The Metropolitan Revolution and UNLV as a Carnegie-Tier 1 University

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The Metropolitan Revolution and UNLV as a Carnegie-Tier 1 University

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The Metropolitan Revolution is a 2013 Book by the Brookings Institution by Bruce Katz and Jennifer Bradley.

Katz and Bradley Argue that Big Metropolitan Areas are the Key Innovators of the Next American Economy and they Need Research Assets to Compete.
Nevada Economic Development Plan

Made the Same Assumption in 2011—Las Vegas Needs Innovation Tools and the Lack of a Carnegie-Tier 1 University Constitutes a “Threat” to the Region in a SWOT Analysis

Nevada is by Far the Most Populous State in U.S. Without at Least One Carnegie-Tier 1 University
Carnegie-Tier 1 University Defined

School Grants at Least 20 Research Doctorates

Three Levels Assigned Based on Research Activity

The Levels are Doctoral Granting, High Research Activity, and Very High Research Activity
The LV Metro Chamber of Commerce provides summary of the benefits that a Carnegie-Defined Tier 1 University would provide the Las Vegas Business Community in the March 2014 issue of Business Voice.
Comparing UNLV 1994 vs 2014

In 1994, UNLV is a Carnegie-Defined “Comprehensive Masters-Granting University”

In 2014, UNLV is a Carnegie-Defined “Research University/High Activity”
In 1994, UNLV is a US News-Defined “Second-Tier, Regional University”

In 2014, UNLV One of US News’ 250 “National Universities”

Bottom Line: Nevada is the Only State in the Southern Mountain West Minus a High-Performing Research University

<table>
<thead>
<tr>
<th>Megapolitan Area</th>
<th>University</th>
<th>Ranking in 2006 (Based on 2004-2005 data)</th>
<th>Ranking in 2002 (Based on 2000-2001 data)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun Corridor</td>
<td>University of Arizona</td>
<td>15</td>
<td>21</td>
</tr>
<tr>
<td></td>
<td>Arizona State University</td>
<td>59</td>
<td>55</td>
</tr>
<tr>
<td>Front Range</td>
<td>University of Colorado</td>
<td>26</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>University of Colorado, Denver Health Sciences Center</td>
<td>42</td>
<td>41</td>
</tr>
<tr>
<td></td>
<td>Colorado State University</td>
<td>55</td>
<td>51</td>
</tr>
<tr>
<td>Wasatch Front</td>
<td>University of Utah</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Northern New Mexico</td>
<td>University of New Mexico</td>
<td>84</td>
<td>79</td>
</tr>
</tbody>
</table>

Note: All universities classify as “Research University/Very High” under Carnegie system. The ranking is for state universities only (with the top-ranked school being the University of California, Berkeley). Source: Center for Measuring Research Performance (http://mup.asu.edu/research_data.html)
A paucity of innovation activities contributes to this lack of diversity

The state’s lack of sector diversity is not unrelated to the shortcomings of its current innovation system. Nevada lags other states and the nation on every indicator of innovation and R&D activity included in this study. The state’s lagging innovation activity is intertwined with the dominance and the nature of its core industries, which do not typically attain competitive advantage through R&D investments. Knowledge- and technology-based industries, for their part, have not always received the support, attention, and critical inputs they need to flourish—despite higher growth projections, higher average wages, and the sector’s potential to diversify and strengthen the state’s economy. As a result, Nevada’s innovation capacity remains underdeveloped.

