



Boston's Creative Economy: *An Update*

Boston Planning and Development Agency Research Division,
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Boston's Creative Economy: An Update

- In 2005, the Boston Planning and Development Agency (then known as the BRA), in collaboration with Create Boston, released a report titled “Boston’s Creative Economy” assessing the size, scope, and economic impact of creative industries in the city.
- This follow-up revisits the report, asking how the size and composition of employment in Boston’s Creative Economy has changed over the last decade.
- The original report can be accessed here:
<http://www.bostonplans.org/getattachment/01decb82-3ba5-4dea-a8d1-fdeaa39495d6/>

Defining the Creative Economy

- No single agreed upon definition of the Creative Economy has emerged from the literature.
- A recent survey report by the Creative Economy Coalition (CEC) titled “America’s Creative Economy” (2013) surveyed 27 reports on regional creative economies, finding much overlap, but also significant divergence in the definitions used.
- In this report we use two definitions:
 - An industry-based definition closely related to the definition in the earlier BPDA report
 - An occupation-based definition compiled based on Career Clusters from the Department of Labor’s Occupational Information Network (O*NET) and occupations included in reports surveyed by “America’s Creative Economy”

Two Complementary Definitions

- Creative industries and creative occupations offer complementary frameworks through which to view the creative economy.
- In the context of workforce development:
 - An industry-based definition can be helpful in developing industry partnerships that engage for-profit and non-profit employers within a creative industry or across the broader creative sector
 - An occupation-based definition might offer a fuller picture of the range of employment opportunities facing graduates training in a creative field

Defining Creative Industries

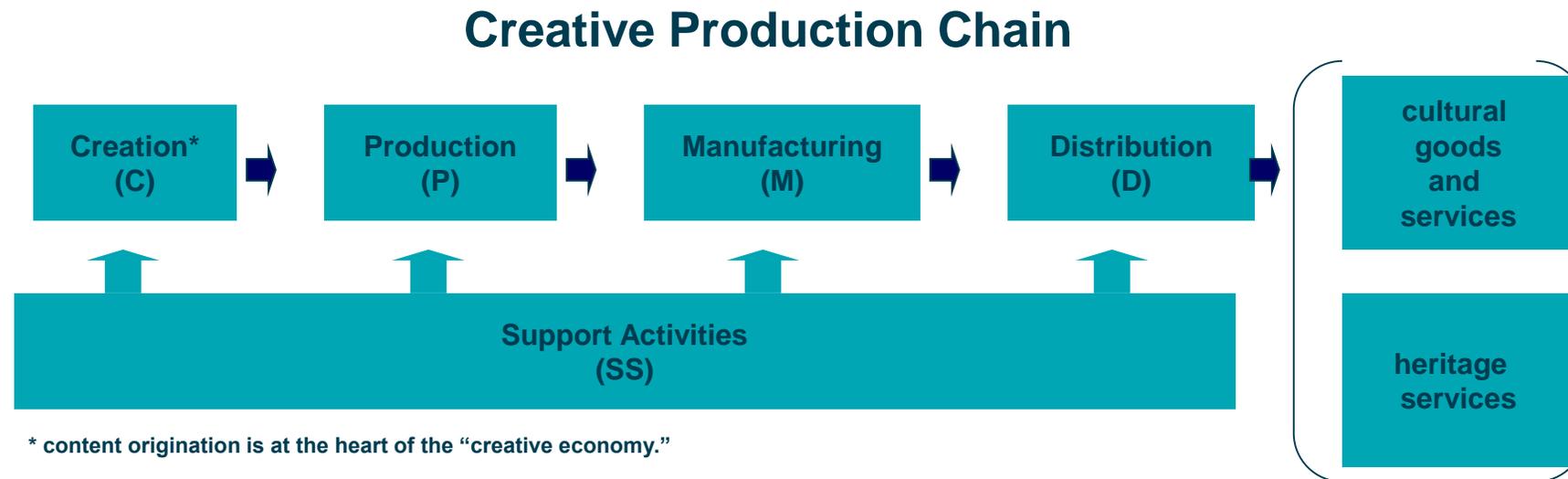
From Boston's Creative Economy (2005):

The "Creative Economy" is defined, for the purpose of this research, broadly, as those activities which have their origin in individual creativity, skill and talent and which have a potential for wealth and job creation. We include:

- any direct activity in which individual creativity and skill is brought to bear, and which is characterized by innovation and originality and leads to the creation of intellectual property in the form of copyright
- any activity (upstream and downstream) which directly contributes to creative activities such that the product would not exist in the same form without it
- the self-employed (writers, artists, etc.) because the creative industry encompasses many freelance workers

The Creative Production Chain

- The 2005 BPDA report focuses in particular on tracking creative and cultural goods and services all the way through the Creative Production Chain, from initial creation, to production and sometimes manufacturing and through to distribution.



Updating the List of Creative Industries

- Boston's Creative Economy (2005) report used a list of 62 industries, identified by 5 and 6 digit 1997 North American Industrial Classification System (NAICS) codes
- The list developed by the BPDA drew on the work of John Howkins ([The Creative Economy](#), 2001) and a 2000 report commissioned by the New England Council and the New England Federation for the Arts (NEFA)
- In updating the definition, we considered changes based on NEFA's updated report (2007) as well as the list of industries included in over 50% of reports surveyed in "America's Creative Economy"
- We also made adjustments to account for changes in the NAICS coding system, which has been updated three times since the original report.

The Intersection of the High Tech and Creative Economies

- Technology has had a dramatic impact in nearly all creative fields. Many creative economy fields, from industrial design to sound recording, would likely be included in definitions of high tech industries.
- Debate continues as to whether high tech fields like Software Publishing and Internet Publishing and Broadcasting should be included in the creative economy. Video game development and internet-only publications are cited as examples of fields in these industries focused on the creation of artistic or cultural goods.
- The “America’s Creative Economy” report counts just over half of the reports it surveys as including these industries.
- We have chosen to include them in this report.

Creative Industries

The BPDA list includes industries that are part of the production chain for goods and services in the following areas:

Written Media

Film

Broadcasting

Crafts

Performing Arts

Visual Arts

Architecture

Photography

Design

Advertising

Sound Recording & Music Publishing

Museums & Art Galleries

Libraries & Archives

Culture Education

Software and Internet Publishing

The following four slides list all 6-digit NAICS codes included in this updated report.

Creative Economy Using Updated Definition

NAICS codes	Creative Industries	Creative Chain
Advertising		(C) - Creation
541810	Advertising Agencies (P)	(P) - Production
541830	Media Buying Agencies (D)	(M) - Manufacturing
541840	Media Representatives (D)	(D) - Distribution
541850	Outdoor Advertising (P)	(S) - Support Industries
541860	Direct Mail Advertising (P)	
541870	Advertising Material Distribution Services (D)	
541890	Other Services Related to Advertising (D)	
Applied Arts		
541310	Architectural Services (C)	
541320	Landscape Architectural Services (C)	
541340	Drafting Services ² (C)	
541410	Interior Design Services (C)	
541420	Industrial Design Services (C)	
541430	Graphic Design Services (C)	
541490	Other Specialized Design Services (C)	
Art Goods Manufacturing		
327212	Other Pressed and Blown Glass and Glassware Manufacturing ² (M)	
332323	Ornamental and Architectural Metal Work Manufacturing ¹² (M)	
337212	Custom Architectural Woodwork and Millwork Manufacturing ¹² (M)	
339910	Jewelry and Silverware Manufacturing ¹² (M)	
¹ Added based on America's Creative Economy report		
² Added based on NEFA report		

