

The background features a series of overlapping, semi-transparent circles in various colors including blue, green, purple, orange, and pink. A film strip with sprocket holes is overlaid on the bottom half of the image, curving across the frame.

# Lens on the Bay State:

*Motion Picture Production  
in Massachusetts*

A report by the  
**Alliance for Independent  
Motion Media**

*in collaboration with the  
Massachusetts Production Coalition*

# Lens on the Bay State:

## *Motion Picture Production in Massachusetts*

A report by the  
**Alliance for Independent  
Motion Media**

*in collaboration with the  
Massachusetts Production  
Coalition*

### **Research Team**

Robert Laubacher, *MIT Sloan School of Management*  
Alvaro Lima, Dominic Modicamore and Yolanda Perez,  
*Boston Redevelopment Authority*

### **Research Committee**

Lyda Kuth, *Chair, LEF Foundation*  
Michael Bowes, *Central Productions*  
Claudia Haydon, *AIMM*  
Christopher O'Donnell, *IATSE Local 481*  
Susi Walsh, *Center for Independent Documentary*

### **Report Author**

Robert Laubacher  
with the assistance of Tom Borrup



*Support provided by the John and  
Abigail Adams Arts Program of the  
Massachusetts Cultural Council and  
the LEF Foundation*

*May 2006*



**AIMM**

© 2006 Alliance for Independent Motion Media

To access report online, go to: <http://www.motionmedia.org>

Designed by: *Joanne Kaliontzis, Studio51 Design*

# Contents

<b>Executive summary</b>	5
<b>Introduction</b>	9
<b>Acknowledgements</b>	11
<b>Overview of the study</b>	13
<b>Massachusetts motion media sector</b>	
Massachusetts motion media sector	16
Motion media production vs. delivery	16
Why focus on motion picture production? Jobs	17
<b>Motion picture production in Massachusetts</b>	
Definition of motion picture production and related activities	20
Nature of employment in motion picture production	21
Employment and wages in Massachusetts, 1990-2004	22
Massachusetts vs. other states, 2001-04	23
Motion picture production vs. sports and museum/historical sectors	25
<b>Characteristics of Massachusetts motion picture production</b>	
Commercial	27
Documentary	31
Animation/experimental	33
Industrials	36
<b>Related economic sectors</b>	
Higher education	37
Information technology/electronic games	38
Finance	42
Tourism	43
<b>Next steps</b>	45
<b>Appendices</b>	
Study methodology	49
Statistical tables	54
Economic impact of the media sector in Massachusetts	62
AIMM and MPC	65



## **Executive summary**

This study examines motion picture production in Massachusetts. A key motivation for the study was the sharp drop in production the state experienced over the past half-decade, which triggered an economic crisis in the industry.

This spurred the formation of two advocacy organizations: the Alliance for Independent Motion Media (AIMM), which represents independent media makers; and the Massachusetts Production Coalition (MPC), which represents production companies, firms that provide production-related services, and the state's production workforce.

Both AIMM and MPC saw economic research as a central part of their advocacy work. The two organizations collaborated on this study, the first serious examination of motion picture production in the state since the Massachusetts Film Office completed an industry survey in the mid 1990s.

### ***Motion media in Massachusetts***

Motion picture production is part of the *motion media sector*, which we define here as the motion picture and broadcast/cable television industries. As digital technologies advance, motion media is also likely in the future to become more closely intertwined with the information technology, electronic games, telecommunications, newspaper, and music industries.

In 2004, the motion media sector provided jobs for nearly 18,500 workers in Massachusetts. These jobs were split roughly equally between motion pictures and television, and they generated personal income of more than \$725 million.

### ***Why focus on motion picture production? Jobs***

This study focuses on motion picture production because that is the area within motion media where new jobs can be created. In motion picture production—and activities closely tied to production, such as distribution, post-production, and related services—new jobs can be created in two ways. The first is to convince productions developed out-of-state—such as studio feature films or television commercials—to shoot in Massachusetts. The second is to increase the amount of production initiated by in-state producers.

***Motion picture production in Massachusetts***

In 2004, motion picture production and related activities provided work for just over 2,600 people in the state. More than 1,600 of these workers were regular employees, while just under 1,000 were independent contractors. Combined, these workers earned nearly \$125 million in personal income.

Motion picture production provides good jobs that are environmentally friendly. When independent contractors and movie extras, who work sporadically, are excluded, average income for motion picture production workers was \$56,000 in 2004, more than 15 percent above what the average job in the state paid that year.

In the early 1990s, the state's production industry had approximately 1,500 regular employees. This number grew to more than 2,000 by 1995 and stayed at that level through 2001. After that time, it declined steadily, to just over 1,600 in both 2003 and 2004. The number of independent contractors working in production has declined recently as well, from approximately 1,100 in 1997 to just under 1,000 in 2003.

Massachusetts is not the only state where motion picture production has fallen. Of the fifteen states with the largest production employment in 2001, only California experienced an increase in jobs through 2004. Nine of the top fifteen states saw employment levels fall by more than 20 percent. The primary reason was tax incentives and lower wages in place in foreign countries, which caused them to become preferred locations for major Hollywood studios. In response, some states put in place tax incentive packages of their own and saw their production industries grow.

***Characteristics of the Massachusetts motion picture production sector***

The motion picture production industry in Massachusetts comprises four primary segments: commercial, documentary, animation/experimental, and industrials.

The commercial segment includes in-state production of feature films and television shows financed by Hollywood studios, television commercials, and independent feature films and television shows. Studio feature work in Massachusetts has fallen sharply in recent years, largely due to the flight to foreign

locations. Production of television commercials has also been off, in part due to the departure from Boston of several important advertising agencies. The recently passed tax incentives have been received very favorably by Hollywood studios and out-of-town advertising agencies and have spurred increased activity.

Massachusetts has a distinguished documentary tradition, and WGBH is a mainstay of the state's documentary community, with nearly one-third of PBS's national programming produced under its auspices. The state's documentary segment has also experienced a recent drop in activity, due to falling budgets at WGBH and declining support for independent documentaries.

The animation/experimental segment experienced rapid growth in the 1980s, when MTV and advertising agencies began to feature this kind of work. In the 1990s, the state also became a national leader in producing on-air animated graphics. By the late 1990s, with the advent of reality programming and the rise of computer-based animation, both these areas suffered. But the state's animation segment has come back in recent years, led by individual artists who create sophisticated short films on personal computers for advertising and as elements of longer-form narrative and documentary films.

The industrials segment is comprised of productions made on behalf of corporations for promotional or educational purposes. It used to provide lucrative work for the state's production professionals. But this segment has been transformed by the advent of inexpensive digital cameras, PC-based editing software, and the ability to transmit media via company intranet. The industrial film formerly sub-contracted to an outside production company is now typically done in-house by corporate communications staff.

### ***Related economic sectors***

Motion picture production has linkages to several other economic sectors where Massachusetts is strong.

Each year the state's institutions of higher education produce a number of graduates with degrees in film and television production. Most of these graduates have been leaving the state or leaving the field, though the recent increase in production activity has made some students more optimistic about their prospects in Massachusetts.

Another important related sector is information technology,—computer hardware, software and related services. An especially close cousin to motion picture production is the electronic games sector, which increasingly relies on the sophisticated visual and narrative techniques used in movies. There is major potential for job growth at the intersection of motion picture production and the information technology and electronic games industries.

In the state's financial sector, social investors and venture capitalists have recently launched efforts that focus on media.

Finally, film production has strong linkages to the state's tourism sector. When movies and television shows are made in Massachusetts, the people who watch them often decide to visit the places they saw on screen.

### ***Next steps***

The new tax incentive legislation has generated a spirit of optimism among the state's production community. The most important next step is to develop clear and consistent regulations for the administration of the incentives and to have in place a well-run state film office. For the Massachusetts independent community, gaining better access to sources of financing and distribution is a key to long-term success.

Massachusetts can build a sustainable production industry by taking advantage of its strengths: the uniqueness of its locations; its highly educated and skilled production workforce; its distinguished documentary tradition and WGBH's leadership position within PBS; the in-demand skills of its animators and experimental filmmakers; and its strength in computers and software, which create the potential for the state to become an innovator in new media forms enabled by emerging technologies.

