

# CREATIVE



# CONNECTIONS

- ENGINEERS & LIGHTING DESIGNERS
- FLORAL DESIGNERS
- ARCHITECTS
- ART DIRECTORS
- CHIEF EXECUTIVES
- GRAPHIC DESIGNERS
- MEDICAL SCIENTISTS
- CHEFS & HEAD COOKS
- LANDSCAPE ARCHITECTS
- MANAGEMENT ANALYSTS
- SURVEY RESEARCHERS
- INTERIOR DESIGNERS
- WRITERS & AUTHORS
- CHOREOGRAPHERS
- CRAFT ARTISTS
- CURATORS
- COMMERCIAL & INDUSTRIAL DESIGNERS
- COMPUTER & INFORMATION SCIENTISTS, RESEARCH
- COMPUTER HARDWARE ENGINEERS
- COMPUTER SOFTWARE ENGINEERS
- DANCERS
- ECONOMISTS
- ENVIRONMENTAL SCIENTISTS
- FASHION DESIGNERS
- FINE ARTISTS
- BIOCHEMISTS & BIOPHYSICISTS
- CABINETMAKERS & BENCH CARPENTERS
- CAMERA OPERATORS, TELEVISION, VIDEO & MOTION PICTURES
- JEWELERS & PRECIOUS STONE & METAL WORKERS
- BROADCAST NEWS ANALYSTS
- COSMETOLOGISTS
- GRAPHIC DESIGNERS
- MAKEUP ARTISTS
- MARKET RESEARCH ANALYSTS
- MULTI-MEDIA ARTISTS & ANIMATORS
- MUSIC DIRECTORS & COMPOSERS
- MUSICIANS & SINGERS
- TAILORS, DRESSMAKERS & COSTUME DESIGNERS
- NEWS ANALYSTS, REPORTERS & CORRESPONDENTS
- URBAN & REGIONAL PLANNERS
- PHOTOGRAPHERS
- PRODUCERS & DIRECTORS
- PUBLIC RELATIONS SPECIALISTS
- RADIO & TELEVISION ANNOUNCERS
- RESEARCH PHYSICIANS AND SURGEONS
- SET & EXHIBIT DESIGNERS
- STONEMASONS
- DANCERS
- ECONOMISTS
- ENVIRONMENTAL SCIENTISTS
- FASHION DESIGNERS
- FINE ARTISTS
- BIOCHEMISTS & BIOPHYSICISTS
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- URBAN & REGIONAL PLANNERS
- PHOTOGRAPHERS

ARTS, IDEAS, AND ECONOMIC PROGRESS IN GREATER PHOENIX





# Dear Colleagues,

Maricopa Partnership for Arts and Culture (MPAC) evolved from a study much in the spirit of this one. In 2004, the Maricopa Regional Arts and Culture Task Force presented **VIBRANT CULTURE-THRIVING ECONOMY**, a report prepared by Battelle Memorial Institute and Morrison Institute for Public Policy that examined the state of arts and culture in our region and its impact on our economy. Although many leaders in the region believed arts and culture was important to our quality of life, they did not realize the full extent of its impact on our economic base and global competitiveness.

MPAC was established in part to strengthen this critical economic development role. Our mission is to develop and implement entrepreneurial partnerships that advance arts and culture as a critical component of the region's economic

prosperity, distinctiveness and vibrancy. Our goal is to work with key stakeholders to position the region as an international center for innovation and creativity renowned for its thriving economy, talent base, and unique and diverse cultural resources.

One critical piece of MPAC's strategy is to bring to the attention of regional stakeholders the strength of the symbiotic relationship among those sectors that focus on innovation and discovery. Arts and culture, for and non-profit, and those sectors that create ideas and products intersect and support each other. This inaugural study is the first to demonstrate these relationships. By measuring creative occupations rather than industries we found a wealth of creative workers across those sectors critical to an innovation economy.

There are many opportunities for leaders in this region to understand and respond to the call for action inherent in this study. Creative people want to live and work in a creative environment. A vibrant and eclectic community is a critical factor in competing for talent. Ultimately, the economic advantages of attending to the arts and cultural sector benefits us all.

**Myra Millinger //**

*President and CEO, MPAC*

“Our goal is to work with key stakeholders to position the region as an international center for innovation and creativity renowned for its thriving economy, talent base, and unique and diverse cultural resources.”