Creative Economy Using Updated Definition

NAICS codes	Creative Industries	Creative Chain
Broadcasting		(C) - Creation
515111	Radio Networks (P)	(P) - Production
515112	Radio Stations (P)	(M) - Manufacturing
515120	Television Broadcasting (P)	(D) - Distribution
515210	Cable and Other Subscription Programming (P)	(S) - Support Industries
Film, Video and Photography		
532230	Video Tape and Disc Rental (D)	
325992	Photographic Film, Paper, Plate, and Chemical Manufacturing (M)	
453920	Art Dealers (D)	
512110	Motion Picture and Video Production (P)	
512120	Motion Picture and Video Distribution (D)	
512131	Motion Picture Theaters (except Drive-Ins) (D)	
512132	Drive-In Motion Picture Theaters (D)	
512191	Teleproduction and Other Postproduction Services (M)	
512199	Other Motion Picture and Video Industries (M)	
541921	Photography Studios, Portrait (C)	
541922	Commercial Photography (C)	
812921	Photofinishing Laboratories (except One-Hour) (P)	
Heritage		
712110	Museums (P)	
712120	Historical Sites (P)	
712130	Zoos and Botanical Gardens (P)	
712190	Nature Parks and Other Similar Institutions (P)	
¹ Added based on America's Creative Economy report		
² Added based on NEFA report		

Creative Economy Using Updated Definition

NAICS codes	Creative Industries	Creative Chain
Performing Arts: Music Theater and Dance		(C) - Creation
339992	Musical Instrument Manufacturing (M)	(P) - Production
451140	Musical Instrument and Supplies Stores (D)	(M) - Manufacturing
711110	Theater Companies and Dinner Theaters (P)	(D) - Distribution
711120	Dance Companies (P)	(S) - Support Industries
711130	Musical Groups and Artists (C)	
711190	Other Performing Arts Companies (P)	
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities (D)	
711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities (D)	
711410	Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures (D)	
Publishing and Printing		
323111	Commercial Printing (except Screen and Books) (M)	
323113	Commercial Screen Printing (M)	
323117	Books Printing (M)	
424920	Book, Periodical, and Newspaper Merchant Wholesalers (D)	
451211	Book Stores (D)	
451212	News Dealers and Newsstands (D)	
511110	Newspaper Publishers (P)	
511120	Periodical Publishers (P)	
511130	Book Publishers (P)	
511191	Greeting Card Publishers (P)	
511199	All Other Publishers (P)	
519110	News Syndicates (C)	
¹ Added based on America's Creative Economy report		
² Added based on NEFA report		

Creative Economy Using Updated Definition

NAICS codes	Creative Industries	Creative Chain
Software and Internet Publishing		(C) - Creation
511210	Software Publishers ¹ (P)	(P) - Production
519130	Internet Publishing and Broadcasting and Web Search Portals ¹ (P)	(M) - Manufacturing
		(D) - Distribution
Sound Recording and Music Publishing		(S) - Support Industries
334613	Magnetic and Optical Recording Media Manufacturing (M)	
334614	Software and Other Prerecorded Compact Disc, Tape, and Record Reproducing (M)	
512210	Record Production (P)	
512220	Integrated Record Production/Distribution (P)	
512230	Music Publishers (P)	
512240	Sound Recording Studios (P)	
512290	Other Sound Recording Industries (P)	
Support		
519120	Libraries and Archives (S)	
611610	Fine Arts Schools (S)	
Independent Artists		
711510	Independent Artists, Writers, and Performers (C)	
¹ Added based on America's Creative Economy report		
² Added based on NEFA report		

Measuring Boston's Creative Economy

- Creative employment in 2014 totaled 29,762 jobs in business establishments. This was 5.4% of Boston's total private sector payroll employment.
- An additional 6,483 people were self-employed in the creative industries. Including self-employment, Boston's Creative Economy totals 36,254 workers.
- The 29,762 workers on payrolls took home over 2.4 billion dollars combined, averaging \$81,179 in annual wages.

Trends in Creative Economy Employment

- The last decade has seen substantial shifts across sectors, with Software booming while Broadcasting, Publishing, Film and Photography, and Sound Recording declined sharply. Total Creative Economy employment remains nearly unchanged from 2002.
- Recent growth in the aftermath of the recession has been strong across almost all Creative Economy sectors, with the total expanding by 20.9% between 2011 and 2014, compared to 7.1% growth for total private payroll employment.

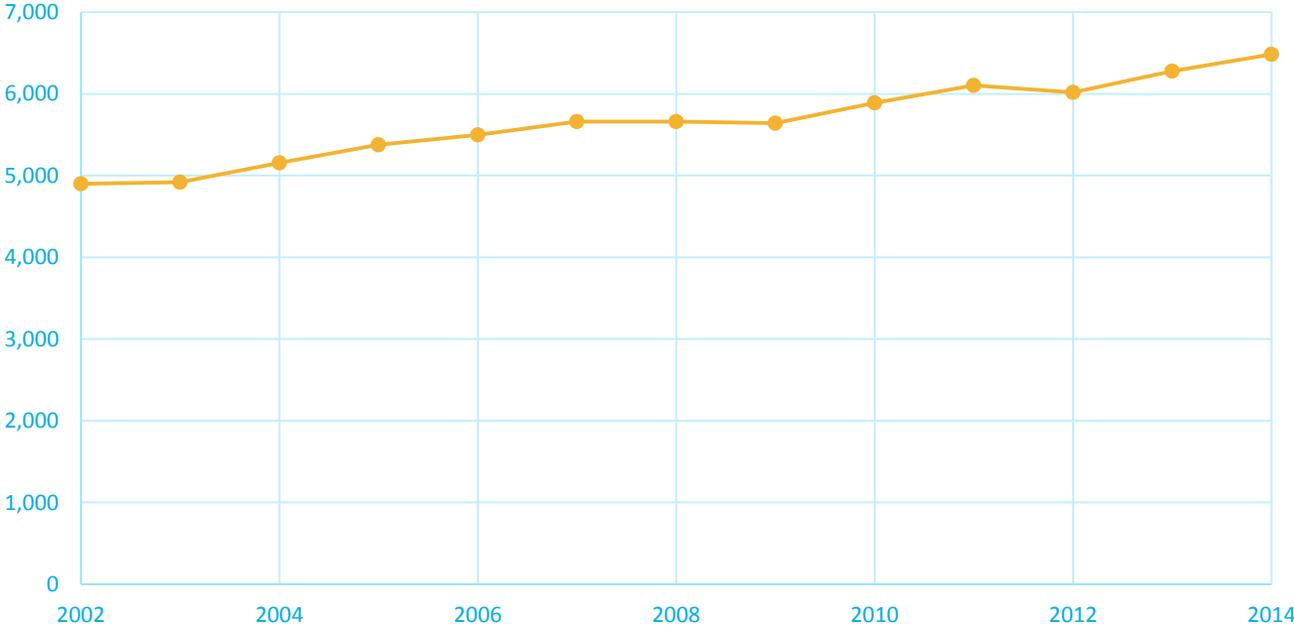
Employment and Growth in Creative Establishments

	Current Conditions (2014)				Employment Growth	
	Establishments	Employment	Average Wage	Avg. Employees per Establishment	Long-Term (2002-2014)	Short-Term (2011-2014)
Advertising	113	3,751	\$98,385	33	10.6%	35.1%
Applied Arts	363	4,034	\$87,370	11	-12.0%	13.4%
Art Manufacturing	14	54	\$53,775	4	-21.7%	12.5%
Broadcasting	35	1,928	\$96,151	55	-44.4%	-22.4%
Film, Video and Photography	130	857	\$41,261	7	-31.2%	2.0%
Heritage	44	2,414	\$40,201	55	56.0%	10.0%
Independent Artists	36	136	\$59,087	4	11.5%	151.9%
Performing Arts: Music, Theater and Dance	118	3,329	\$36,825	28	1.8%	7.3%
Publishing and Printing	180	7,228	\$71,408	40	-28.9%	45.3%
Software and Internet Publishing	144	5,267	\$131,984	37	293.9%	34.2%
Sound Recording and Music Publishing	12	106	\$71,375	9	-55.5%	3.9%
Support Services	50	568	\$30,063	11	33.0%	15.0%
Total	1,239	29,672	\$81,179	24	-0.6%	20.9%