## Introduction

The Massachusetts motion picture production industry has faced hard economic times over the past half-decade, with employment falling by nearly one-third since the late 1990s. The impact of the decline was felt across all segments and at all levels of the industry—from union members working in the commercial sector to independent producers making documentaries for public broadcast.

In 2005, the emergence of two groups—the Alliance for Independent Motion Media (AIMM) and the Massachusetts Production Coalition (MPC)—signified a defining moment in the history of motion picture production in the state. It has long been recognized that the presence of a vibrant independent community alongside a robust commercial sector is a strength of the Massachusetts media industry. Through AIMM’s advocacy efforts, focused on the independent community, and the MPC’s, which targeted the commercial sector, there came a simultaneous call to action and articulation of a common mission: to improve the conditions for motion picture production in the Commonwealth of Massachusetts and the City of Boston.

Production—“making,” “creating,” “manufacturing”—is the primary focus of this report. Production is at the heart of the motion picture industry, for without the appropriate conditions to sustain and stimulate media makers to produce work, there is no product to market, to view, or to sell. It is also the area of greatest interest from an economic development perspective, for production is the primary area within the media sector where new jobs can be created.

Beginning in the late 1990s, local production companies, independent producers, and labor unions all felt the progressive decline in production activity. Key nonprofit organizations that support the independent community questioned how their constituents would be able to sustain careers in a resource-poor environment, with independent producers facing not only fewer work-for-hire opportunities but also a scarcity of philanthropic dollars. On the commercial side, production companies, unions, and others involved in the industry knew that policy changes were needed to encourage media production in Massachusetts. In addition, workers were being affected by profound changes in the means of production and distribution brought about by emerging technologies. The lower level of production activity affected all producers, and all those associated with production. The challenge was to reverse the downturn.

Together, AIMM and MPC identified economic research as central to creating the necessary foundation for implementing change. It has been over ten years

This is a critical moment for motion picture production in the Commonwealth of Massachusetts. After a difficult stretch, those working in the industry report signs of an upswing.

since the Massachusetts Film Office issued a report on the state's industry. With this current report, the intent is to capture economic data as well as to map the landscape of this industry and to identify what is unique to Massachusetts. It is the first step in a larger effort to demonstrate the impact of production on the state's economy and to build a case for additional investment in the media sector.

This study starts with economic information for the recent past and up to the present—the number of people working in motion picture production in the state and how much income they earned. This provides a baseline against which future developments can be measured. The Massachusetts production sector is also compared to that of other states in recent years. In addition, the study provides a picture of the major segments of the state's production industry: commercial, documentary, animation and experimental, and industrials. Finally, it describes how media production is linked to other economic sectors where Massachusetts is strong, including higher education, information technology and electronic games, finance, and tourism.

With the publication of this report, the constituencies served by this research have an essential tool for moving forward. The AIMM committee that led this work intends to track employment levels and wages in the motion picture production sector on an ongoing basis. AIMM will also continue to provide networking opportunities, skills training, and innovative partnerships that help independents to advance rather than simply hold ground in the emerging media landscape.

This is a critical moment for motion picture production in the Commonwealth of Massachusetts. After a difficult stretch, those working in the industry report signs of an upswing. Legislation providing tax incentives for the motion picture industry went into effect January 1, 2006. The MPC and other industry constituencies are encouraging the state to create a state-funded, clearly-recognized film office that will provide consistent guidelines and procedures for Hollywood studios and other producers looking to shoot in Massachusetts.

Through their advocacy efforts, both AIMM and MPC seek to identify the key factors that hamper the state's motion picture production sector and to recommend actions that can spur its sustainable growth. The economic data contained in this report is a concrete and necessary starting point.

—Lyda Kuth  
*Chair, AIMM Research Committee*

## **Acknowledgments**

There are many to thank who contributed their time and expertise to this report.

We want to express our deep appreciation to the City of Boston for the integral role the Boston Redevelopment Authority has played in this effort. We especially want to thank Alvaro Lima for the guidance and insight he provided and for the work his associates Dominic Modicamore and Yolanda Perez did on the behalf of this report. Their help was invaluable.

Our heartfelt thanks go to Robert Laubacher, who brought not only his research and writing skills to the project, but also a longstanding commitment to and knowledge of the rich landscape of independent motion media.

We also wish to thank the advisors who helped guide the thinking and writing: Tom Borrup, Beate Becker, Carol Atwood, Jon Abbott, Louisa McCall; and to members of the AIMM Research Committee, Mike Bowes, Claudia Haydon, Chris O'Donnell, and Susi Walsh, who brought this report to fruition. May Wen was an able research assistant to the committee.

We also want to acknowledge the valuable partnership with the Massachusetts Production Coalition and the leadership provided by its President, Joe Maiella.

We also wish to thank the Massachusetts Cultural Council for their support of this project through the John and Abigail Adams Program for Cultural Economic Development.

Finally, this report would not have been realized without input from the individuals below, who generously shared their wisdom and experience in the field:

John Cini, *High Output*

Mark Claypool, *Worcester Polytechnic Institute*

Denise DiIanni, *WGBH*

Nancy Englander, *WGBH*

George Fifield, *Boston Cyberarts*

Jane Gillooly, *School of the Museum of Fine Arts*

Richard Gonci, *Neoscape*

Mark Hankey, *Picture Park*

Guy Holt, *ScreenLight and Grip*

Mary Ann Hughes, *The Walt Disney Company*

Bruce Jaranian, *Center for Digital Imaging Arts at Boston University*

**Lens on the Bay State: Motion Picture Production in Massachusetts**

Ed Kaznocha, *Department of Workforce Development,  
Massachusetts Division of Career Services, Economic Analysis Office*

Zak Lee, *Fitchburg State College*

John MacNeil, *Moody Street Pictures*

Greg McCleary, *Heart Punch Studio*

Charles Merzbacher, *Boston University*

Ben O'Brien, *Heart Punch Studio*

Don Packer, *Engine Room Edit*

Kent Quirk, *Solidworks/International Game Developers Association*

Mitch Rosenwald, *Magic Box Films*

Jennifer Sargent, *Producer*

Michael Selig, *Emerson College*

Beth Siegel, *Mount Auburn Associates*

Lisa Simmons, *Color of Film Collaborative*

Gretchen Skogerson, *Massachusetts College of Art*

Dona Sommers, *AFTRA/SAG (American Federation of Television  
and Radio Artists/Screen Actors Guild)*

Eric Stange, *Spy Pond Productions*

Anne Marie Stein, *Massachusetts College of Art*

Tim van Patten, *Central Booking*

Bonnie Waltch, *Filmmakers Collaborative*

Hillary Wells, *WGBH*

—Lyda Kuth  
*Chair, AIMM Research Committee*

The members of the AIMM Research Committee thank our chair, Lyda Kuth. Her unwavering faith in this effort helped us to surmount the challenges we encountered along the way. And her uncanny ability to see potential linkages between people from disparate realms—and then to forge those connections in engaging and productive ways—has improved the work immensely. The very existence of this report is testimony to Lyda's remarkable vision and quiet persistence.

—Mike Bowes, Claudia Haydon, Robert Laubacher,  
Chris O'Donnell, and Susi Walsh  
*AIMM Research Committee*

## Overview of the study

This study focuses on motion picture production in Massachusetts—its recent past, its current situation, and its prospects for the future.

### *Definitions and rationale*

According to the classification system used by the government agencies that track industry employment and income levels, motion picture production includes not just films made to be screened in theaters and on videocassette and DVD. It also encompasses many other kinds of productions that make use of moving images: television commercials; television programs created by independent producers outside the umbrella of broadcast and cable networks; promotional and educational productions made on behalf of corporations and cultural institutions; and short animated and experimental films that can be transmitted in a variety of ways, including over the Internet.

Motion picture production takes place within a broader economic context; it is part of the larger media industry. And the media industry, thanks to the advance of digital technology, is deeply influenced by—and in the future may ultimately converge with—the computer and telecommunications industries.

This study looks at motion picture production within the context of what we term the *motion media industry*—those parts of the communications media that make use of moving images. Given this framework, we define motion media as the motion picture and broadcast/cable television industries.

Some may well argue with this definition. Electronic games use moving images and increasingly allow users to link up via the Internet in ways that some feel make them part of the media. And the rapid evolution of information technology and telecommunications has led to many new products and applications that rely on moving images, such as blogs that play news clips and mobile phones and iPod players with video screens.

