

Boulder's Innovation Engine: Dynamic Leadership in Economic Vitality

New Innovation Blueprint 3.0 Helps Foster Creative Entrepreneurship

Over the past decade, Boulder, Colorado, has solidified its position as a preeminent center for innovation and entrepreneurship. This did not happen by accident. Rather, business, government, academic, and community leaders leveraged a unique set of advantages to create an environment in which new businesses could start and succeed while existing ones could continue to innovate and thrive. In short, Boulder fashioned a climate for creativity that is the envy of many other communities.

However, just as Boulder's current success was created by a concerted effort, it is also finding new ways to ensure continued progress in an ever changing economic climate. Individuals, businesses, and community organizations are reinventing and renewing their efforts in order to sustain and improve the city's and the region's leadership position. The Boulder Chamber-led Innovation Blueprint 3.0 has emerged as one important initiative to help sustain and improve these efforts—to be an agent for continued creativity and entrepreneurship in an evolving world.

Creating a “Culture of Innovation” for Entrepreneurial Leadership

Boulder is widely recognized as a center of innovation and a magnet for startups. A recent study by Engine and the Ewing Marion Kauffman Foundation ranked Boulder as having the highest technology startup density in the country.¹ Similarly, a variety of other sources also have named Boulder as a great place for innovation and startups. *Bloomberg BusinessWeek*² has cited Boulder's many natural and economic assets (see below) as making it a “top U.S. destination for new tech companies largely because of a bottom-up revolution led by entrepreneurs.” *Business Insider* named Boulder to its list of the 20 Most Innovative Cities³. *CNN Money* has labeled Boulder as one of the nation's cities where startups are thriving⁴.

Some key indicators speak for themselves. Over the past five years, Boulder garnered about one-third of the venture capital investment in Colorado companies.⁵ *Atlantic Cities* online has named Boulder one of the top cities nationwide in attracting venture capital.⁶ The Brookings Institution cited Boulder as having one of the highest ratios of patents applied for per capita in the country from 2007 to 2011.⁷ Boulder's unemployment rate has remained consistently below both state and national rates.⁸

Why has Boulder been able to enjoy such success?

Make no mistake, Boulder enjoys a unique set of assets that makes it a great and innovative place to live and work:

- **Unparalleled scenic beauty.** Nestled in Boulder Valley near the foothills of the Rocky Mountains, Boulder offers a chance to relish nature's wonders and participate in a variety of recreational opportunities. Boulder is widely recognized as a Mecca for outdoor recreation and environmental awareness, with 45,000+ acres of open space, and more

than 150 miles of public biking and hiking trails.⁹ Outside Magazine has rated Boulder at the top or among the best in America for outdoors activities and overall quality of life and work.¹⁰ As the Kauffman study notes, these quality-of-life factors have helped employers attract and retain valuable workers.

- **Favorable Cost of Living.** The cost of living in the Boulder area compares favorably with many other areas of the country, including the Silicon Valley region. In fact, recent Consumer Price Index data indicates the cost of living in the Denver-Boulder-Greeley area is lower than the U.S. city average.¹¹
- **An assemblage of innovative business, large and small.** Thanks in large part to past proactive decisions and recruiting efforts, the Boulder area has a mix of global technology leaders such as IBM, Ball Aerospace, Google, and Oracle, large companies in other industries such as Celestial Seasonings, and many other firms in a variety of business lines. As the Kauffman report has pointed out, such organizations are a key element in sparking spinoff activity.
- **A world class *engaged* university.** University of Colorado Boulder offers a full range of disciplines in humanities, social sciences, physical and biological sciences, fine and performing arts, and professions. The university is one of only 34 U.S. public research universities invited to join the prestigious Association of American Universities, and has the Rocky Mountain region's largest library collection. Four of the university's faculty members have received Nobel prizes and four professors have been awarded the National Medal of Science.¹² But CU-Boulder also *engages* with the business community to help foster innovation. For example, its renowned Leeds School of Business Deming Center for Entrepreneurship prepares graduates to embrace key global challenges by equipping them to think like entrepreneurs, act as social innovators, and deliver as successful business leaders.¹³ And CU recently announced its new "Office of Industry Collaboration" to help bolster partnerships with businesses.¹⁴
- **Leading federally funded laboratories.** Among other leading organizations, Boulder is home¹⁵ to the
 - Cooperative Institute for Research in Environmental Sciences (CIRES)
 - Earth System Research Laboratory (ESRL)
 - Institute for Telecommunications Sciences (ITS) of the National Telecommunications and Information Administration (NTIA)
 - Institute of Arctic and Alpine Research (INSTAAR)
 - JILA (originally Joint Institute for Laboratory Astrophysics, now expanded fields)
 - Laboratory for Atmospheric and Space Physics (LASP)
 - National Center for Atmospheric Research (NCAR)
 - National Climatic Data Center (NCDC)
 - National Environmental Satellite, Data and Information Service (NESDIS)
 - National Geophysical Data Center (DGDC)
 - National Institute of Standards and Technology (NIST)
 - National Oceanic and Atmospheric Administration (NOAA)
 - National Snow and Ice Data Center (NSIDC)
 - National Weather Service (NWS)
 - Space Weather Prediction Center (SWPC)
 - University Corporation for Atmospheric Research (UCAR)