Source: US Census Bureau, County Business Patterns, 2002, 2011, and 2014; Massachusetts EOLWD ES-202 data; BPDA Research Division Analysis

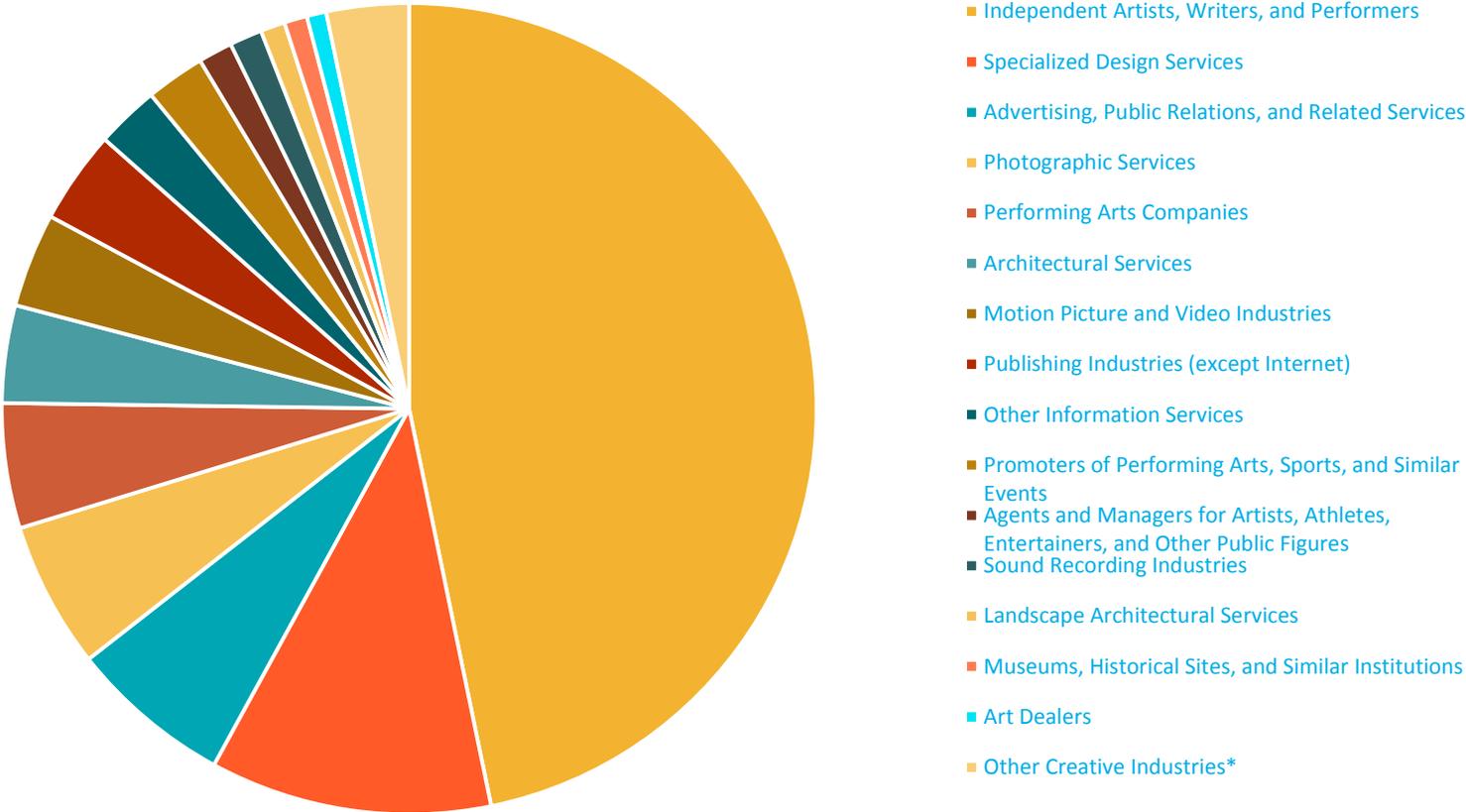
Self-Employment in Creative Industries

Boston's number of self-employed workers in Creative Industries has increased in nine of the last twelve years, growing from 4,902 to 6,483 (32.3%) over the time period.



Self-Employment in the Creative Economy by Industry

- Independent Artists, Writers, and Performers make up just under half of Boston’s Creative Economy self-employment.



*Other Creative Industries include industries with fewer than 50 self-employed workers. In this group are Broadcasting; Photofinishing; Drafting; Book, Periodical, and Newspaper Merchant Wholesalers; Printing; Furniture Manufacturing; Bookstores; Fabricated Metal Production; News Dealers; Musical Instrument Stores; and Glass Manufacturing

Creative Employment in Business Establishments

- The following twelve slides profile employment in Boston's twelve creative sectors.
- The data only includes workers in business establishments unless otherwise noted.

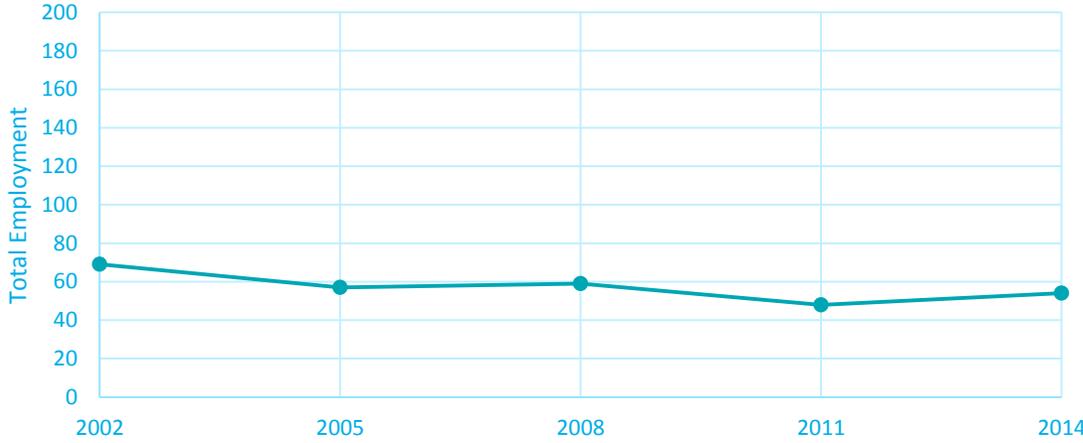
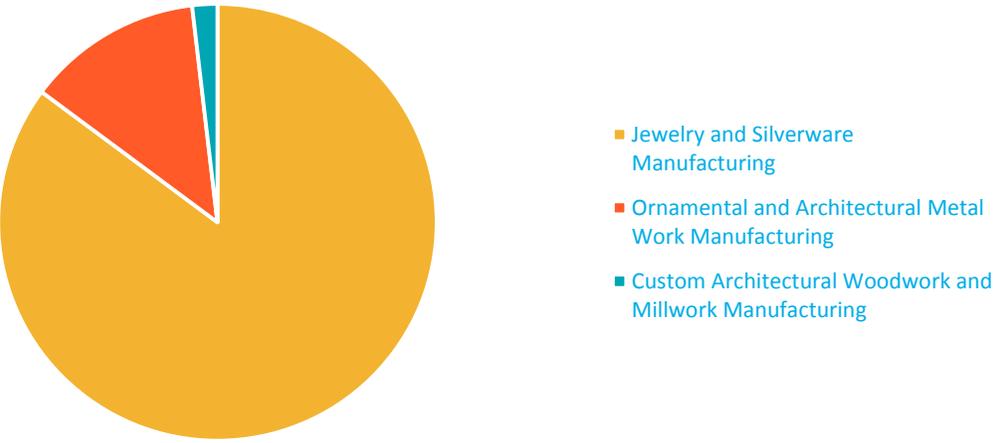
Boston's Creative Economy: Advertising