We have chosen the more conservative definition for the moment, in full awareness that the technology landscape is evolving and that a revised definition of motion media will likely be required by decade's end—and possibly sooner. We made this choice for two reasons.

First, the two advocacy groups that collaborated on this study carry out their work within the motion picture and television industries. Their primary allegiance, therefore, is to motion picture and television professionals.

The second reason for our choice is the lag between the development of new technologies and the ability of government agencies to measure their impact. As much as we would have liked to include data on emerging hybrid forms that use moving images—for example, electronic games and video-enabled cell phones—the government statistics today do not differentiate newer industries at as fine a level of detail as they do the more established media sectors. As a result, an electronic game with cinematic visuals gets lumped into the broad category of “software,” and a mobile phone that can play movie previews gets lumped into “wireless telecommunications.”

### ***Plan of the study***

This study starts by describing the Massachusetts motion media sector overall. It then focuses in depth on one part of the sector—motion picture production and related activities (which include distribution, post-production, and other services that support production). In most of the study, the term “motion picture production” is used as shorthand to encompass production and these related activities.

The reason for focusing on motion picture production is that this is the part of the motion media sector where new jobs can be created, by attracting more productions that are developed out-of-state to shoot in Massachusetts and by encouraging growth of in-state production companies.

The study first notes the unique nature of the motion picture production industry’s employment relationships, which involve extensive reliance on independent contractors. It then provides figures on the number of workers active in the sector over the last decade-and-a-half, describes how Massachusetts has fared recently against other leading states in motion picture production, and compares motion picture production to the state’s professional sports and museum/historical sectors.

The study goes on to describe the characteristics of the four leading segments of the state’s motion picture production sector:

- Commercial, which includes feature films and television shows financed by Hollywood studios, television commercials, and independent feature films and television shows;

- Documentary, nonfiction works made on behalf of WGBH and cable networks, and by independent producers and for museums;
- Animation/experimental, short-form animated and non-narrative work;
- Industrials, productions made for use by corporations.

The study then discusses how motion picture production interacts with other important economic sectors in the state, including higher education, information technology/electronic games, finance, and tourism.

Finally, the study outlines a list of next steps that the industry and other interested stakeholders can take to promote a robust motion picture production sector in Massachusetts.

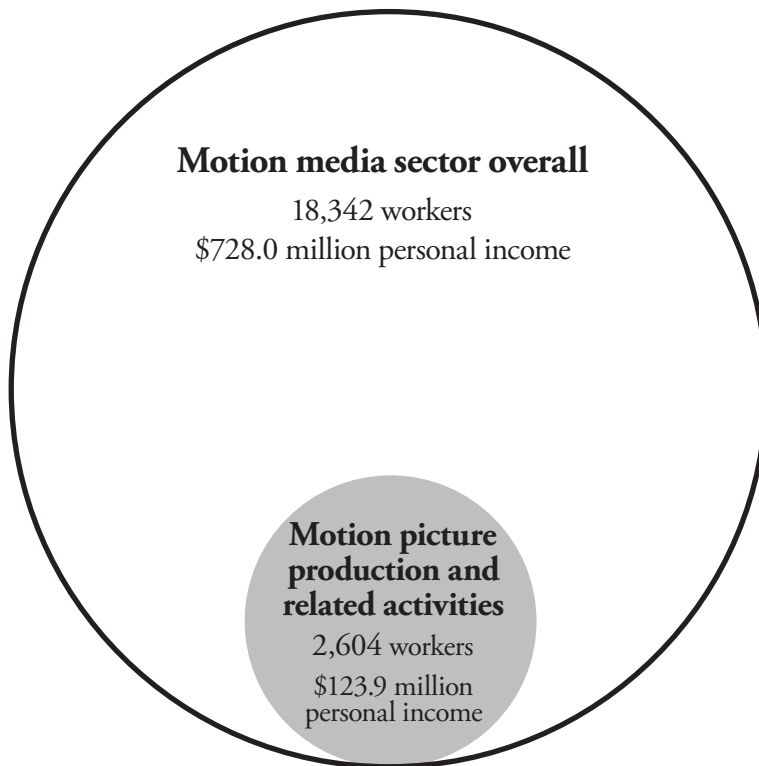


Figure 1: Size of Massachusetts motion media and motion picture production sectors, 2004  
(Area inside circle is proportional to number of workers.)

Source: U.S. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages (QCEW)*; U.S. Census Bureau, *Nonemployer Statistics*

## **Massachusetts motion media sector**

In 2004, the Massachusetts motion media sector—made up of the motion picture and broadcast/cable television industries—provided work for nearly 18,500 people. In that year, these workers earned more than \$725 million.

REMI Policy Insight, the econometric model used by the Boston Redevelopment Authority, estimates that each motion media job in the state supports nearly 1.3 additional jobs in other industries. This means the sector supported more than 41,500 total jobs in Massachusetts in 2004, which generated personal income of nearly \$1.8 billion.

The sector is split roughly equally between the motion picture and television industries, with each employing just over 9,000 workers.

### ***Motion media production vs. delivery***

The motion media sector involves two basic kinds of activities: production and delivery.

Production is the actual making of motion pictures and of programming for broadcast/cable television.

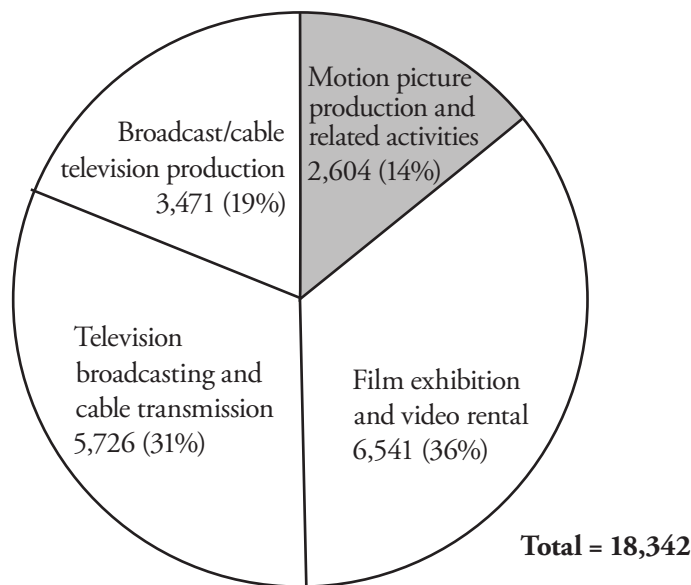
Delivery is getting those movies and programs in front of viewers. With motion pictures, this means exhibiting films in theaters and making them available on DVD and videocassette at rental stores. In television, this means broadcasting programs over the airwaves or transmitting them via cable.

On the motion picture side, slightly more than 2,600 Massachusetts workers are employed in production and related activities. Of these, more than 1,600 work as employees, while slightly fewer than 1,000 work as independent contractors.

The remaining workers in the Massachusetts motion picture sector—who number more than 6,500—are involved in delivery and employed in the film exhibition or video rental industries.

On the television side, just over 3,000 workers are employed by local television stations; more than 800 work for regional cable networks; and nearly 5,000 work for cable networks' distribution arms. Another 400 people work as independent contractors in television.

Using statistics on the national distribution of occupations in the broadcast/cable televisions industries, we estimate that just under 3,500 of the state’s 9,000-plus television workers are involved in the production of programming, with the remaining involved in delivery.



**Figure 2: Workers in Massachusetts motion media sector, 2004** (includes employees and independent contractors)

Source: U.S. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages (QCEW)*; U.S. Census Bureau, *Nonemployer Statistics*

***Why focus on motion picture production? Jobs***

The remainder of the study focuses on motion picture production in Massachusetts for a simple reason—because this is the part of the state’s motion media sector that can create new jobs.

Employment levels on the delivery side of the motion media sector are directly related to the number of movies and television programs watched by people in Massachusetts. Job growth is thus tied to the state’s population and viewing habits. Given this fact, prospects for job growth on the delivery side are unpromising. The state’s population is relatively stable. And on a national level, movie attendance and home video rentals have been flat, and the amount of time Americans spend watching television has grown at less than 1 percent per year over the past decade-and-a-half.