Though the effects of hosting these facilities are many and varied, the University Of Colorado Boulder Leeds School Of Business in a CO-LABS study estimated that the total economic impact of federal labs in Boulder County in FY 2012 was a positive \$743.2 million.¹⁶

- **A highly educated and creative workforce.** Along with the university, Boulder is home to a topnotch K—12 school district, a community college system, the Naropa Institute, and other educational opportunities. All told, well over 2/3 of its population has a bachelor’s degree or higher¹⁷; many of these people form a critical mass of especially creative individuals. In addition to being highly educated, Boulder’s workforce is known for its creativity, which spans a variety of disciplines. Richard Florida, well-known author, researcher, and founder of the Creative Class Group, has cited Boulder as a leader in startups, innovation, and creativity, saying it “...sits atop my own rankings of the nation's most creative metros.”¹⁸
- **A Value of Artistic Creativity.** Highly creative and entrepreneurial communities include not only mathematicians, engineers, and scientists, but also architects, designers, artists, entertainers, and others who foster new thinking and innovation.¹⁹ With many galleries and performance venues, Boulder exemplifies such communities, offering a variety of cultural outlets. The city hosts the Boulder Philharmonic, the Dairy Center for the Arts, the Boulder Museum of Contemporary Art, and others. In fact, Boulder has more than 30 art galleries, four museums, 32 movie and stage theaters, and an impressive variety of cultural performances and events that nourish creative endeavors.²⁰ In addition to contributing to the creative quality of life, the nonprofit arts and culture industry in Boulder generates \$20.2 million in total economic activity in its own right, including about 524 full-time equivalent jobs and \$12.8 million in household income to local residents.²¹

Collaborative Environment Nurtures Culture of Innovation

By themselves, these tremendous assets didn’t assure Boulder’s position. That achievement resulted from the efforts of many business, government, academic, and community leaders who began programs and processes to foster a *culture of collaboration and innovation*. Research has shown that most innovation “breakthroughs” are achieved through extended hard work on a problem, experience, and creative collaboration.²² In its 2013 *Colorado Innovation Report*, the Colorado Innovation Network highlighted the critical importance of what it called an “ecosystem of collaboration and information sharing” to entrepreneurial activity.²³ It pointed out that Colorado overall is a leader in building such ecosystems. The former Administrator of the U.S. Small Business Administration has stated, “No entrepreneur can go at it alone. A network of mentors and a skilled workforce are necessary. SBA studies show that small-business owners who have a mentor have more longevity in business and hire more workers.”²⁴

Boulder is host to numerous organizations and facilitates that enable collaborative, innovative thinking and help new and established businesses thrive. In addition to the previously mentioned university programs, Boulder has an abundance of mentorships, incubators, startup and entrepreneurial support groups. In fact, the *CNN Money* article mentioned earlier cited Boulder’s collaborative environment saying, “If a startup wants investors, mentors and a supportive community -- but not the expensive costs of a major city-- Boulder is the place to be.” It called Boulder-spawned Techstars, now with national offices, as perhaps the best startup development

program in the country. Writing in the Wall Street Journal, David Cohen, co-founder of Techstars, said, “Boulder has developed a reputation for its distinctly ‘open door’ nature and inclusive ecosystem. Everyone has something to contribute. There’s a true spirit of community, with everybody helping each other, giving back, making introductions and sharing information with others.”²⁵

“There is no doubt we’ve set a high bar here,” stated John Tayer, President and CEO of the Boulder Chamber. “We see ourselves as a leader in creativity and innovative startups, so we are looking to meet and exceed the standards we’ve established.”