Industry Snapshot (2014)		Change in Employment (2002-2014)	
Employment	3,751		
Recent Growth (2011-2014)	35.1%		
Number of Establishments	113		
Average Wage	\$98,385		
Location Quotient	1.99		
<p>The Location Quotient (LQ) measures how the share of Boston's employment in an industry compares to the US average. An LQ over 1 means that an industry has a higher than average concentration in Boston.</p>			
Detailed Industry Employment (2014)		Industry Trends	
		<ul style="list-style-type: none"> • Boston's advertising industry saw a strong recovery from the Great Recession, growing 35.1% between 2011 and 2014. • Two thirds of advertising employment is in advertising agencies, a change from 2002 when direct mail advertising still made up a significant fraction of the industry. 	

Boston's Creative Economy: Applied Arts

Industry Snapshot (2014)		Change in Employment (2002-2014)	
Employment	4,034		
Recent Growth (2011-2014)	13.4%		
Number of Establishments	363		
Average Wage	\$87,370		
Location Quotient	3.00		
<p>The Location Quotient (LQ) measures how the share of Boston's employment in an industry compares to the US average. An LQ over 1 means that an industry has a higher than average concentration in Boston.</p>			
Detailed Industry Employment (2014)		Industry Trends	
<ul style="list-style-type: none"> ■ Architectural Services ■ Interior Design Services ■ Graphic Design Services ■ Landscape Architectural Services ■ Industrial Design Services ■ Other Specialized Design Services ■ Drafting Services 		<ul style="list-style-type: none"> Applied Arts (LQ of 3.00) is one of the Creative Industries most heavily concentrated in Boston. This is driven particularly by Architectural Services (LQ of 4.37) Interior Design and Graphic Design also have strong presences in Boston. 	

Boston's Creative Economy: Art Goods Manufacturing

Industry Snapshot (2014)	Change in Employment (2002-2014)												
<p>Employment 54</p> <p>Recent Growth (2011-2014) 12.5%</p> <p>Number of Establishments 14</p> <p>Average Wage \$53,775</p> <p>Location Quotient 0.11</p> <p>The Location Quotient (LQ) measures how the share of Boston's employment in an industry compares to the US average. An LQ over 1 means that an industry has a higher than average concentration in Boston.</p>	 <table border="1"> <caption>Total Employment (2002-2014)</caption> <thead> <tr> <th>Year</th> <th>Total Employment</th> </tr> </thead> <tbody> <tr> <td>2002</td> <td>70</td> </tr> <tr> <td>2005</td> <td>58</td> </tr> <tr> <td>2008</td> <td>60</td> </tr> <tr> <td>2011</td> <td>48</td> </tr> <tr> <td>2014</td> <td>55</td> </tr> </tbody> </table>	Year	Total Employment	2002	70	2005	58	2008	60	2011	48	2014	55
Year	Total Employment												
2002	70												
2005	58												
2008	60												
2011	48												
2014	55												
Detailed Industry Employment (2014)	Industry Trends												
 <ul style="list-style-type: none"> ■ Jewelry and Silverware Manufacturing (49 workers) ■ Ornamental and Architectural Metal Work Manufacturing (3 workers) ■ Custom Architectural Woodwork and Millwork Manufacturing (2 workers) 	<ul style="list-style-type: none"> • Art Goods Manufacturing has a small presence in Boston, with just 14 establishments employing 54 workers. • An additional 39 workers are self-employed in Art Goods Manufacturing. 												

Boston's Creative Economy: Broadcasting

Industry Snapshot (2014)		Change in Employment (2002-2014)													
Employment	1,928	<table border="1"> <caption>Total Employment in Broadcasting (2002-2014)</caption> <thead> <tr> <th>Year</th> <th>Total Employment</th> </tr> </thead> <tbody> <tr> <td>2002</td> <td>3,450</td> </tr> <tr> <td>2005</td> <td>2,900</td> </tr> <tr> <td>2008</td> <td>2,650</td> </tr> <tr> <td>2011</td> <td>2,450</td> </tr> <tr> <td>2014</td> <td>1,928</td> </tr> </tbody> </table>		Year	Total Employment	2002	3,450	2005	2,900	2008	2,650	2011	2,450	2014	1,928
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2014	1,928														
Recent Growth (2011-2014)	-22.4%														
Number of Establishments	35														
Average Wage	\$96,151														
Location Quotient	1.59														
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Detailed Industry Employment (2014)		Industry Trends													
<table border="1"> <caption>Detailed Industry Employment (2014)</caption> <thead> <tr> <th>Sub-sector</th> <th>Employment</th> </tr> </thead> <tbody> <tr> <td>Television Broadcasting</td> <td>~1,200</td> </tr> <tr> <td>Radio Stations</td> <td>~500</td> </tr> <tr> <td>Cable and Other Subscription Programming</td> <td>~150</td> </tr> <tr> <td>Radio Networks</td> <td>~70</td> </tr> </tbody> </table>		Sub-sector	Employment	Television Broadcasting	~1,200	Radio Stations	~500	Cable and Other Subscription Programming	~150	Radio Networks	~70	<ul style="list-style-type: none"> Broadcasting has seen steep declines in employment, both over the longer time horizon and the post-recession period. Television Broadcasting and Radio Stations, the two largest industries, have both seen consistent declines in employment over the last decade. 			
Sub-sector	Employment														
Television Broadcasting	~1,200														
Radio Stations	~500														
Cable and Other Subscription Programming	~150														
Radio Networks	~70														

Boston's Creative Economy: Film, Video, and Photography

Industry Snapshot (2014)	Change in Employment (2002-2014)												
<p>Employment 857</p> <p>Recent Growth (2011-2014) 2.0%</p> <p>Number of Establishments 130</p> <p>Average Wage \$41,261</p> <p>Location Quotient 0.39</p> <p>The Location Quotient (LQ) measures how the share of Boston's employment in an industry compares to the US average. An LQ over 1 means that an industry has a higher than average concentration in Boston.</p>	<table border="1"> <caption>Total Employment (2002-2014)</caption> <thead> <tr> <th>Year</th> <th>Total Employment</th> </tr> </thead> <tbody> <tr> <td>2002</td> <td>1,250</td> </tr> <tr> <td>2005</td> <td>1,120</td> </tr> <tr> <td>2008</td> <td>920</td> </tr> <tr> <td>2011</td> <td>840</td> </tr> <tr> <td>2014</td> <td>850</td> </tr> </tbody> </table>	Year	Total Employment	2002	1,250	2005	1,120	2008	920	2011	840	2014	850
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Detailed Industry Employment (2014)	Industry Trends												
<ul style="list-style-type: none"> ■ Motion Picture Theaters (except Drive-Ins) ■ Art Dealers ■ Motion Picture and Video Production ■ Photography Studios, Portrait ■ Motion Picture and Video Distribution ■ Teleproduction and Other Postproduction Services ■ Commercial Photography ■ Video Tape and Disc Rental ■ Other Motion Picture and Video Industries ■ Photofinishing Laboratories (except One-Hour) ■ Photographic Film, Paper, Plate, and Chemical Manuf. 	<ul style="list-style-type: none"> • The Film, Video and Photography sector declined in the early 2000s, but has stabilized in more recent years. • Many of the employment declines resulted from the almost complete evaporation of Video Stores and Photofinishing Labs. • Employment in Movie Theaters, Movie Production, and Photography Studios has remained steady. 												