Television production, while providing high pay, also offers limited potential for job growth. Almost all of the television production that occurs in Massachusetts is for local news, sports, and community service programming. Given current viewing habits in the state, the amount of local programming that gets made will increase only if such shows can push national programming off the schedules of broadcast stations and cable networks. But the opposite has been the case in recent years, with national programs supplanting locally-made productions on broadcast and cable schedules.

Regional cable networks like New England Cable News and New England Sports Network still have potential to grow as they increase their penetration in New England. But this part of the industry is small, with a little over 100 production workers. And these regional cable networks have been in business long enough to have achieved most of their initial penetration among prospective viewers. Growth of production by regional cable networks is thus likely to be incremental at best.

Some national television programming is made in Massachusetts, for example, PBS series such as *Nova*, *Frontline*, and *American Experience*, which are produced under the auspices of WGBH, or shows that air on commercial television, like ABC Family's *Knock First*. But actual production of such programming is almost without exception subcontracted to independent production companies, which are classified in government statistics as part of the motion picture industry. Thus, while there is certainly room for Massachusetts production companies to grow by producing more national television programming, should they do so, any new jobs that get created will be classified within the motion picture production segment.

In contrast to media delivery and television production, motion picture production offers significant opportunities for job growth. One way to increase the number of motion picture production jobs is to entice more projects developed elsewhere—in particular, motion pictures and television programs that are underwritten by the major Hollywood studios and national and regional television commercials that are part of campaigns created by major advertising agencies—to shoot in Massachusetts. Another way to grow the state's motion picture production employment is to increase the number of movies and national television programs that are developed, shot, and edited in-state by local producers.

Jobs in motion picture production pay well. When independent contractors and movie extras—who often work sporadically and thus typically earn less than regular employees—are excluded, the average Massachusetts motion production job paid nearly \$56,000 in 2004. This is almost 15 percent above what the average job in the state paid that year. Motion production jobs are also clean jobs, with little or no adverse environmental impact.

The average  
Massachusetts motion  
picture production  
job paid nearly  
\$56,000 in 2004.  
This is almost  
15 percent above  
what the average  
job in the state paid  
that year.

## Motion picture production in Massachusetts

To provide a picture of the Massachusetts motion picture production sector, this section of the study will address five major topics.

- Definition of motion picture production and related activities.
- Nature of employment in the motion picture production sector.
- Massachusetts motion picture production employment and wages, 1990-2004.
- Motion picture production employment in Massachusetts vs. other leading film states, 2001-2004.
- Motion picture production vs. professional sports and museum/historical sectors.

### *Definition of motion picture production and related activities*

In examining the Massachusetts motion picture production sector, the study has concentrated on four closely interrelated types of activities.

- Motion picture production, the process of capturing images and sounds that can be assembled into finished motion pictures.
- Post-production, the process of editing images and sound and adding elements like special effects, titles, and captions to assemble a completed motion picture.
- Motion picture services, that is, contracted services that support motion picture production; examples include booking agencies and film processing labs.
- Motion picture distribution, which involves acquiring the rights to motion pictures and distributing them to theaters, television/cable networks and other venues.

During 2004, production accounted for nearly three-quarters of employment in these four areas. It also is the activity that drives the others, since the existence of in-state production is what creates the need for post-production, support services, and distributors. Through the rest of this section, and in much of the study, the term “motion picture production” is used as shorthand to encompass production and these related activities.

### ***Nature of employment in motion picture production***

The nature of motion picture production leads the industry to use an unconventional set of employment practices.

Some small- and medium-sized production companies in the state carry staffs of regular employees, like firms in other industries. But most motion picture production work is project-driven. Productions require large numbers of people to be mobilized for a finite period of time, several weeks or months for a large Hollywood feature film, only a day or two for a television commercial.

As a result, many workers in the industry move from project to project. For example, a grip—who assists the lighting and camera crews during a production—could work on three different projects in a given week: a commercial, a small corporate video, and a studio movie.

Workers who move from project to project are sometimes paid as regular employees, with the hiring firm assuming responsibility for payment of payroll taxes. In other cases, motion picture production workers are hired as independent contractors and pay their own taxes. Which arrangement is used can depend on such factors as the size of the production, the worker's job, and his or her union status. For example, the grip cited above, who rotated between three productions in one week, would get paid as an employee on the commercial and studio movie, but possibly as an independent contractor on the corporate video.

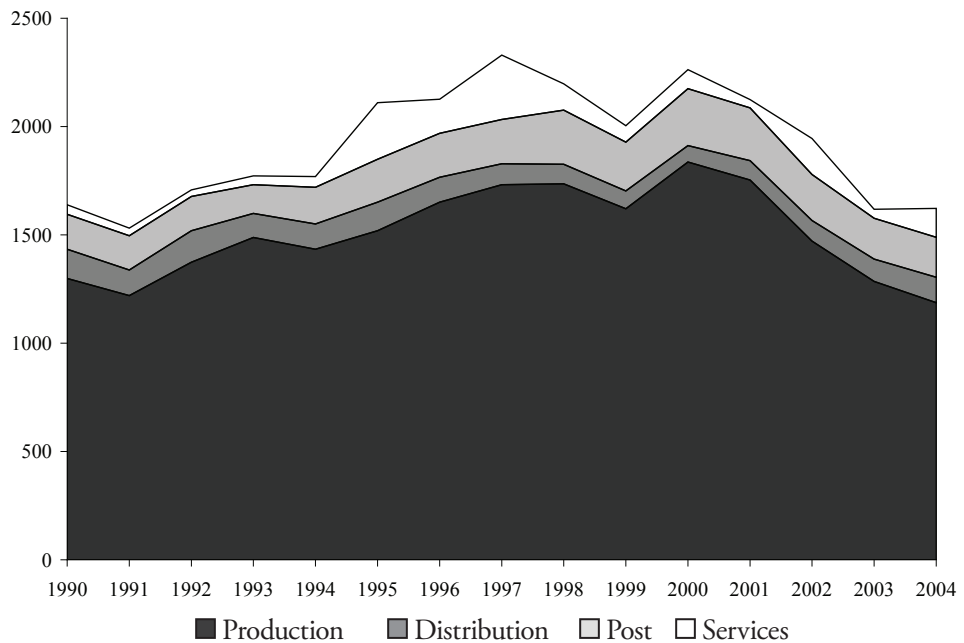
In the industry, people often distinguish these arrangements by referring to the kind of tax document sent by the hiring firm to report the worker's earning at year's end. Regular employees receive a W-2 form; independent contractors receive a 1099 form. The figures presented in the study include both regular employees and independent contractors.

***Employment and wages in Massachusetts motion picture production sector, 1990-2004***

The number of regular employees working in the Massachusetts motion picture production industry grew steadily through most of the 1990s, from just over 1,500 in 1991 to more than 2,300 in 1997. Between 1998 and 2001, employment levels fluctuated between 2,000 and 2,200. After 2001, this number declined steadily, to approximately 1,600 in both 2003 and 2004.

As a result of sharp declines in the first part of this decade, by 2004 the state’s motion picture production employment had experienced a 30 percent decline from its 1998 peak and a 25 percent decline from the average levels of 1997-2001.

Data from CrewStar, Inc., a Massachusetts firm that provides payroll services for features, television commercials, and industrial films, confirms this trend. CrewStar serves more than forty clients active in Massachusetts, including production companies, advertising agencies, equipment rental houses, and large corporations. Given its broad and diverse client base, the amount of payroll that flows through CrewStar is a good gauge of production activity in the state.



**Figure 3: Employees in Massachusetts motion picture production and related sectors, 1990-2004**  
(excludes independent contractors)

Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW); U.S. Census Bureau, Nonemployer Statistics

Between 2000 and 2005, the payroll paid on productions served by CrewStar fell by more than 40 percent.

Average annual pay for regular employees in Massachusetts motion picture production increased from just under \$33,000 in 1990 to \$52,000 in 2004. When adjusted for inflation and considered in constant 2004 dollars, this represents an increase from an average annual salary of \$49,000 during the 1990s to an average of \$52,000 in the present decade.

The number of independent contractors in the Massachusetts motion picture production industry has also declined since the late 1990s, falling from just under 1,100 in 1997 to slightly less than 1,000 in 2003. Their inflation-adjusted average annual income has declined slightly, from approximately \$40,000 in the late 1990s to \$39,000 during the current decade.