So Boulder has brought together an ecosystem of people and organizations to create its innovation engine. But in a competitive global marketplace, one question remained: How do you keep moving forward?

Blueprint 3.0: Helping Secure Boulder’s Innovative Future

Not resting on its past and current successes, Boulder’s leaders know it has to continue finding inventive ways to attract and foster innovative firms, startups, and investors. So the Boulder Chamber introduced the Innovation Blueprint 3.0 initiative as a way to continue building on Boulder’s traditional strengths and to find new ones. It provides a framework to foster entrepreneurial thinking and creative problem solving. (See <http://www.boulderchamber.com/pages/InnovationBlueprint302/> for more information.)

Boulder’s first wave of innovation flourished decades ago through leading edge thinkers from IBM, the Federal Laboratories, and the University of Colorado. Its second wave was spurred by a technology boom in the 1990s and early 2000s that expanded Boulder’s leadership in software, data storage, bioscience, and aerospace, along with the growth we saw in other sectors such as the outdoor industry. The Blueprint recognizes that Boulder is now entering a third wave of innovation that is powering an explosion of entrepreneurship and economic opportunity. From e-commerce to cleantech to natural products to tourism, Boulder has become a destination and a brand with a surprisingly diverse economy. The Innovation Blueprint 3.0 is a collaborative effort to help the community accelerate this third wave of opportunity and to advance Boulder’s global innovation leadership.²⁶

“Leaders are not complacent—that’s why they lead,” stated Tayer. He continued, “They strive for continuous improvement.”

“We know that the business world is changing, and we know there are some uncertainties on the horizon” He cites the ongoing discussions about federal funding levels, increasing efforts of many other communities for attracting businesses, and some gaps in Boulder’s already strong support network, as some examples.

“In addition,” he said, “there are tremendous opportunities for us to provide leadership in important national and global business challenges, such as developing new cleaner energy sources and using technology to enrich our lives.”

Indeed, the Kauffman Foundation study cited several metro areas that suffered declines in startup activity between 1990 and 2010²⁷. The study also noted that today’s successful areas, including

Boulder, have built on years of efforts to attract and nurture pioneering companies.²⁸ The implication is clear: securing and maintaining a leadership position requires a concerted, enduring effort.

“We know that we have to work together to address those and other challenges,” Tayer added. “Innovative communities are just that: locales that don’t stand still. They are constantly looking for creative solutions and to take advantage of new market opportunities.” Fostering new, innovative businesses is a key element.

The Innovation Blueprint is defined as “a framework to foster entrepreneurial thinking and creative problem solving”. The framework is focused on five key priorities²⁹:

1. Strengthening the Business Innovation Network
2. Advancing Innovative Policy Solutions
3. Promoting Boulder Innovation
4. Increasing Innovation Investment
5. Building Innovation Infrastructure

The initiative has begun its work by forming an action group, called “Team Boulder”, to engage community members and move forward. Tayer has personally been making the rounds of various stakeholders, explaining the initiative’s goals and motivating participation.

“We want to be able to not only adapt to the changes in the economy but also to lead the change process,” observed Tayer. “When we can do that, we’ll be able look back with pride on the Innovation Blueprint 3.0 as an important agent that helped make it possible.”

¹ Dane Stangler, *Path-Dependent Startup Hubs: Comparing Metropolitan Performance: High-Tech and ICT Startup Density*, (Ewing Marion Kauffman Foundation; September, 2013), p. 13; and Ian Hathaway, *Tech Starts: High-Technology Business Formation and Job Creation in the United States*; Engine (for the Kauffman Foundation Research Series: *Firm Formation and Economic Growth*, August 2013), p. 12.