Boston's Creative Economy: Heritage

Industry Snapshot (2014)		Change in Employment (2002-2014)	
Employment	2,414		
Recent Growth (2011-2014)	10.0%		
Number of Establishments	44		
Average Wage	\$40,201		
Location Quotient	3.70		
<p>The Location Quotient (LQ) measures how the share of Boston's employment in an industry compares to the US average. An LQ over 1 means that an industry has a higher than average concentration in Boston.</p>			
Detailed Industry Employment (2014)		Industry Trends	
		<ul style="list-style-type: none"> • Boston's share of employment in Heritage institutions is 3.7 times the national level. • Museums and Historical Sites are at the heart of Boston's tourism economy, and employment has grown in both industries. 	

Boston's Creative Economy: Performing Arts

Industry Snapshot (2014)		Change in Employment (2002-2014)	
Employment	3,329		
Recent Growth (2011-2014)	7.3%		
Number of Establishments	118		
Average Wage	\$36,825		
Location Quotient	2.15		
<p>The Location Quotient (LQ) measures how the share of Boston's employment in an industry compares to the US average. An LQ over 1 means that an industry has a higher than average concentration in Boston.</p>			
Detailed Industry Employment (2014)		Industry Trends	
<ul style="list-style-type: none"> Promoters of Performing Arts, Sports, and Similar Events with Facilities Theater Companies and Dinner Theaters Musical Groups and Artists Dance Companies Promoters of Performing Arts, Sports, and Similar Events without Facilities Musical Instrument and Supplies Stores Agents and Managers for Artists, Athletes, Entertainers, and Other Public Figures Musical Instrument Manufacturing 		<ul style="list-style-type: none"> Boston's Performing Arts attractions are headlined by Theater Companies, Musical Groups, and Dance Companies. Promoters also make up a large share of employment in the sector, and most are associated with specific facilities, a change from a decade ago. 	

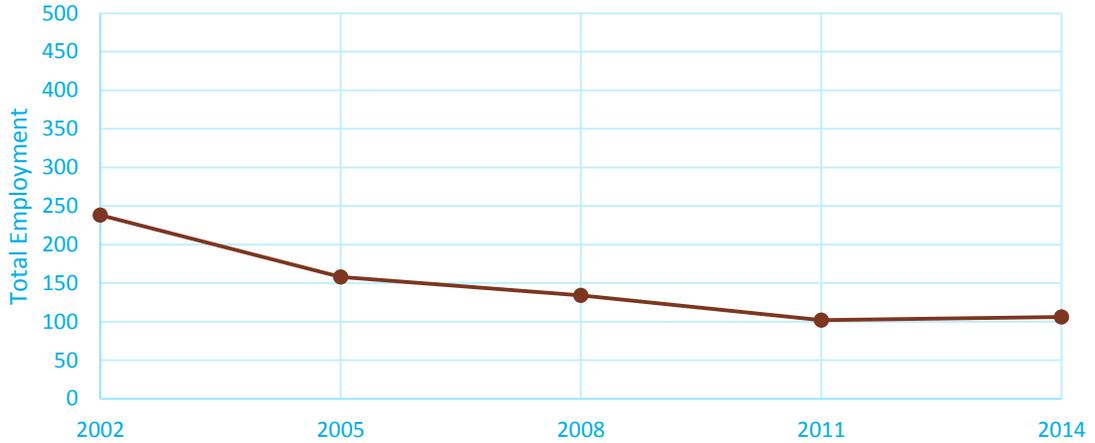
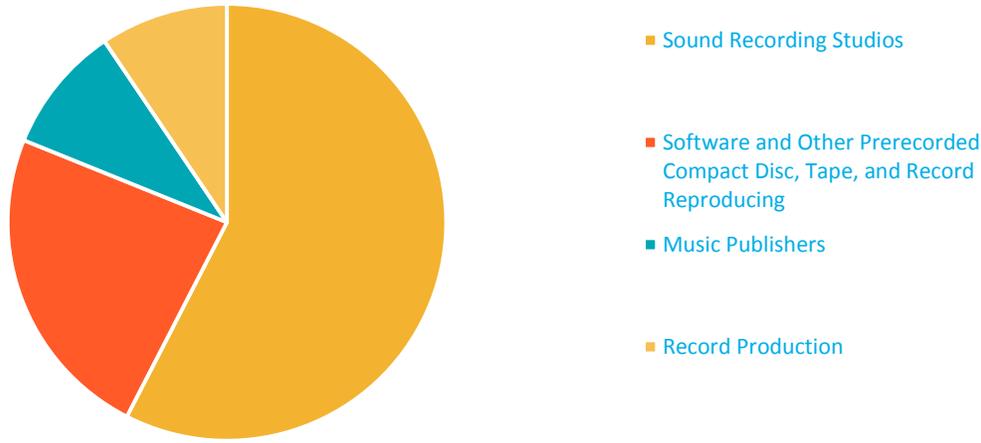
Boston's Creative Economy: Publishing and Printing

Industry Snapshot (2014)		Change in Employment (2002-2014)	
Employment	7,228		
Recent Growth (2011-2014)	45.3%		
Number of Establishments	180		
Average Wage	\$71,408		
Location Quotient	1.60		
<p>The Location Quotient (LQ) measures how the share of Boston's employment in an industry compares to the US average. An LQ over 1 means that an industry has a higher than average concentration in Boston.</p>			
Detailed Industry Employment (2014)		Industry Trends	
		<ul style="list-style-type: none"> • Once the largest Publishing industry, Newspaper Publishing has been cut in half since 2002, now employing 2,331 people. • Growth in Book Publishing in Boston has driven a recovery in the sector's employment since the Great Recession. 	

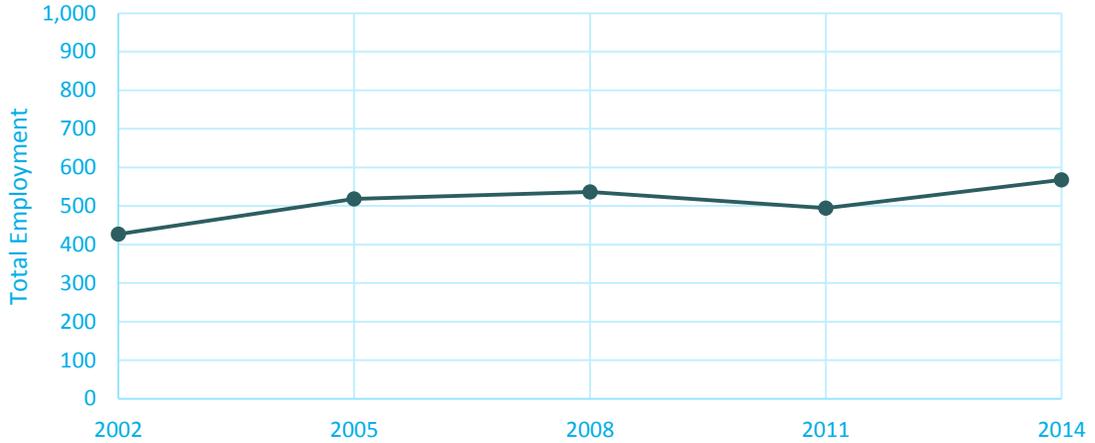
Boston's Creative Economy: Software & Internet Publishing