When both regular employees and independent contractors are included, motion picture production provided an estimated 2,600 Massachusetts jobs in 2004, which paid total income of nearly \$125 million. The industry supported nearly 2,600 jobs in other sectors that year, which generated an additional \$100 million in personal income.

***Massachusetts motion picture production vs. other states, 2001-04***

Massachusetts was not alone in having a shrinking motion picture production sector in recent years. With the exception of California, the other fifteen states with the largest production sectors in 2001 saw employment fall by 2004. New York state lost nearly a quarter of its jobs, falling from more than 43,000 employees in 2001 to just over 32,500 in 2004. Eight of the other fifteen states lost 20 percent or more of their employment over the period. Massachusetts, which was the 9th-ranked state in 2001, fell to 12th place in 2004.

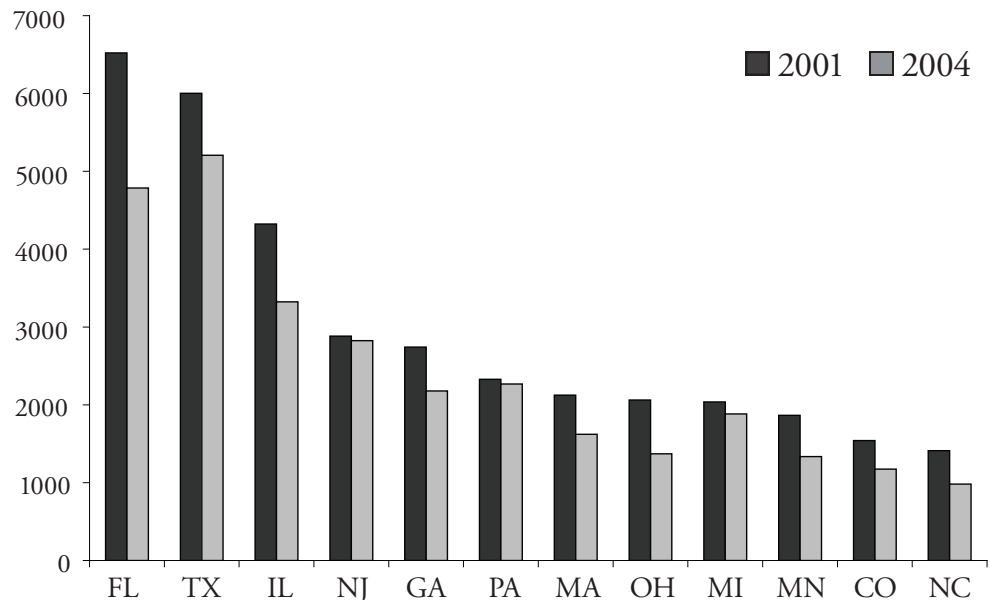
An important factor that has driven the decline of motion picture production across these states is that the major Hollywood studios chose to shoot a large percentage of their feature films and television productions offshore, in foreign locations, instead of in the United States. Canada, Great Britain, and other foreign production centers were very aggressive throughout the 1980s and 1990s in courting Hollywood productions with attractive tax incentive packages and with lower overall production costs. These efforts were quite successful.

By 2004 the state's motion picture production employment had experienced a 30 percent decline from its 1998 peak and a 25 percent decline from the average levels of 1997-2001.

Mitigating factors appear to have been in place for several of the leading motion picture production states that avoided massive job losses. New Jersey likely benefited by the exodus of nearly 10,000 production jobs from New York state. And production in Pennsylvania was boosted by the presence of the successful Hollywood director, M. Night Shyamalan, who grew up in the Philadelphia area and chooses to shoot his features in and around that city.

A sharp contrast to the decline in the leading production states was the experience of several states that put in place tax incentive programs to attract productions. Louisiana’s efforts have been the most successful. That state’s employment in motion picture production and related areas grew from less than 800 to more than 2,000 between 2001 and 2004. As a result, Louisiana has surpassed Massachusetts as a production center, with employment in 2004 nearly 25 percent greater than the Bay State’s. New Mexico also introduced tax incentives and was able nearly to double the size of its production sector, which grew from less than 300 employees in 2001 to more than 500 in 2004.

**Figure 4: Employment in motion picture production and related activities for leading states, 2001-04\***  
*(independent contractors not included)*



\*California (100,238 employees in 2001 and 136,087 in 2004) and New York (43,329 employees in 2001 and 32,534 in 2004) omitted to enhance readability. Data missing to calculate growth trend for Virginia, 12th-ranked state in 2001.

Source: U.S. Bureau of Labor Statistics, *Quarterly Census of Employment and Wages (QCEW)*

It is worth noting, however, that while these states were able to add production jobs, they did so at wage rates that were considerably lower than those paid in Massachusetts. For three out of the four years between 2001 and 2004, average annual pay for motion picture production employees in Louisiana and New Mexico ranged between 35 and 60 percent of the pay levels that prevailed in the sector in Massachusetts. Lower annual pay could be caused by two factors—lower daily wages or the more sporadic, shorter-term nature of motion picture production employment in Louisiana and New Mexico.

In recent years, other states have put in place tax incentives of the sort pioneered by Louisiana and New Mexico. These efforts have stemmed the tide of productions moving offshore. While actual employment data is not yet available for 2005, anecdotal evidence suggests that tax breaks and other production incentives have spurred a sharp upturn in production in New York and Rhode Island.

The recent passage of tax legislation in Massachusetts creates the prospect of a similar rebound in production activity here. After the passage of this legislation, Mary Ann Hughes, Vice President, Film Production Planning for the Walt Disney Company, commented, “This law makes Massachusetts very competitive in attracting film and TV production. We look forward to doing business in Massachusetts.”

### ***Motion picture production vs. professional sports and museum/historical sectors***

The motion picture production sector compares favorably in size and pay rates to two other sectors that are much touted in Massachusetts: professional sports teams and museums/historical sites.

The state’s professional sports industry is very similar in size to its motion picture production sector. In 2004, professional sports teams employed approximately 2,500 people in Massachusetts, almost the same number as motion picture production. The astronomical salaries of a small number of athletes skew pay levels in the sports sector. When athletes’ salaries are factored out, average pay in professional sports was just over \$55,000 per year in 2004, almost the same as pay in the motion picture production industry. Motion picture production and professional sports thus provide comparable numbers of jobs at quite similar income levels and so have almost the same economic impact in the state.

“This law makes  
Massachusetts very  
competitive in  
attracting film and  
TV production.  
We look forward to  
doing business in  
Massachusetts.”

*Mary Ann Hughes,  
Vice President, Film Production  
Planning for the Walt Disney  
Company*

The heralded museums and historical sites of Massachusetts provided jobs for approximately 6,000 workers in 2004. This is slightly more than twice the number of people who worked in the state's motion picture production industry that year. But the average pay for workers at museums and historical sites was less than \$30,000 per year in 2004, just over half of what motion picture production workers made. Thus the economic impact of jobs in the state's museums and historical sites is also comparable to that of its motion picture production sector.

## Characteristics of the Massachusetts motion picture production sector

The Massachusetts motion picture production sector comprises four major segments:

- **Commercial**, which includes in-state production of feature films and television programs developed by Hollywood studios and by independent producers, and production of television commercials;
- **Documentary**, which includes productions backed by WGBH and cable networks, independent works, and the museum sector;
- **Animation/experimental**, which includes short animated and non-narrative films, typically shown in film festivals or used in cable television or advertising;
- **Industrials**, productions made on behalf of corporations and used for external promotional purposes or for internal training and education.

There is not a great deal of overlap among senior positions in these segments, as producers, directors and writers typically tend to specialize. There is, however, considerable overlap among skilled craftspeople in production and post-production, as well as firms that provide support services, such as equipment rental or sound houses. These professionals and companies tend to employ their skills and diversify their businesses across the various segments

### ***Commercial***

The disparate group of activities labeled as “commercial” includes in-state production of studio feature films and television programming (pilots, episodic dramas and comedies, and reality shows); production of commercials on behalf of advertising agencies; and shooting of independent feature film and television productions.

All three types of commercial activities involve large production teams, including full camera, lighting and sound crews, and often many actors and extras.

