis of alignment with demand
- Actions that the state, working with other key stakeholders in the public, private, and philanthropic sectors, will need to take to set a clear vision for the continued growth of Nevada's STEM workforce
- Detail on how the various stakeholders involved can align their efforts to advance this new vision
- Recommendations on how Nevada can begin to address its STEM proficiency crisis at both the P-12 and postsecondary levels.

## **Products:**

The final product of this effort will be the release of a detailed report on Nevada's hidden STEM economy and the policies and actions needed to support the growth of STEM-intensive industry in the state. The report will be released through public forums in the state's two major metropolitan areas as part of a systematic effort to convene stakeholders, discuss the recommendations, and galvanize work on implementation. Through this report, MPP and BMW hope to provide a starting place for the disparate actors implicated in Nevada's STEM economy so that they might begin the work of developing a strategy and platform for serious progress in the years ahead.

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