Industry Snapshot (2014)	Change in Employment (2002-2014)																						
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<table border="0"> <tr> <td>■ Internet Publishing and Broadcasting and Web Search Portals</td> </tr> <tr> <td>■ Software Publishers</td> </tr> </table>	■ Internet Publishing and Broadcasting and Web Search Portals	■ Software Publishers	<ul style="list-style-type: none"> • Employment in Software and Internet Publishing has quadrupled since 2002, growing from 1,337 to 5,267 in 2014. • At \$131,984, this sector has the highest average wage among Creative Economy sectors. 																				
■ Internet Publishing and Broadcasting and Web Search Portals																							
■ Software Publishers																							

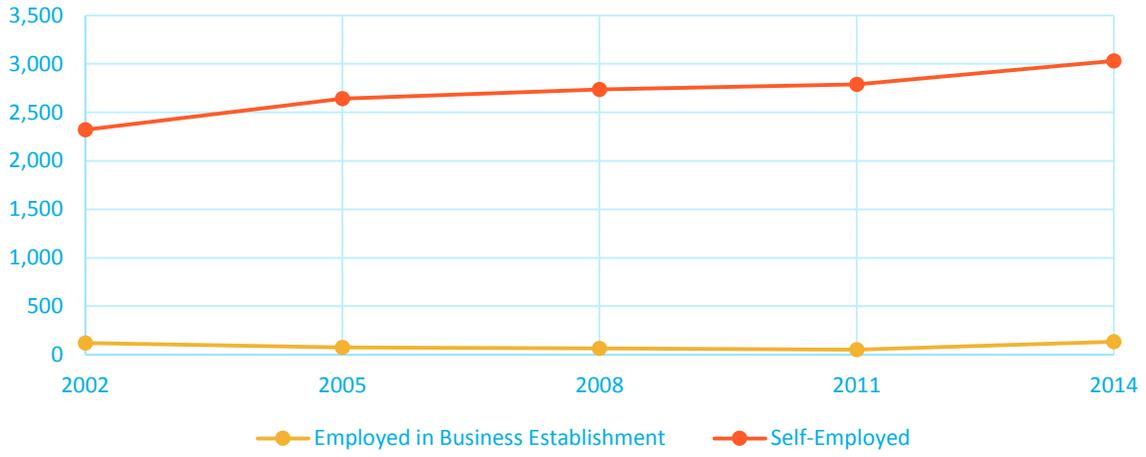
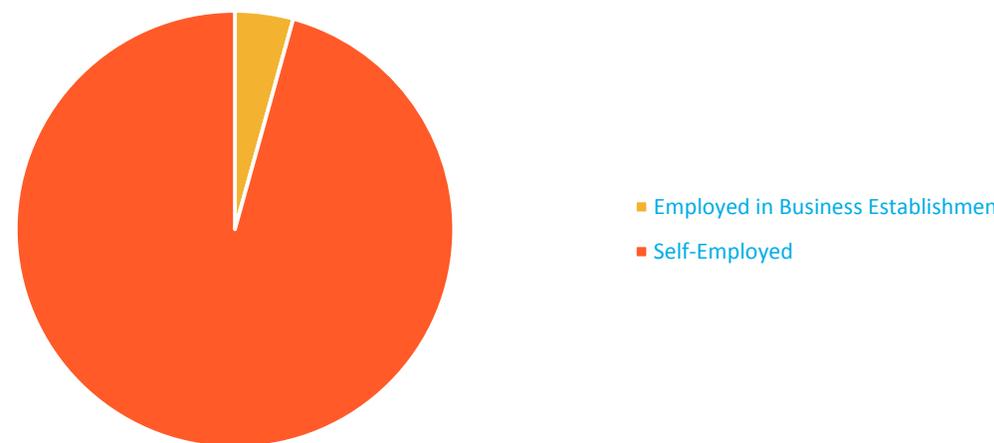
Boston's Creative Economy: Sound Recording & Music Publishing

Industry Snapshot (2014)	Change in Employment (2002-2014)												
<p>Employment 106</p> <p>Recent Growth (2011-2014) 3.9%</p> <p>Number of Establishments 12</p> <p>Average Wage \$71,375</p> <p>Location Quotient 0.60</p> <p>The Location Quotient (LQ) measures how the share of Boston's employment in an industry compares to the US average. An LQ over 1 means that an industry has a higher than average concentration in Boston.</p>	 <table border="1"> <caption>Total Employment (2002-2014)</caption> <thead> <tr> <th>Year</th> <th>Total Employment</th> </tr> </thead> <tbody> <tr> <td>2002</td> <td>238</td> </tr> <tr> <td>2005</td> <td>160</td> </tr> <tr> <td>2008</td> <td>135</td> </tr> <tr> <td>2011</td> <td>100</td> </tr> <tr> <td>2014</td> <td>106</td> </tr> </tbody> </table>	Year	Total Employment	2002	238	2005	160	2008	135	2011	100	2014	106
Year	Total Employment												
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2014	106												
Detailed Industry Employment (2014)	Industry Trends												
 <ul style="list-style-type: none"> ■ Sound Recording Studios ■ Software and Other Prerecorded Compact Disc, Tape, and Record Reproducing ■ Music Publishers ■ Record Production 	<ul style="list-style-type: none"> • At just 106 jobs, Boston's Recording and Music Publishing sector is small. That number is down from 238 jobs in 2002. • Sound Recording studios make up the majority of employment in the sector. 												

Boston's Creative Economy: Support Services

Industry Snapshot (2014)	Change in Employment (2002-2014)												
<p>Employment 568</p> <p>Recent Growth (2011-2014) 15.0%</p> <p>Number of Establishments 50</p> <p>Average Wage \$30,063</p> <p>Location Quotient 1.07</p> <p>The Location Quotient (LQ) measures how the share of Boston's employment in an industry compares to the US average. An LQ over 1 means that an industry has a higher than average concentration in Boston.</p>	 <table border="1"> <caption>Total Employment (2002-2014)</caption> <thead> <tr> <th>Year</th> <th>Total Employment</th> </tr> </thead> <tbody> <tr> <td>2002</td> <td>430</td> </tr> <tr> <td>2005</td> <td>520</td> </tr> <tr> <td>2008</td> <td>540</td> </tr> <tr> <td>2011</td> <td>500</td> </tr> <tr> <td>2014</td> <td>570</td> </tr> </tbody> </table>	Year	Total Employment	2002	430	2005	520	2008	540	2011	500	2014	570
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 <table border="1"> <caption>Detailed Industry Employment (2014)</caption> <thead> <tr> <th>Industry</th> <th>Employment</th> </tr> </thead> <tbody> <tr> <td>Fine Arts Schools</td> <td>370</td> </tr> <tr> <td>Libraries and Archives</td> <td>198</td> </tr> </tbody> </table>	Industry	Employment	Fine Arts Schools	370	Libraries and Archives	198	<ul style="list-style-type: none"> • Employment in Fine Arts Schools has grown over the last decade, while Libraries and Archives have shrunk modestly. • This report relies on data on private establishments, so public library employment is not included in this total. 						
Industry	Employment												
Fine Arts Schools	370												
Libraries and Archives	198												