In-state studio features, television programs, and advertising agency commercials usually involve production only, with project development and post-production

A strong commercial segment is the backbone of the state's production industry, generating income that allows Massachusetts motion picture workers to make a living and also pursue riskier, less commercial projects at times.

based in Los Angeles or New York. In-state production companies typically get involved with studio projects or commercials on a work-for-hire basis, with the party that engages the Massachusetts firm's services typically retaining ownership of the finished product.

By contrast, most independent features or television productions shot in Massachusetts are developed in-state and remain here through post-production. Thus the producer of an independent film or television program will usually own the finished production when it is completed. The primary challenge for independent producers is raising financing, and even more, getting their work into the mainstream industry's distribution pipeline, which is based in Los Angeles and New York.

A strong commercial segment is the backbone of the state's production industry, generating income that allows Massachusetts motion picture workers to make a living and also pursue riskier, less commercial projects at times.

Studio features like *The Departed* and *Fever Pitch*, along with studio-funded television productions, provide the highest-paying work for film professionals and the highest fees for rental and post-production companies. The presence of a single large-budget Hollywood production can have a great impact.

For example, the eight weeks that *Mystic River* shot in Boston provided many local members of the primary industry craft union, International Alliance of Theatrical Stage Employees, Moving Picture Technicians, Artists and Allied Crafts (IATSE) Local 481, with as much as one-quarter of their 2002 income. These larger productions also provide substantial contributions to the union funds that provide members with health and retirement benefits.

A television series can also provide a huge boost to a regional production sector. The series *Spenser: For Hire* was shot in Greater Boston for four years in the mid-1980s and laid the foundation for Massachusetts's in-state production infrastructure. The Showtime series *Brotherhood* has recently had a major impact in Providence, single-handedly spurring a big increase in Rhode Island's production activity.

The presence of studio features in Massachusetts has declined dramatically since the late 1990s. The local economy benefited from having studio features shoot in-state for eighteen weeks during both 1997 and 1998. During four of the next six years, however, Massachusetts had only four weeks or less of studio shooting.

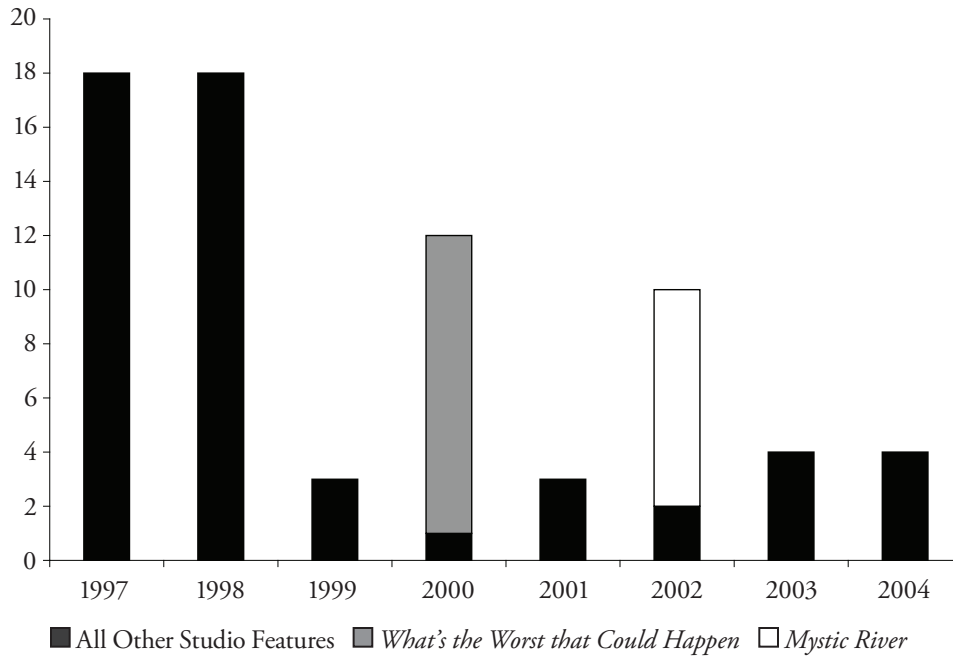


Figure 5: Weeks of shooting for studio features in Massachusetts, 1997-2004

Source: IATSE Local 481

The only exceptions were 2000, when *What's the Worst that Could Happen* was in-state for eleven weeks, and 2002, when *Mystic River* shot in Massachusetts for eight weeks (see Figure 5).

As was noted earlier, there was a growing trend throughout the 1990s of studio productions going offshore to Canada and other locations around the world that offered tax incentives and lower wages. This was directly responsible for the precipitous decline in studio production after 1998. In that increasingly competitive atmosphere, Massachusetts, with its higher wages and cost of living, was at a significant disadvantage. The state's reputation as sometimes being a difficult place to shoot and the dissolution of the state-funded film office in 2001 only exacerbated the situation.

The recent industry tax incentive legislation, effective January 1, 2006, already shows promise of reversing this trend. *Gone Baby Gone*, a feature that will be directed by Cambridge native Ben Affleck, is slated to shoot on location in Massachusetts this spring, largely because the tax legislation made it affordable and attractive to shoot here. Several other films are considering shooting in-state this summer. The increase in production and interest in the state provides an important opportunity to correct the perception of Massachusetts as a difficult place to shoot.

Television commercial work statewide has been hurt by the exodus of advertising agencies from Boston since the late 1990s. Key creatives remaining in Boston and New England include Arnold Worldwide and Hill & Holliday, among others. Major local production companies producing regional and national advertising spots, with forms ranging from short to longer spots, include Element Productions, Picture Park, and Redtree. The recently-passed tax legislation aims to revive this segment of the industry as well.

A recent uptick in independent features has partially offset the decline in Hollywood and advertising production. A half-dozen independent features, with budgets ranging between \$500,000 and \$2 million, have shot in-state over the past two years. These productions are important to the state because they provide income for professionals during otherwise slack periods and allow less experienced people an opportunity to gain new skills and advance to higher-level jobs than they could fill on a major studio project. These productions can also be a fertile ground for filmmakers who, if successful, will shoot future projects in-state. After Brad Anderson experienced a breakout success with the set-in-Boston *Next Stop Wonderland*, he returned to shoot *Session 9* in Massachusetts.

While independent features play an important role, they cannot take the economic place of a major studio feature film. For example, when *The Departed* was in Boston during the summer of 2005, the production spent \$375,000 per day. This means that in four days, it spent as much as the entire budget of a \$1.5 million independent production.

## ***Documentary***

The documentary segment comprises three primary types of productions: programs made on behalf of WGBH for the national PBS network and for cable networks such as the History and Discovery Channels; independent documentaries produced by Massachusetts filmmakers based on their original ideas; and films made for museums or similar cultural institutions.

Massachusetts was a pathbreaker in the personal documentary, beginning with the early 16mm camera-on-shoulder *cinéma vérité* tradition of directors like Ed Pincus and Frederick Wiseman. The Massachusetts Institute of Technology (MIT) documentary production program, run by legendary teacher Ricky Leacock, served as training ground for a generation of documentary makers from the late 1970s to late 1980s. Many graduates of the MIT program have gone on to make significant documentaries and have mentored a new generation of filmmakers through their work teaching at Harvard University, Boston University, Emerson College, and other institutions.

WGBH has been a mainstay of the Massachusetts production community. Approximately one-third of the national programming aired on PBS is produced under the auspices of WGBH. The station subcontracts much of its national programming—for example, numerous episodes of *Nova*, *Frontline*, and *American Experience*—to motion picture production companies in Massachusetts.

WGBH and the independent documentary worlds are intertwined, with some projects initiated as personal documentaries before getting picked up for broadcast on PBS. With many local companies producing for WGBH, Massachusetts has developed strong expertise in science/historical documentaries. Cable outlets such as the Discovery and History Channels have also become important venues for locally-produced documentaries in recent years.

Documentary-making typically involves taking a project from conception, through development, production and post-production. Documentary makers who work for WGBH series like *Nova* and *Frontline* often do their projects as work for hire, and they do not own the completed production. Independent makers usually own their finished project, which they then try to sell to film distributors or television networks. The PBS series *POV* and *Independent Lens* have become important outlets for independent documentaries.

With many local production companies producing for WGBH, Massachusetts has developed strong expertise in science/historical documentaries. Cable outlets such as the Discovery and History Channels have also become important venues for locally-produced documentaries in recent years.