**Myra Millinger //**

*President and CEO • MPAC*

# It's Real. It's Critical. It's Our Time.

"We must recognize the importance of the creative connection in our region. What does this mean? It means larger investment in arts and culture and a long-term commitment to attracting and retaining creative people of all kinds, for they will be the catalyst for our future prosperity and quality of life."

**Mark Sklar //**

*Chair, Maricopa Partnership for Arts and Culture  
Managing Director, DMB Associates*



### **Arts, Ideas, and Economic Progress Are Strongly Connected**

There is a “creative cycle” where people create art and ideas that contribute not only to an attractive quality of life, but also to a prosperous economy. This in turn enables regions to build and support “creative places,” the mix of institutions, venues, and events that grow, attract, and retain creative people. Creativity is an imperative for a successful economy.

### **Creative People Are the Region’s Most Valuable Resource**

Creative people catalyze the creative cycle. In the United States, the most prosperous regions over the long term are invariably those with a large pool of creative talent in the arts, sciences, engineering, and business. Creative people are catalysts for innovation in those sectors essential to a region’s economic growth and world positioning.

### **Creativity Is Having a Major Impact on Greater Phoenix**

This report provides a first-ever baseline measure of our regional creativity-based economy. More than 100,000 people work in at least 150 creative occupations, generating \$5.8 billion in annual wages. These creative occupations are found in many industries in addition to the traditionally measured industries of arts, culture, and design. Together they represent 6.1% of the total workforce.

### **The Region is Experiencing a Creativity Gap**

Despite the rapid growth of our metropolitan area, in more than 75% of all creative occupational categories the region falls short of the national average, particularly in the performing arts. This shortfall in the performing arts is not surprising given the low per capita spending on arts and culture in comparison to other high-growth regions in the country.

### **To Close the Creativity Gap, Greater Phoenix Needs to Become a More Creative Place**

Creative people like to live in vibrant places—regions with a rich mix of arts and cultural attractions, inspiring architecture, festivals and events, and venues to meet other creative people. That is why investment in arts and culture is an essential part of a strong creative community, as are vibrant districts that attract and grow creative talent.

### **We Must Close Our Creativity Gap Before it Becomes a Competitiveness Gap in the Global Marketplace**

Without a strong flow of innovation, the Greater Phoenix regional economy will inevitably falter, as other U.S. regions with a greater commitment to creativity surge ahead and other countries like China and India become more formidable competitors.

# the Creative

# CYCLE

## **Arts, Ideas, and Economic Progress Are Strongly Connected**

Arts and culture is widely recognized as an essential ingredient for an attractive quality of life in regions across the country. However, arts and culture is also an important catalyst for economic progress—providing a stimulating environment for creative people who generate new ideas and innovations throughout the economy. Creativity is not limited to artists, but pervades the sciences, engineering, and business. Arts and culture is not just for entertainment and enrichment, but inspires creativity in many fields.

Creativity, arts and culture are inextricably linked. They are part of a “creative cycle” where people create “products” (i.e., arts and ideas) that contribute to an attractive quality of life, but also to a prosperous economy (i.e., innovations that create wealth), which in turn enables regions to build and support “creative places” the mix of institutions, venues and events that grow, attract, and retain creative people.