Boston's Creative Economy: Independent Artists, Writers & Performers

Independent Artists in Business Establishments (2014)	Change in Employment (2002-2014)																		
<p>Employment 136</p> <p>Recent Growth (2011-2014) 151.9%</p> <p>Number of Establishments 36</p> <p>Average Wage \$59,087</p> <p>Location Quotient 0.65</p> <p>The Location Quotient (LQ) measures how the share of Boston's employment in an industry compares to the US average. An LQ over 1 means that an industry has a higher than average concentration in Boston.</p>	 <table border="1"> <caption>Change in Employment (2002-2014)</caption> <thead> <tr> <th>Year</th> <th>Employed in Business Establishment</th> <th>Self-Employed</th> </tr> </thead> <tbody> <tr> <td>2002</td> <td>~100</td> <td>~2,300</td> </tr> <tr> <td>2005</td> <td>~100</td> <td>~2,600</td> </tr> <tr> <td>2008</td> <td>~100</td> <td>~2,700</td> </tr> <tr> <td>2011</td> <td>~100</td> <td>~2,800</td> </tr> <tr> <td>2014</td> <td>~100</td> <td>3,032</td> </tr> </tbody> </table>	Year	Employed in Business Establishment	Self-Employed	2002	~100	~2,300	2005	~100	~2,600	2008	~100	~2,700	2011	~100	~2,800	2014	~100	3,032
Year	Employed in Business Establishment	Self-Employed																	
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Independent Artists by Employer Type (2014)	Industry Trends																		
 <table border="1"> <caption>Independent Artists by Employer Type (2014)</caption> <thead> <tr> <th>Employer Type</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Self-Employed</td> <td>95.7%</td> </tr> <tr> <td>Employed in Business Establishment</td> <td>4.3%</td> </tr> </tbody> </table>	Employer Type	Percentage	Self-Employed	95.7%	Employed in Business Establishment	4.3%	<ul style="list-style-type: none"> Self-Employment accounts for 95.7% of total employment among Independent Artists, Writers & Performers. There were 3,032 people in Boston self-employed in this sector in 2014. The number of self-employed Independent Artists has grown by 8.8% since 2011, and 30.6% since 2002. 												
Employer Type	Percentage																		
Self-Employed	95.7%																		
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Creative Occupations: An Alternate Definition

- The industry-based definition of the creative economy used thus far asks whether companies hiring workers are engaged in activities somewhere within the “Creative Production Chain”
- We might instead ask how many people are employed in occupations focused on creative work.
- By looking at both industries and occupations we can get a fuller picture of the employment opportunities available for those training in creative fields.

Defining Creative Economy Occupations

- To select creative occupations, we referred to the US Department of Labor's O*NET, which has developed a list of occupations by Career Cluster. We focused on the Arts, Audio/Video Technology & Communications cluster.
- We supplemented this using the Creative Economy Coalition's "America's Creative Economy" report, which synthesizes the existing literature on the Creative Economy, and calculates how frequently each occupation shows up in regional reports on creative economies.
- We added Software Application Developers and Web Developers to the list to highlight the increasing intersection between these high tech jobs and creative economy pursuits such as internet publishing and video game design. We omit other computer occupations such as Computer Programming and Systems Software Developers which might be less likely to overlap with the creative economy.

Defining Creative Economy Occupations

- The final list includes 55 detailed occupations, each identified by a 6-digit Standard Occupational Classification (SOC) code.
- Following the O*NET list, we categorized these into 7 clusters:
 - Architecture
 - Journalism and Broadcasting
 - Library and Arts Education
 - Performing Arts
 - Printing Technology
 - Visual Arts
 - Software and Web Development

Creative Occupations Using Proposed Definition

SOC Code	Creative Occupations
Architecture	
171011	Architects, Except Landscape and Naval
171012	Landscape Architects
173011	Architectural and Civil Drafters
Journalism and Broadcasting	
273011	Radio and Television Announcers
273021	Broadcast News Analysts
273022	Reporters and Correspondents
273041	Editors
273042	Technical Writers
273043	Writers and Authors
273099	Media and Communication Workers, All Other
274011	Audio and Video Equipment Technicians
274012	Broadcast Technicians
274013	Radio Operators
274014	Sound Engineering Technicians
274021	Photographers
274031	Camera Operators, Television, Video, and Motion Picture
274032	Film and Video Editors
274099	Media and Communication Equipment Workers, All Other

Creative Occupations Using Proposed Definition

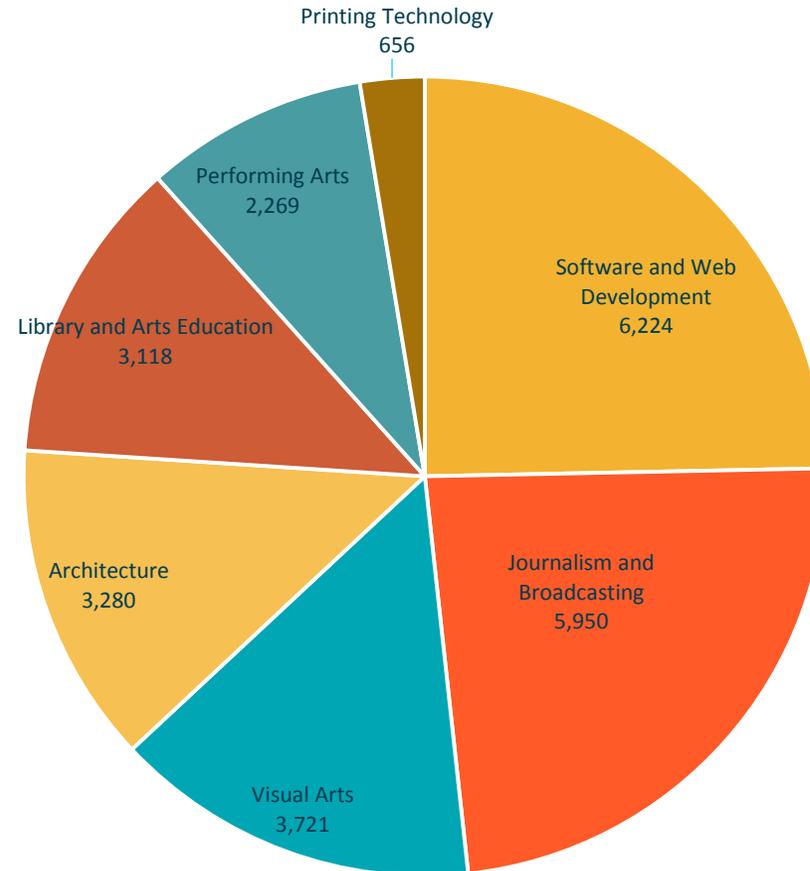
SOC Code	Creative Occupations
Library and Arts Education	
251121	Art, Drama, and Music Teachers, Postsecondary
254011	Archivists
254012	Curators
254013	Museum Technicians and Conservators
254021	Librarians
254031	Library Technicians
259011	Audio-Visual and Multimedia Collections Specialists
Performing Arts	
131011	Agents and Business Managers of Artists, Performers, and Athletes
272011	Actors
272012	Producers and Directors
272031	Dancers
272032	Choreographers
272041	Music Directors and Composers
272042	Musicians and Singers
272099	Entertainers and Performers, Sports and Related Workers, All Other
273012	Public Address System and Other Announcers
393092	Costume Attendants
395091	Makeup Artists, Theatrical and Performance
499063	Musical Instrument Repairers and Tuners