Documentary crews are typically smaller than those for Hollywood, advertising, or independent feature or television productions. They often include only a simple camera, sound crew, and small lighting package. Re-enactments have become an increasingly popular element of many historical and science documentaries. Production values, and thus crew composition, on such re-enactment shoots closely resemble those found on an independent feature.

As with the commercial segment, there has been a downturn in the Massachusetts documentary segment in recent years. WGBH's national programming group is the unit that funds documentary producers to make programs for PBS series like *Nova*. Not all of WGBH's national programming funding is outsourced, and not all of it goes to Massachusetts production companies. But the budget for this group is a good benchmark for the level of funding Massachusetts documentary makers potentially receive from WGBH. The station's expenditures on national programming fell from \$94.5 million from the fiscal year that spanned 2000-01 to \$72.6 million in the 2004-05 fiscal year—a decline of 23 percent.

Independent documentary makers have also experienced a downturn. The Center for Independent Documentary (CID) and Filmmaker's Collaborative (FC) are two Boston-area nonprofit organizations that work with independent filmmakers to produce documentaries. In 2004, these two organizations managed the incoming funds and production budgets for 52 Massachusetts-based projects. The amount of funding that flows through these two organizations is a good benchmark for the level of independent documentary activity in Massachusetts. Their combined budgets fell by more than 40 percent from 1999 to 2004.

A bright spot is the growing museum niche. Many local production companies that formerly focused on PBS productions have, in the face of decline, taken advantage of their expertise in developing and producing films and interactive exhibits for private museums and federal government agencies like the Smithsonian and the National Park Service. These projects, generally work-for-hire and owned by the commissioning institution, can range from 30-second clips to 25-minute documentaries. Budgets are more generous in this realm due to the long shelf-life of the products. Films that accompany museum exhibits often turn over only once every five to ten years. Only a handful of companies compete in this market, and a disproportionate number are based in Massachusetts. Among the leading local companies are Chedd-Angier-Lewis, Northern Light Productions, Boston Productions, Monadnock, Peace River, and Fred Brink. Nationally, another half-dozen or so firms also compete for museum work, most of them based in New York, Washington, D.C., Los Angeles, and Colorado.

### ***Animation/experimental***

This segment includes animated and experimental work that uses non-traditional narrative structures and employs diverse cinematic techniques. Productions in this segment tend to be short-form.

Massachusetts is home to a number of world-renowned animators, experimental filmmakers, and video artists. Students here benefit from many of these artists continuing to teach and make their work here. Both the School of the Museum of Fine Arts and Massachusetts College of Art employ faculty recognized in the field of animation and experimental film, and the Department of Visual and Environmental Studies at Harvard University brings world-class animators to teach as visiting instructors in two-year rotations. The Rhode Island School of Design (RISD) is also an important training ground for animators and experimental filmmakers. Many RISD graduates settle in the Boston area or stay in Providence, close enough to work in Massachusetts.

As it does in the documentary field, Massachusetts has a distinguished legacy in experimental media. During the 1960s, WGBH and MIT's Center for Advanced Visual Studies both started visiting programs that hosted internationally renowned video artists. In 1974, WGBH expanded its program by founding the New Television Workshop, which had its own production facility used by visiting and local artists and aired a weekly video art series.

The New Television Workshop production facility closed in 1980, but over the next decade, WGBH continued to be a supporter of video art, co-sponsoring a screening series with Boston's Institute of Contemporary Art (ICA) and a broadcast series with New York's WNET. During this time, the Boston Film/Video Foundation (BF/VF) also became an important center for experimental and other independent work. Founded in 1976, BF/VF provided affordable equipment rental and professional training for independent film and video makers. During the 1980s, BF/VF hosted a widely popular screening series that featured experimental work and helped to spawn several local schools of video artists. Many of Boston's performance artists and sculptors have also been innovators in the use of video and film in their work.

Today, the universities are the centers of experimental work in the state. The DeCordova Museum has shown a strong commitment to video and digital art, with its own VideoSpace exhibitions and through collaborative programming with the ICA. The Balagan Experimental Film and Video Series at the Coolidge Corner Theater in Brookline is another prominent present-day venue for this work.

Massachusetts is home to a number of world-renowned animators, experimental filmmakers, and video artists. Students here benefit from many of these artists continuing to teach and make their work here.

The animation and experimental segment came to wider public awareness during the 1980s, with the advent of MTV. MTV's music videos and the network's own promotional spots used animation and experimental techniques extensively. This helped to bring into the mainstream what had previously been seen as edgy, fringe work. This process changed how media looked and opened up a broader market to avant-garde animated and experimental work. The MTV series *Liquid Television*, which ran from 1991 to 1993, featured short animated and experimental films and was a platform for this work to reach a broader audience. Animation and experimental techniques came to be associated with the young demographic that watched MTV and spilled into advertising.

Growing interest in animated and experimental work on the part of MTV and Madison Avenue spurred the rise of production houses around the country that focused on this kind of work. Olive Jar in Brookline, an animation studio, was the most prominent firm of its kind in Massachusetts.

In the late 1980s and early 1990s, Massachusetts also gained a leading position in the creation of animation that defined the on-air look of television and cable stations locally and nationwide. This work consisted of animated station logos, opening title sequences, and on-air promotion.

The state's prominence in this area can be traced to its high concentration of graphic design talent and the early introduction of the Quantel Paint Box to television stations in the Boston area. The Paint Box was a system that, when combined with an editing suite, allowed for the creation of sophisticated moving graphics. Many of the designers who worked at Boston television stations subsequently moved to local production companies that made television commercials and industrial films.

These Massachusetts-based firms became clear national leaders in this field. They worked with local and national television stations and for many of the leading cable networks, creating entire on-air looks. As the work became more sophisticated, designers also began to incorporate film and live action work.

Use of animation and experimental film techniques began to decline on MTV by the mid-1990s, in part because of the emergence of reality programming as exemplified by the pioneering *Real World*. Many companies that produced animation and experimental work for MTV went under. Olive Jar was acquired by an Internet company in 2001 and did not survive the dot-com crash.

By the late 1990s, the computer revolution began to transform both the look of animated films and the way they were made. Broad access to inexpensive, easy-to-use and high-quality multimedia and animation software—for example Flash, After-Effects, and related programs—made it possible to create animated films on personal computers. These desktop animation programs supplanted the Quantel Paint Box and the need for sophisticated editing suites. The Massachusetts companies that had been leaders in on-air animated graphics suffered. Many of their leading designers turned to working either in small studios or out of their homes.

The rise of computer-based animation has also brought about a general revival in animation's commercial prospects. Animation is once again a mainstay in advertising, and animated sequences are frequently being incorporated as an element in narrative and documentary productions—both fiction and nonfiction filmmakers increasingly see animation as another tool they can use for storytelling. There are also more outlets for straight animation; for example, the Cartoon Network seeks programming that appeals to adult audiences. The electronic games sector is another important new outlet for animators' work. A fast-growing, largely Web-based, filmmaking movement called Machinema combines filmmaking, animation, and games.

Technology has driven significant changes in how animation is produced, exhibited, and distributed. A stop-motion production that once cost \$20,000 and required many hands at Olive Jar is no longer the norm. Instead, animations are being made by solo artists on a personal computer. Computer animation cannot replicate the look of a hand-drawn film or puppet production, but the prevailing aesthetic has adapted to favor—or at least tolerate—the digital look.

An ever-increasing number of new venues for shorter, experimental forms—including webcasts and podcasts—are being used by independent makers seeking new audiences for their works. Animators and experimental filmmakers have also evolved their means of working together. Since studios are no longer crucial, makers can work collaboratively in loose networks, such as Handcranked Film Projects, a Waltham-based collective formed by a group of Olive Jar veterans.

In recent years, only 10 percent of BU graduates stay and work in the Massachusetts film industry, down from as much as 30 percent less than a decade ago.

*Charles Merzbacher,  
Chairman of BU's Film and  
Television Department*

### ***Industrials***

The industrials segment involves the production of training and communication films produced on commission for corporations. These films are shown externally to customers and used internally for employee training and education.

The industrials segment once provided steady income for many Massachusetts filmmakers. But revenues from this segment have largely disappeared in recent years. One reason has been the decline of large Massachusetts-based information technology companies, like Digital Equipment and Wang Labs, as well as mergers within the financial services industry involving companies like New England Financial and John Hancock, all of which were major customers for industrial films. Even more important has been the emergence of digital technology, which has enabled companies to produce films cheaply and distribute them via the Web.