## **Creative People Are a Region's Most Valuable Resource**

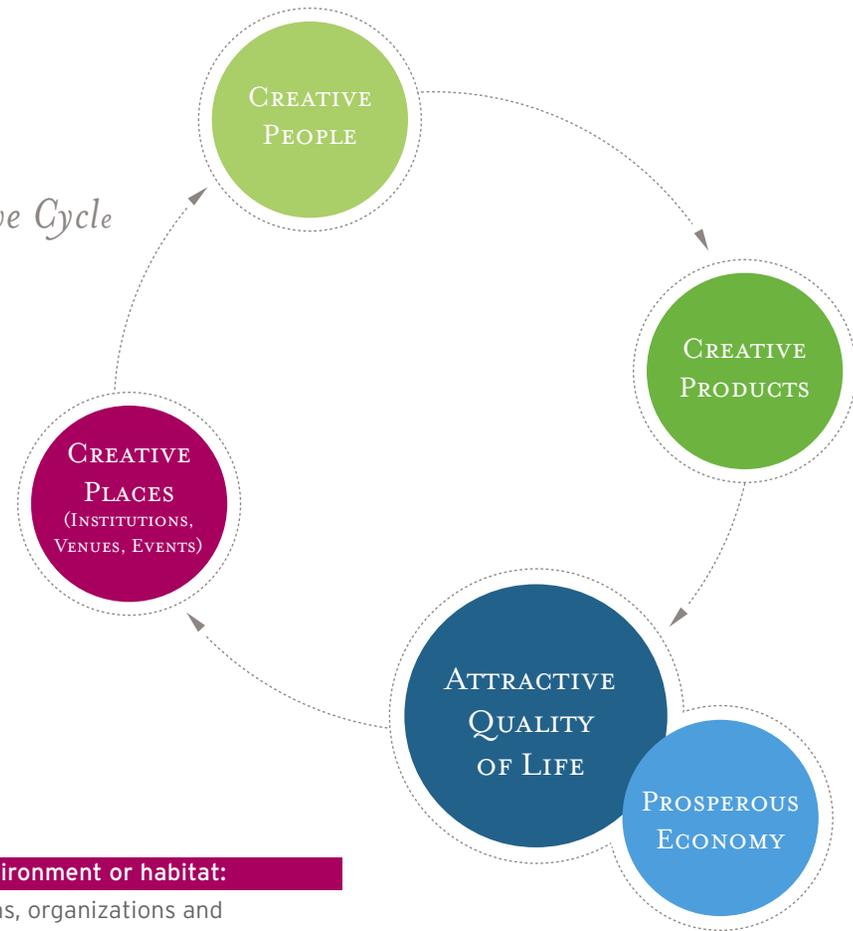
Creative people are the catalyst for the creative cycle. They drive the innovation of new products and services across the economy that, in turn, make regions competitive in the global marketplace while raising the standard of living. In the United States, the most prosperous regions over the long term are typically those with a large pool of creative talent in the arts, sciences, engineering, and/or business.

The good news is that this creative “resource” is not a fixed commodity—like location or natural resources. This resource grows, relocates, and remains in regions that value and encourage creativity. Any region can choose to invest in innovation, attract and retain creative people, sharpen its competitive edge, and enjoy a rising quality of life.

## **Greater Phoenix's Creative Community is a Mix of People, Places and Supportive Organizations.**

The Greater Phoenix region's creative community has multiple dimensions, including (1) people in creative occupations, (2) industries with a core of creative workers, and (3) the environment or habitat that supports creativity. Examining employment in creative occupations, and the industries and the habitat in which creative people work and operate, is essential to understanding the far-reaching impact of creativity on the economy. Creative people are employed and have impact across the economy, well beyond traditionally measured creative industries.

## The Creative Cycle



### No. 1 People in Creative Occupations:

Includes individuals who create products and services rooted in (a) arts, design, and culture (e.g. actors, directors, architects, etc.) or (b) new ideas and methods across many disciplines (e.g. engineers, scientists, chief executives). Recognizing that creative individuals are often directly supported by people who help them further develop their idea, product, or service, this assessment makes a distinction between originators (the people who typically originate the new art form, idea or product) and contributors (the people who help further the original creation, refining it or applying it in new ways). Contributors are part of the creative team and clearly distinct from general administrative and other support staff.

### No. 2 Industries with a Core of Creative Workers:

These industries have a significant concentration of creative workers. They range from well-known creative sectors such as design, arts and culture, to sectors less recognized as important sources of creativity in the economy, such as software, health and biological sciences, and advanced technology.

### No. 3 Creative environment or habitat:

Includes institutions, organizations and networks that support creativity by preparing creative talent, providing the venues for creative performances and places, and securing financing and promotion of creativity in its various forms. There are many assets that provide the supportive environment or "habitat" for creativity in the Greater Phoenix region. These include educational institutions and initiatives critical to preparing talent for creative occupations. They also include arts and culture venues such as theaters and museums that provide opportunities for creative

expression, and vibrant places that attract and retain creative people such as galleries, cinema and night life. Other key assets are support organizations and networks, critical to the financing and promotion of creativity in its various forms, including arts and culture advocacy groups, convention/visitors bureaus and chambers, foundations, and media.

# The Creative



## People in Creative Occupations

A total of 106,633 people are employed in creative occupations, generating \$5.8 billion in total wages in the Greater Phoenix region. These occupations represent almost 6.1% of the region's total labor force—including workers who are self-employed or employed in non-profit enterprises and for-profit firms across the entire economy. (The total of 106,633 represents a more comprehensive profile of the creative workforce compared to an industry-based analysis conducted by Americans for the Arts in 2005 that identified 15,679 workers employed in arts-related businesses).

The creative workforce spans at least 150 different occupations. About 42% of creative employment is in occupations rooted in arts, design and culture, and 58% in occupations rooted in new ideas and methods across many disciplines (such as science, engineering and business). Creative people comprise a sizable percentage of workers in sectors such as design (72%), media (30%), and arts and culture (23%), as well as software (23%), health and biological sciences (16%), and advanced technology (13%).