Table 2. Innovation Analysis Summary

<table>
<thead>
<tr>
<th>Innovation Metric</th>
<th>Las Vegas</th>
<th>Reno</th>
<th>Rural Nevada</th>
<th>Nevada</th>
<th>United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earned Doctorates (2006-2009) (Per Capita – per 10,000 people)</td>
<td>283 (1.50)</td>
<td>377 (6.62)</td>
<td>0</td>
<td>660 (2.60)</td>
<td>192,072 (6.25)</td>
</tr>
<tr>
<td>Science and Engineering Research Space (2009) (Per Capita)</td>
<td>273,441 ft² (0.14 ft²)</td>
<td>841,804 ft² (1.46 ft²)</td>
<td>0 ft²</td>
<td>1,115,245 ft² (0.42 ft²)</td>
<td>213,787,532 ft² (0.70 ft²)</td>
</tr>
<tr>
<td>Federal R&amp;D Funding (2007) (Per Capita)</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>$200.9 mil</td>
<td>$411,400.4 mil</td>
</tr>
<tr>
<td>University R&amp;D Spending ($000s) (2009) (Per Capita)</td>
<td>$39,148 ($0.02)</td>
<td>$142,868 ($0.25)</td>
<td>$0</td>
<td>$182,016 ($0.07)</td>
<td>$54,935,457 ($0.18)</td>
</tr>
<tr>
<td>NSF Awards (2006-2010) (Per Capita – per 10,000 people)</td>
<td>69 (0.36)</td>
<td>176 (3.08)</td>
<td>0</td>
<td>245 (0.93)</td>
<td>60,628 (2.00)</td>
</tr>
<tr>
<td>SBIR/STTR Awards (2006-2010) (Per Capita – per 10,000 people)</td>
<td>14 (0.07)</td>
<td>46 (0.81)</td>
<td>1</td>
<td>61 (0.23)</td>
<td>25,570 (0.84)</td>
</tr>
<tr>
<td>Scientific Publications (2009-2010) (Per Capita – per 10,000 people)</td>
<td>1,172 (6.02)</td>
<td>1,372 (23.74)</td>
<td>20</td>
<td>2,529* (9.39)</td>
<td>566,468 (18.41)</td>
</tr>
</tbody>
</table>

* Because publications may be associated with more than one address, the total number of publications for Nevada is slightly lower than the sum of its geographic areas.

Reno Contains Over 3/4ths of Nevada’s Science and Engineering Research Space

Most of this Space was Built From Public Money Provided by the State of NV
The Texas Carnegie-Tier 1 Campaign

State Passed Tier 1 Bill in 2009 Creating a Fund to Enhance Budgets of Texas “National Research Universities” that Developed Tier 1 Campaigns

The Schools are Texas Tech, U of Houston, UT Dallas and UT San Antonio
“It makes the most sense to put new top tier institutions in large cities such as Dallas-Fort Worth and Houston... You need the sophistication of a major city to be able to take advantage of all the connections and opportunities these institutions can bring.”

Larry Faulkner, President Emeritus, University of Texas, Austin
Big Metros and Carnegie Tier 1 Universities

Virtually Every Large U.S. Metro has at Least One Carnegie Tier 1 University

Dallas is the Largest U.S. Metropolitan Area Without A Tier 1 School, But the Region is Perusing One

Orlando is the Newest Big Metro to Join the “Tier 1 Club” via the University of Central Florida
Connecting Tier 1 Schools to Metro Economy

Universities and Metros Must Work to Connect Academic Research to the Regional Economy

Consider the Case of the University of Arizona Optics College

World Class Program, But Not Much Economic Spin Off—Yet
Connecting Tier 1 Schools to Metro Economy

Consider the Contrast—Institute for Simulation and Training at UCF Begins With DoD and NASA Contracts

Now Anchors a Video Game and Amusement Park Industry Based in Orlando

The Tourist Core Sector Now Includes a High Tech Spin Off
Georgia State University in Atlanta and Wayne State University in Detroit.

Minority-Serving Carnegie Defined Tier 1 Universities in Detroit and Atlanta.

Yet both are “Unranked National Universities” Under the U.S. News College Survey.
The Metropolitan Revolution in Las Vegas

Includes UNLV as a Solid Carnegie Tier 1 University

UNLV Research Anchors Key Sectors Such as IT, Gaming Tech, Health Care and UAVs (AKA Drones)
In the 2020s UNLV is a Carnegie Tier 1 School

The University is Helping Las Vegas be More Sustainable via New Energy and Water Technology

The Regional Economy is Larger and Much More Diversified as We Export Our New Technology Around the World