² Vivek Wadhwa, “Why Boulder is America’s Best Town for Startups”, *BusinessWeek* online, April 22, 2010, accessed November 10, 2013, <http://www.businessweek.com/stories/2010-04-22/why-boulder-is-americas-best-town-for-startupsbusinessweek-business-news-stock-market-and-financial-advice>; and http://images.businessweek.com/ss/10/04/0422_top_ten_startup_cities/2.htm

³ Max Nisen, “Top20 Most Innovative Cities in the US”, *Business Insider* online, February 1, 2013, accessed October 14, 2013; <http://www.businessinsider.com/the-20-most-innovative-cities-in-the-us-2013-2?op=1>

⁴ Jose Pagliery, “Cities Where Startups are Thriving”, *CNNMoney* online, November 27, 2012, accessed October 13, 2013, <http://money.cnn.com/gallery/smallbusiness/2012/11/27/startup-cities/index.html>

⁵ *Pricewaterhouse-Cooper/Venture Economics /NVCA MoneyTree™ Report*, cited in “*Market Profile: Boulder, Colorado*”, Boulder Economic Council, January 2013, page 25.

⁶ Richard Florida, “America’s Leading Metros for Venture Capital”, *Atlantic Cities*, online, June 17, 2013, accessed October 10, 2013, www.theatlanticcities.com/jobs-and-economy/2013/06/americas-top-metros-venture-capital/3284/

⁷ Jonathan Rothwell, José Lobo, Deborah Strumsky, and Mark Muro, *Patenting Prosperity: Invention and Economic Performance in the United States and its Metropolitan Areas*; Metropolitan Policy Program, Brookings Institution, February 2013, p. 1.

⁸ Boulder Economic Council, *Market Profile; Boulder, Colorado*, January 2013, page 19.

⁹ Boulder Economic Council website, accessed November 10, 2013, <http://www.bouldereconomiccouncil.org/quality-of-life/recreation-sports/>.

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- ¹⁰ *Outdoor Magazine* online, accessed November 10, 2013, <http://www.outsideonline.com/search-results?q=boulder%2C+co>
- ¹¹ Boulder Economic Council website, accessed November 11, 2013, <http://www.bouldereconomiccouncil.org/quality-of-life/cost-of-living/>
- ¹² Boulder Economic Council website, accessed November 10, 2013, <http://www.bouldereconomiccouncil.org/quality-of-life/schools/>
- ¹³ University of Colorado, Leeds School of Business, Deming Center for Entrepreneurship website, accessed November 10, 2013, deming.colorado.edu/about/
- ¹⁴ University of Colorado Boulder, News Release online, September 5, 2013, accessed November 10, 2013, <http://www.colorado.edu/news/releases/2013/09/05/cu-boulder-announces-new-office-industry-collaboration>
- ¹⁵ Boulder Economic Council website, accessed November 10, 2013, <http://www.bouldereconomiccouncil.org/business-resources/research-facilities/>
- ¹⁶ *CO-LABS Economic Impact Study, Economic and Fiscal Impacts of Federally Funded Research Facilities in Colorado, FY2011–FY2013*, Business Research Division, Leeds School of Business, University of Colorado Boulder; August 2013, p. 14.
- ¹⁷ Boulder Economic Council, *Market Profile; Boulder, Colorado*, January 2013, p. 5.
- ¹⁸ Richard Florida, “The Surprising Cities Leading America’s Start-Up Revolution”, *Atlantic Cities* online; August 15, 2013, accessed October 14, 2013, <http://m.theatlanticcities.com/jobs-and-economy/2013/08/surprising-cities-leading-americas-startup-revolution/6493/>
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- ²¹ *Arts & Economic Prosperity IV, in the City of Boulder, CO*, Americans for the Arts, Washington, DC, 2012, p. 3.
- ²² Martin Zwilling, “10 Myths about Creativity You Need to Stop Believing Now”; *Entrepreneur Magazine* online, October 25, 2013, accessed November 5, 2013, m.entrepreneur.com/article/229600
- ²³ *Colorado Innovation Report: Accelerating Colorado’s Entrepreneurial Momentum, 2013*, The Colorado Innovation Network; Denver, CO, p. 17.
- ²⁴ Karen Mills, “Former SBA Chief on 3 Keys to a Better U.S. Entrepreneur Economy”, *Entrepreneur magazine* online, www.entrepreneur.com/article/229611, October 28, 2013, accessed November 7, 2013.
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- ²⁷ Dane Stangler, loc. Cit., pp. 6, 7, 8, 9, 10.
- ²⁸ Ibid, p 13.
- ²⁹ Team Boulder Website, <http://www.teamboulder.org/>