These occupations also represent 10% of total wages in the region. Average wages in creative occupations are \$56,729 compared to \$33,705 for the region. These figures compare favorably to the rapidly growing health sector in Arizona, which now represents 14% of the state's total employment, with an average wage of \$36,525.



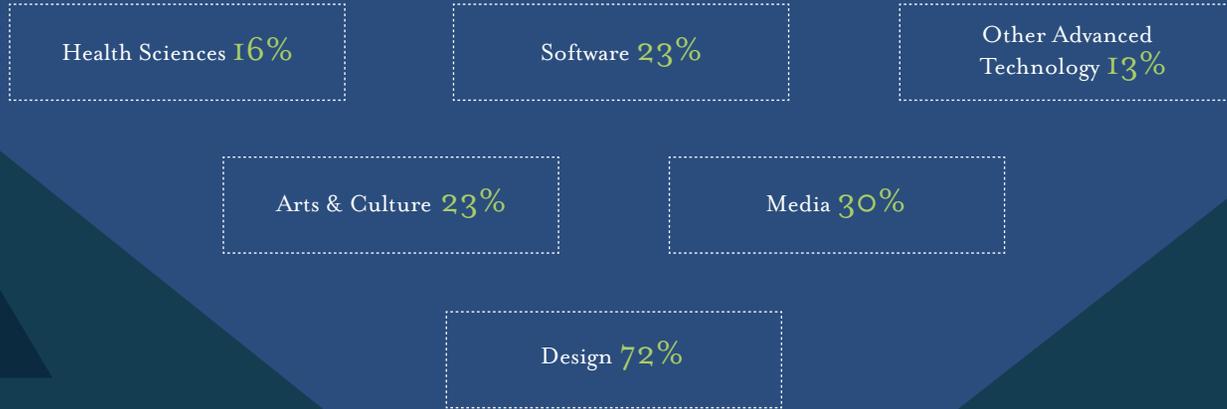
## A Note about Names

*Maricopa County is home to more than 3 million people. This significant region has many parts, including Phoenix, the nation's 5th largest city; Mesa, the 42nd largest city in the U.S.; and growing cities from Queen Creek and Gilbert in the east to Glendale and Avondale in the west. Throughout this report we refer to Greater Phoenix as shorthand for the one county, 24 cities and towns, and 3 Native American communities. Maricopa and Pinal Counties together comprise the nation's 14th largest metropolitan statistical area (MSA), which is used as the basis for comparison to other MSAs in this report. (Population figures based on 2000 census data.)*

"We are in a race for talent and while we have many assets, as this report shows, competitor regions are investing more in their creative community. We must do much more to ensure that Greater Phoenix attracts and retains creative talent—our key to competitiveness in the global marketplace."

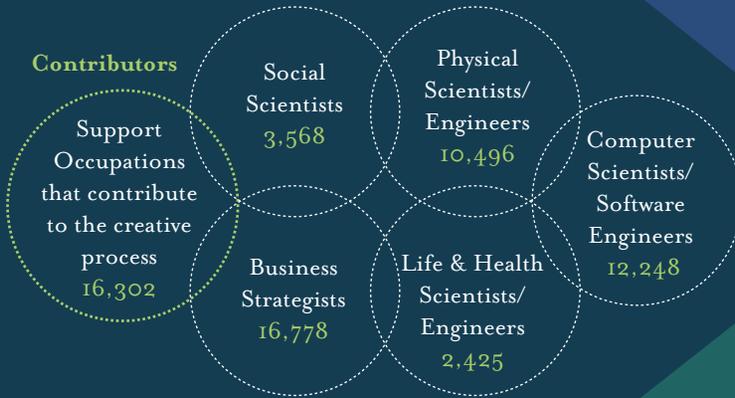
**Donna Kent** // President & CEO  
Arizona Technology Council