Creative Occupations Using Proposed Definition

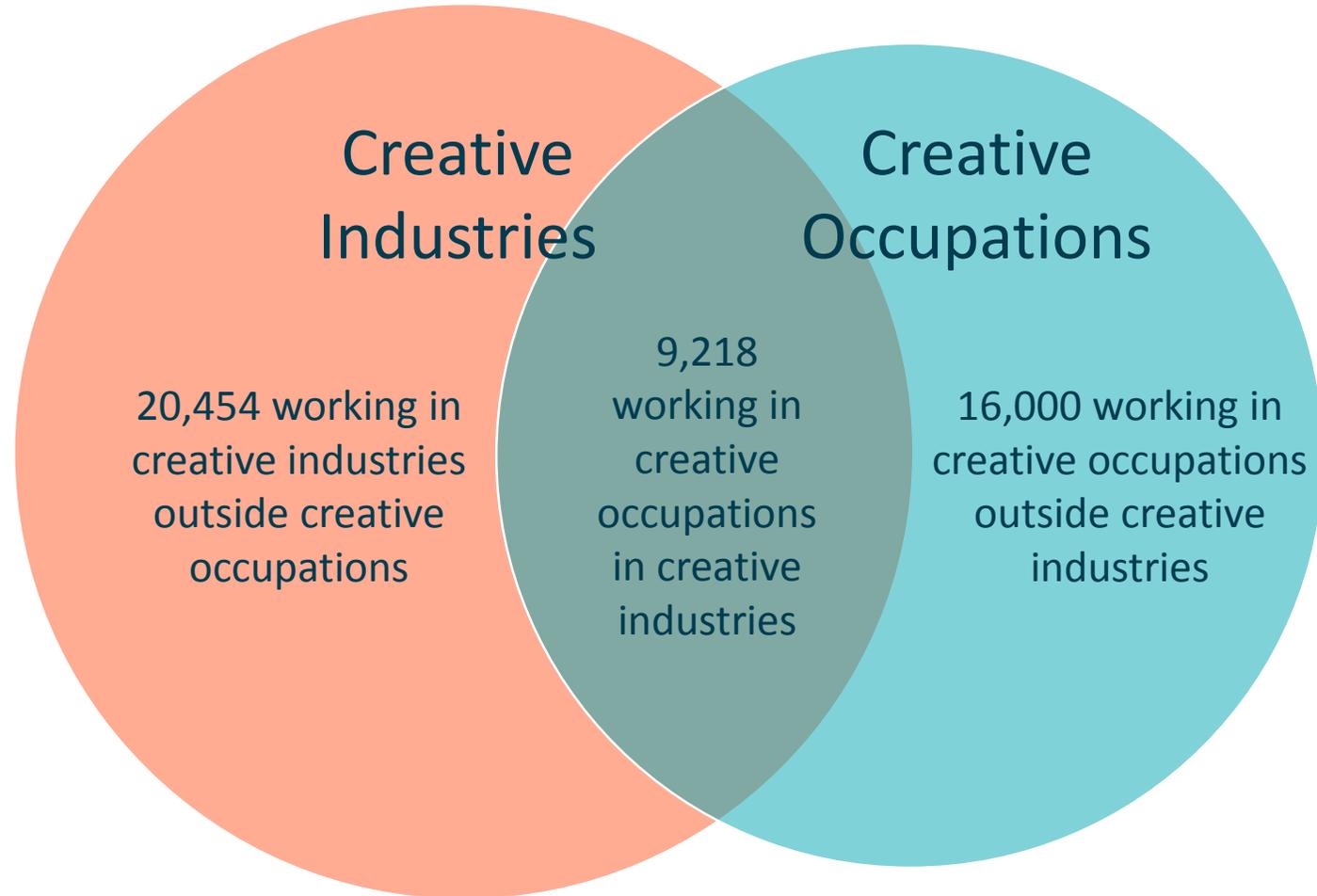
SOC Code	Creative Occupations
Printing Technology	
439031	Desktop Publishers
515111	Prepress Technicians and Workers
515112	Printing Press Operators
515113	Print Binding and Finishing Workers
Visual Arts	
271011	Art Directors
271012	Craft Artists
271013	Fine Artists, Including Painters, Sculptors, and Illustrators
271014	Multimedia Artists and Animators
271019	Artists and Related Workers, All Other
271021	Commercial and Industrial Designers
271022	Fashion Designers
271023	Floral Designers
271024	Graphic Designers
271025	Interior Designers
271027	Set and Exhibit Designers
271029	Designers, All Other
Software and Web Development	
151132	Software Developers, Applications
151134	Web Developers

Employment in Creative Occupations, 2014

- Employment in Creative Occupations totaled 25,218 in 2014.
- Software and Web Development, Journalism and Broadcasting and Visual Arts were the largest occupation groups



The Overlap between Creative Industries and Occupations



The Overlap between Creative Industries and Occupations

- Of the 29,672 workers in creative industries, 9,218 (31%) of them work in occupations identified here as creative.
- By contrast, just 2.6% of those outside of creative industries work in creative occupations.
- Counting all workers who are either in a creative industry, a creative occupation, or both, expands the number of creative economy workers to 45,672, or 7.2% of all payroll workers in Boston.

The Overlap between Creative Industries and Occupations

- The overlap between creative industries and occupations is particularly high in journalism and broadcasting occupations, where nearly all are employed in creative media companies.
- Large occupations with lower shares in creative industries include Graphic Designers (51%), Photographers (38%), and Software Application and Web Developers (17%). Workers with these specialties find work both inside and outside of traditional creative economy employers.

Projected Employment in Creative Occupations

- Using the Massachusetts Executive Office of Labor and Workforce Development (EOLWD) ten-year occupational projections, we estimate that the creative economy occupations will expand by 7.2% over the next decade, adding roughly 1,800 net jobs.
- Openings in creative occupations will also be created by employee retirement and turnover. Counting both growth and replacement openings, creative occupations will have roughly 700 annual openings over the next decade.
- Though EOLWD also makes some projections available by industry, the level of industry detail is insufficient to accurately estimate openings by the detailed creative industries in this report. Therefore we report projections only for creative occupations.

Projected Employment in Creative Occupations

- The following slide shows the 20 occupations with the most projected openings over the next decade. Combined, these occupations account for 596 of the roughly 700 projected annual openings.
- Software Application and Web Development are the two fastest growing fields, but the other top growing occupations are spread across arts education, architecture, journalism and broadcasting, and performing and visual arts.
- Most, though not all, of the fastest growing creative occupations require at least a bachelor's degree.

Occupations with Highest Number of Projected Openings

SOC Code	Occupation	Employment, 2014	Projected Employment, 2024	Average Annual Openings ¹	Required Education	Mean Annual Wage, 2014
151132	Software Developers, Applications	4,880	5,657	148	Bachelor's degree	\$107,047
151134	Web Developers	1,344	1,681	51	Bachelor's degree	\$78,334
251121	Art, Drama, and Music Teachers, Postsecondary	1,655	1,824	46	Doctoral or professional degree	\$97,857
171011	Architects, Except Landscape and Naval	2,236	2,295	43	Bachelor's degree	\$86,022
273041	Editors	1,100	1,078	40	Bachelor's degree	\$77,915
272012	Producers and Directors	1,029	1,080	38	Bachelor's degree	\$74,110
271024	Graphic Designers	1,359	1,406	37	Bachelor's degree	\$57,014
273043	Writers and Authors	1,448	1,503	30	Bachelor's degree	\$83,776
274011	Audio and Video Equipment Technicians	706	803	23	Postsecondary non-degree award	\$46,351
274021	Photographers	631	704	22	High school diploma or equivalent	\$61,752
254031	Library Technicians	372	385	19	Postsecondary non-degree award	\$48,127
271014	Multimedia Artists and Animators	707	727	15	Bachelor's degree	\$64,420
273022	Reporters and Correspondents	425	414	14	Bachelor's degree	\$65,658
273042	Technical Writers	399	448	14	Bachelor's degree	\$73,596
254021	Librarians	658	656	12	Master's degree	\$71,899
271011	Art Directors	645	641	12	Bachelor's degree	\$113,625
173011	Architectural and Civil Drafters	750	697	9	Associate's degree	\$57,421
271025	Interior Designers	337	337	8	Bachelor's degree	\$58,478
274012	Broadcast Technicians	399	387	8	Associate's degree	\$47,492
271013	Fine Artists, Including Painters, Sculptors, and Illustrators	286	301	7	High school diploma or equivalent	\$42,360

Source: Massachusetts EOLWD Occupational Projections; BPDA Research Division Analysis.

¹ Average Annual Openings include both openings created by employment growth, as well as replacement openings created by retirement and turnover.