PERCENTAGE OF CREATIVE WORKERS EMPLOYED BY FIRMS/ORGANIZATIONS IN KEY INDUSTRIES



Originators

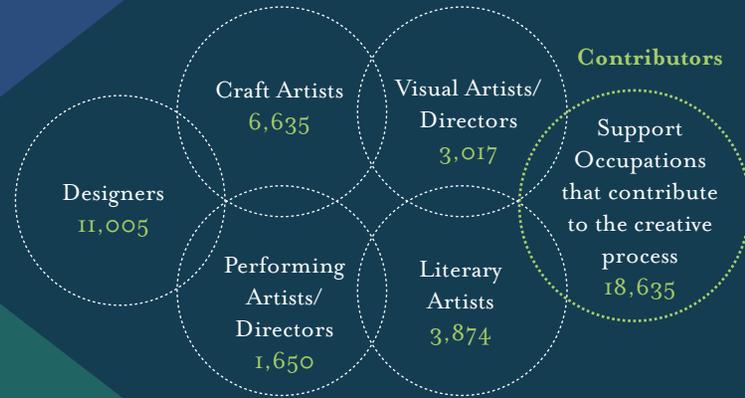
Contributors



106,633  
(6.1%)

Originators

Contributors



Education Institutions/Initiatives

Schools/Colleges specializing in Arts, Culture | Community Colleges | Youth Arts/Creative Education | Arizona State University

Arts, Culture, Entertainment Amenities

Live Theater, Music Performances | Arts and Other Museums/Galleries | Cinema | Nightlife

Support Organizations and Networks

Arts & Culture Advocacy (public, private, non-profit) | Convention/Visitors Bureaus, Chambers | Philanthropy | Media

CREATIVE ENVIRONMENT/HABITAT

CREATIVE OCCUPATIONS ROOTED IN NEW IDEAS AND METHODS ACROSS DISCIPLINES

CREATIVE OCCUPATIONS ROOTED IN ARTS, DESIGN AND CULTURE

Introduction

The Creative Cycle

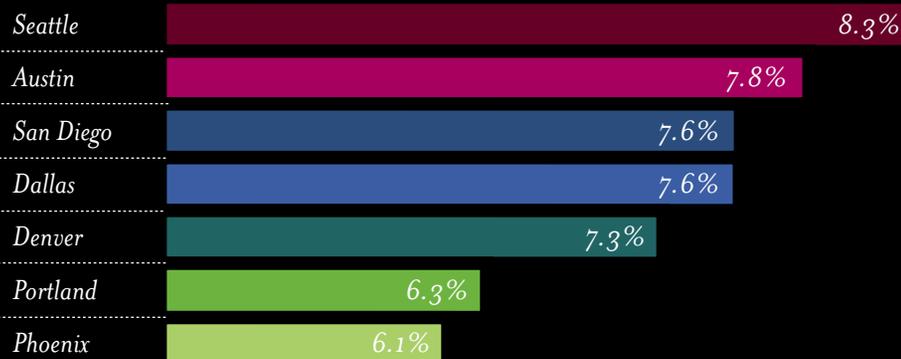
The Creative Mix

The Creativity Gap

Building for the Future

Methodology

# The Creativity Gap



**The Creativity Gap** // a lower share of employment in creative occupations in the Phoenix metropolitan area

## Despite These Assets, There is a Creativity Gap between the Phoenix Metropolitan Area and Competitor Regions

The Phoenix metropolitan area (MSA) ranks behind metropolitan areas such as Austin, Seattle, Portland, Dallas, Denver, and San Diego in the percentage of its workforce in creative occupations. These are the kinds of places that compete with the Phoenix MSA (which includes Maricopa County and Pinal Counties) for creative talent. The region does outpace the national average for creative employment in design, computer science and engineering, and business strategy fields. However, in more than 75% of all creative occupational categories, the region falls short of the national average.

“As we believe that the outcome of scientific research will impact our lives, so too do the arts play a central role in the quality of our lives. They help define the culture and ultimate value of our community for residents and visitors alike. The support of both will stimulate art, life and how we live it.”

**Jeffrey Trent, Ph.D. //**

President & Scientific Director • Translational Genomics Research Institute



**The region ranks last among comparison regions in the share of total employment in creative occupations.**

*According to the benchmark analysis, some regions tend to excel at creativity in arts, design and culture (i.e., Seattle, Portland), but less so in new ideas and methods across disciplines. Other regions excel at new ideas and methods (i.e., Austin, Dallas), but less so at arts, design and culture. Others are more balanced, with similar rankings along both creative dimensions (i.e., San Diego, Denver). Greater Phoenix's profile is more similar to San Diego and Denver, although at a lower level in the rankings.*

**Total Employment in Creative Occupations**

Share of Total Employment in Creative Occupations Rooted in Arts, Design and Culture	Share of Total Employment in Creative Occupations Rooted in New Ideas and Methods
Seattle 3.9%	Austin 5.7%
Portland 3.1%	Dallas 5.1%
San Diego 3.1%	San Diego 4.5%
Denver 2.9%	Denver 4.5%
Phoenix 2.6%	Seattle 4.4%
Dallas 2.5%	Phoenix 3.5%
Austin 2.1%	Portland 3.2%

## Creative Employment Concentrations Compared To The Nation\*

		PHOENIX, AZ	SAN DIEGO, CA	DENVER, CO	PORTLAND, OR	AUSTIN, TX	DALLAS, TX	SEATTLE, WA
ORIGINATORS	<b>ARTS, DESIGN AND CULTURE</b>	0.85	0.95	0.96	0.99	0.79	0.79	1.17
	Craft Arts	0.97	1.00	0.90	1.01	0.41	0.69	1.03
	Design	1.11	1.18	1.15	1.30	1.16	1.08	1.24
	Literary Arts	0.72	0.72	0.76	0.82	0.94	0.56	0.38
	Performing Arts	0.28	0.48	0.66	0.56	0.32	0.40	1.09
	Visual Arts	0.83	1.04	1.12	0.93	1.20	0.91	1.64
	<b>IDEAS AND METHODS</b>	1.08	1.29	1.25	0.94	1.42	1.22	1.37
	Business Strategy	1.36	1.02	0.81	0.35	0.30	0.93	1.01
	Computer Science & Engineering	1.33	1.71	1.50	0.84	3.35	2.01	0.66
	Life Science	0.57	1.69	0.85	0.81	1.25	0.36	2.29
	Physical Science	0.86	1.23	1.54	1.41	0.93	1.09	1.48
Social Science	0.97	0.75	1.25	1.35	1.46	1.35	2.88	
CONTRIBUTORS	<b>ARTS, DESIGN AND CULTURE</b>	0.76	0.95	0.75	0.89	0.70	0.73	1.18
	Craft Arts	0.19	0.90	N/A	0.27	N/A	0.57	0.49
	Design	0.89	1.05	0.74	0.86	0.75	0.77	0.88
	Literary Arts	0.67	0.71	0.78	0.86	0.90	0.92	1.34
	Performing Arts	0.09	0.75	1.09	0.86	2.02	0.69	1.25
	Visual Arts	0.83	1.20	0.70	1.03	N/A	0.33	1.59
	<b>IDEAS AND METHODS</b>	0.65	1.05	1.1	0.77	1.77	1.59	0.85
	Business Strategy	0.65	0.78	1.48	0.84	1.27	1.76	0.87
	Computer Science & Engineering	0.81	1.07	1.31	0.84	2.46	2.00	0.88
	Life Science	0.25	1.46	0.52	0.76	0.07	0.39	1.34
	Physical Science	0.59	0.87	0.79	0.66	1.38	1.27	0.52
Social Science	N/A	0.82	0.57	0.21	N/A	0.59	0.48	

\*A concentration ratio of 1.00 signifies the region is at the national average; below 1.00 the region falls short of the national average; above 1.00 the region exceeds the national average. This chart is based on national ratios. It also includes comparisons to similar benchmark regions.

region is 72% and 91% lower than the nation in originator and contributor occupations, respectively. Not surprisingly, the region ranked last among ten comparison regions in per capita contributed revenues to arts, culture and humanities organizations in 2001 according to the National Center for Charitable Statistics (see **Vibrant Culture, Thriving Economy, Maricopa Regional Arts and Culture Task Force**, p. ii, 2005). A recent study by Americans for the Arts found that businesses and employment related to performing arts in Phoenix declined by 2.49% and 12.74% respectively between 2004 and 2005. Music-related businesses and theater-related employment suffered the greatest decline within this sector.

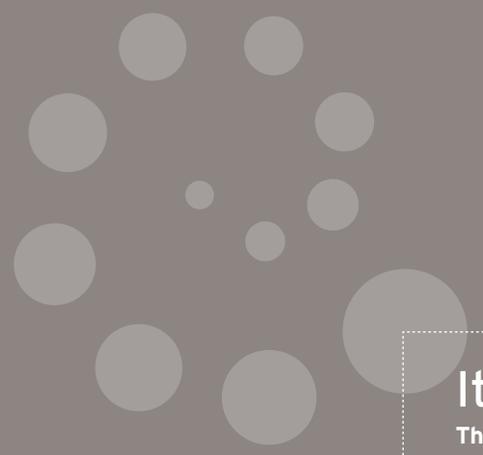
The region's highest concentrations are in the creative "originator" occupations in business strategy and computer science and engineering. The region is 36% more concentrated than the nation in business strategy and 33% more concentrated in computer science and engineering. In fact, the region has the highest concentration of any of the comparison regions for creative "originator" occupations in business strategy.

The region also has a higher-than-average concentration in creative originator occupations in the design field—11% greater than the nation. While this figure places the region only 6th among the 7 comparison regions, it fares better when adding the creative "contributor" occupations in design. In this category, the region ranks second only to San Diego. Thus, overall, in creative design occupations, the difference from other comparison regions is relatively small.

Taken together, the region's concentration in originator occupations rooted in arts, design and culture is 15% lower than the nation and 24% lower among contributor occupations. One of the biggest differences compared to the nation is performing arts, where the

"A vibrant community and a talented homegrown workforce ensures Greater Phoenix is well-positioned to compete in today's global marketplace. We must recognize the role of creativity as the driver of an innovative economy, which is the key to our future."

**Barry Broome** // *President and CEO*  
Greater Phoenix Economic Council



## It's Real.

### **The Creativity Gap Could Become a Competitiveness Gap in the New Global Marketplace**

The real challenge facing the Greater Phoenix region goes beyond funding arts and culture organizations for quality of life reasons. Arts and culture is now an economic imperative. It is a necessary ingredient of a creative place—one that grows, attracts and retains creative people, who in turn drive innovation in the regional economy.

## It's Critical.

### **To Close the Creativity Gap, the Greater Phoenix Region Needs To Become a More Creative Place**

Creative people like to live in creative places—regions with a rich mix of arts and cultural attractions, inspiring architecture, festivals and events, and venues to meet other creative people. That's why investment in arts and culture is an essential part of a strong creative community. Other regions have also purposely developed creative districts to attract and grow creative talent. These districts promote interaction and a sense of creative community—and could help the Greater Phoenix region close the gap.

# Building for the

# -It's Our Time.

## No. 1 Creativity is not yet a clear strength

or priority for the region when compared to other regions, or even the nation as a whole. The challenge (and opportunity) is to encourage wider recognition and support for creativity along its many dimensions.

## No. 2 The relationship between arts, culture,

creativity and the regional economy needs to be better understood to be better supported. Everyone, including business, government, education, non-profits, and residents, has a role to play in promoting a more creative community in the Greater Phoenix region.

## No. 3 Government at all levels is a necessary

and important partner in fostering vibrant communities and environments that nurture creativity. Both the public and private sectors have a role to play in encouraging and supporting innovative and bold entrepreneurial initiatives. Partnerships among business, government and cultural institutions require the same level of innovation and commitment that we seek from the bioscience and technology sectors.

## No. 4 It is critical to instill creativity and

creative experiences in young people early through exposure to arts and culture both in and out of the classroom. The workforce of our future is in school now. The development of creative right-brain thinking is a vital tool for competing in a global workplace.

## No. 5 To attract and retain talent the region

needs more creative outlets during non-work hours. Infrastructure and support for creative districts and vibrant "hot spots" is critical to the development and appeal of Greater Phoenix—one of America's fastest growing regions.

"Creativity is about place, housing, artistic and community spaces, facilities, relationships, pedestrian friendly environments, and quality of life."

**Participating Business and Non-Profit Leaders //**

*Creative Connections Focus Group*

# Future

# Methodology

## How We Determined

### Which Occupations To Include

In assessments of this kind, other regions have focused primarily on creative industries (e.g. New England, New York). We believe this approach understates the impact of creativity on the regional economy. Instead, we chose to examine all occupations, identify those that included some creative component, and count the number of workers in those occupations across the entire economy. To do so required an inclusive, yet measured approach, focusing on creative people wherever they might work. Occupations with a creative component have as a central function originating new ideas, concepts, products or processes. In addition, while there are undoubtedly “ripple effects” from creativity on other sectors of the economy (e.g., retail), they are not as easily measured and are not included in this assessment. A complete list of creative occupations used in this report is available upon request.

### Occupations Rooted in Arts, Design and Culture

The largest occupational group rooted in arts, design and culture is designers, followed by crafts artists and literary artists. About 58% of the employment in creative occupations in arts, design and culture are “originators,” with 42% “contributors” to the creative process. Key occupations in these fields, as described by the U.S. Department of Labor, include:

**Designers and Architects** who plan, develop and design specific products (e.g. graphic designers, landscape architects, interior designers, and set and exhibit designers). Key “contributor” occupations in these fields include machinists, mechanical drafters, etchers and engravers, and architectural and civil drafters.

**Visual artists** who range from photographers, multi-media artists and animators, and painters, sculptors, and illustrators, to art directors and curators. Key “contributor” occupations include art teachers as well as audio and video equipment technicians, photographic process workers, and audio-visual specialists.

**Literary artists** who range from writers and authors, and reporters and correspondents, to public relations specialists who write for various communications media. Key “contributor” occupations include editors, printers, desktop publishers, interpreters and translators, and librarians who provide research support.

**Performing artists** who range from entertainers and performers, dancers, and musicians and singers, as well as producers and directors, and choreographers. Key “contributor” occupations include costume attendants, production and stage managers.

**Craft artists** who create or reproduce hand-made objects for sale and exhibition using a variety of techniques (e.g. cabinet makers, stone masons and jewelers). Key “contributor” occupations include hand sewers and leather workers.

### Occupations Rooted in New Ideas and Methods

The largest occupational group rooted in new ideas and methods is business strategists (i.e., chief executives and management analysts), followed by computer scientists and engineers and physical scientists and engineers. About 74% of employment in creative occupations in new ideas and methods are “originators,” while 26% of total employment is “contributors.” Key occupations in these fields, as described by the U.S. Department of Labor, include:

**Engineers** who research, design, develop, and test components, systems, and/or processes in specific fields (e.g., electrical/electronic, software, hardware, mechanical, industrial, civil, geological, environmental, chemical, and biomedical engineers). Key “contributor” occupations in these fields include engineering technicians and drafters, as well as postsecondary teachers (a group who conducts basic and applied research and helps prepare others for creative occupations).

“This report is remarkable not just in the breadth and variety of the creative community it describes, but its suggestions of how the Valley of the Sun can rethink its physical planning and focus increasingly on place, on settings of quality and character that not only draw the best talent, but encourage creative people to dig down roots and become a permanent part of the community.”

**Neal Peirce //**

*Columnist and co-author, the 1987 “Peirce Report” on the Phoenix region, in the Arizona Republic*

**Scientists** who research, interpret, and apply knowledge to develop products, improve processes, or solve problems in specific fields (e.g., life, conservation, medical, physical, chemical, environmental, and social scientists). Key “contributor” occupations in these fields include science technicians, research analysts/assistants, and postsecondary teachers (a group who conducts basic and applied research and helps prepare others for creative occupations).

**Business strategists, including chief executives** who plan “the overall direction of companies” and management analysts (including business consultants) who “conduct organizational studies and evaluations, and design systems and procedures.” Key “contributor” occupations in this field include specialists who analyze needs and design jobs for organizations.

# Data

*Occupational data on employment and wages are based on data collected in a national survey of employers, the Occupational Employment Statistics (OES) survey. The survey asks employers to categorize their employees by the Occupational Classification System (SOC), a universal classification system designed to sort all occupations according to job duties, skills, education, and experience. This data is collected by each state in the nation before being sent on to the Bureau of Labor Statistics (BLS).*

For the purposes of our analysis, we used four permutations of occupational data:

**No. 1** To best count the number of people employed specifically in Greater Phoenix, we used a set of occupational figures from the Arizona Department of Economic Security—the agency that collects regional occupational data before sending it on to the federal government. This dataset most accurately captures the distribution of the workforce by occupation, but does not include self-employed workers.

**No. 2** To account for the number of self-employed creative workers, we used the National Industry–Occupation Employment Matrix from the BLS. This matrix is compiled using the OES, the Current Employment Statistics (CES) survey, and the Current Population Survey (CPS). Using the matrix, we are able to find the national distribution of occupations by industry, including the designation of self-employment as an

industry. We then constructed multipliers of self employment (e.g., nationally, for every two people officially employed in the performing arts, there is one person who is self-employed in the performing arts) for our groupings of creative occupations. All occupation employment numbers reflect the use of these multipliers.

**No. 3** In order to compare concentrations of creative employment in the Phoenix MSA to creative employment in other parts of the country, we used the Metropolitan Area Cross-Industry Occupational Employment and Wage Estimates from the BLS.

**No. 4** Finally, to determine the distribution of creative employment across industries, we used a crosswalk of occupations by industry for the State of Arizona, provided by the Arizona Department of Economic Security. We adjusted for the higher concentration of creative talent in Greater Phoenix compared to the rest of Arizona by assuming that the distribution of creative talent across industries is similar in Greater Phoenix and all of Arizona (e.g. Arts and Culture always uses more creativity than Health Services), though the total share of employment that is creative varies regionally.



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