Industrial films used to be created by shooting and editing on video, with the finished product disseminated on videocassette. They are now shot on low-cost digital cameras, edited with PC-based software, and distributed over company intranets or the Web. Industrial films that were previously outsourced to an independent film production company are now mostly being made by small teams working within internal corporate communications groups.

The rise of the Web-based industrial has effectively removed an important and lucrative source of income for the Massachusetts production community.

## **Related economic sectors**

Motion picture production has actual and potential linkages to other economic sectors where Massachusetts is strong. These sectors include higher education, information technology and electronic games, finance, and tourism.

### ***Higher education***

Many Massachusetts colleges offer undergraduate and/or graduate programs in film and television production. These programs help generate a skilled workforce, in the form of their graduates, and create teaching positions that can provide income for working filmmakers.

An informal survey of Boston University, Emerson College, Massachusetts College of Art, the School of the Museum of Fine Arts, and Fitchburg State College revealed that these schools graduated more than 350 students with degrees in film or video production in 2005. This is an increase of more than 30 percent over the number of graduates from these programs in 2000.

But most of the state's film and television graduates appear to be leaving Massachusetts or not working in the media industry. Overall, only one in three graduates stays in Massachusetts and pursue media careers. At Boston University, the state's oldest film program and the one most focused on training students to enter the Hollywood film and television industries, the exodus of graduates is even more pronounced. Charles Merzbacher, Chairman of BU's Film and Television Department, estimated that in recent years, only 10 percent of BU graduates stay and work in the Massachusetts film industry, down from as much as 30 percent less than a decade ago. The recent increase in production activity generated by the tax incentives, however, has made some students more hopeful about their prospects for finding work in the state.

BU's film school recently collaborated on a television pilot with mtvU, a network that airs on college campuses nationwide, and MSN, Microsoft's Web portal. This effort was modeled on the relationships that currently exist between industrial companies and university science and engineering departments.

Boston University's new Center for Digital Imaging Arts began operation in 2004. CDIA offers a one-year certificate program, focused on giving hands-on training in digital production, photography, and web design. The program's goal is to give students practical production skills that will allow them to work right away in the industry. CDIA tends to attract mid-career students, who

may be more likely to remain in Massachusetts. In its first year, CDIA granted certificates to 15 students, of whom 75 percent are working in the industry. Of these, approximately two-thirds are working in the Boston area.

Massachusetts film schools support only a small number of full-time teaching positions. These jobs are demanding, and it is difficult to meet teaching and faculty committee responsibilities and still continue to work as a filmmaker. The state's film schools also support many adjunct faculty positions, which are usually filled by local filmmakers and film writers. Like most adjunct faculty positions, these jobs typically are staffed by the course on a semester-to-semester basis. Though they pay modestly, these adjunct positions do provide supplemental income for working film professionals.

### ***Information technology/electronic games***

Massachusetts has long been a leader in the information technology industry, here defined as computer hardware, software, and related services. As noted earlier, the advance of technology has had a major impact on the media sector, with digital production supplanting film-based methods in many instances. This has often meant a reduction in costs associated with equipment and materials and the labor required. The development of digital editing systems, for example, has affected post-production employment, which declined by 7 percent nationwide between 2001-2004, even as production employment grew 12 percent.

But technology provides major potential benefits as well. It has lowered barriers to entry, allowing newcomers to enter the field as filmmakers in greater numbers and in ways they could not have done in the past. And through the Internet, media makers can disseminate their work to viewers in new ways. Increasingly, Web sites are used not only in promoting and helping to distribute films, but also in raising funds.

There is great potential to create new jobs at the intersection of software and motion picture production. Tewksbury-based Avid is a leading supplier of digital motion picture editing software. In the wake of its success, other Massachusetts companies have developed software modules that can work in conjunction with Avid's systems. An area of focus for Massachusetts companies has been the development of special effects software. For example, Cambridge-based GenArts, Boston-based Boris FX, and Softimage, a division of Avid, are all active in this area.

This new software has, in turn, allowed Massachusetts companies to gain a position as providers of special effects content, a realm that has previously been dominated by California-based firms. The real win for Massachusetts will be if in-state companies that produce underlying technologies in the media sector give a boost to local companies that generate content. This effect could be especially powerful in cases where new technologies enable new forms—present-day examples might include video blogging or video podcasting. In such cases, having an understanding of the underlying technologies—or having access to engineers who do—is likely to be an important prerequisite for content creators. As a result, having the companies that developed those technologies in their own backyard could prove a huge boon to media makers.

Some Massachusetts companies have applied new computer technology and traditional filmmaking techniques to other markets. For example Neoscape is a Boston-based firm that creates virtual reality simulations for real estate developers, restaurants and stores, as well as innovative productions for cable outlets like the Discovery Channel.

Electronic games represent a key area within the information technology industry where the skills of filmmakers are applicable. Game development now attracts talent that used to go into media making and attracts audience time and attention that was formerly devoted to traditional media. Games continue to develop, moving beyond crude computer-generated imagery toward higher quality visuals. In “Games People Play,” a 2005 *Boston Phoenix* article on electronic games, a designer at a studio in Cambridge is quoted saying that game visuals are becoming “more cinematic and incredibly lifelike.” Local animators and experimental filmmakers confirm that games are a new outlet for their work.

And the game sector is growing rapidly, with employment and revenues in the state estimated to have doubled since the late 1990s. The Massachusetts game development sector generates approximately \$200 million in income annually and is recognized as one of the five leading national centers of this industry along with Los Angeles, San Francisco/Silicon Valley, Seattle, and Austin. A comprehensive list of Massachusetts game development companies is available from Boston Post Mortem, the local chapter of the International Game Developers Association.

Electronic games represent a key area within the information technology industry where the skills of filmmakers may be applicable. Game development now attracts talent that used to go into media making and attracts audience time and attention that was formerly devoted to traditional media.

The independent game development sector is the primary area within the electronic games industry where Massachusetts firms are active. This sector shares many of the same challenges and characteristics as independent film. As with independent producers in film, game developers working outside large corporations lack a clear path by which to market their work. As in film, the electronic games business is increasingly “hit-driven.” And as in film, innovative games may be recognized critically but still fail at the “box office.”

Massachusetts is also potentially a leader in serious game development, where games are embraced as a platform for critique and learning in educational or industrial settings. Games can be used to replicate historical situations and characters for classroom use, or to simulate business situations in planning or training exercises.

The rising prominence of the electronic games industry has been recognized by Worcester Polytechnic Institute, which recently launched a multitrack undergraduate degree program in Interactive Media and Game Development. The WPI program integrates art and software development. Faculty have strong backgrounds in areas such as playwriting and scene design, technology and music, all of which enable creation of virtual environments and scenarios.

University researchers in Massachusetts are leaders in undertaking scholarly examination of electronic games. Henry Jenkins of MIT is a widely-recognized researcher on electronic games and is co-leader of the Institute’s Games-to-Teach project. Jenkins was also instrumental in getting MIT to change the name of its Media Studies department to the Department of Comparative Media, to emphasize the distinctive characteristics of electronic games. Sherry Turkle, of MIT’s Program in Science, Technology and Society, examined PC-based role-playing games in *Life on the Screen*, her study of the impact of computers on personality.

Other Massachusetts scholars are examining the intersection of electronic games and business. Robert DeFilippi at Suffolk University’s Sawyer School of Management, who has done past work on the film production industry, recently embarked on a study of the game development sector in several regions, including Massachusetts. And Michael Schrage, a researcher at MIT’s Media Lab, is the author of *Serious Play: How the World’s Best Companies Simulate to Innovate*, a study of how businesses are using simulation games.

There is great potential for cross-fertilization between electronic games and motion picture production. In some instances, skills from motion picture production may be directly transferable to the electronic games industry.

For example, a motion picture production designer's eye could be brought to bear on the visual aspects of game development, as a film writer's storytelling talents could contribute to fleshing out the narrative aspects of a game. Similarly, visual and narrative techniques from games can inform the work of the state's production professionals. Interestingly, at least one group of the state's artists have already made a direct crossover from the motion picture to the electronic games industry. Students at Berklee College of Music, who have traditionally made money on the side doing soundtrack work for films, now report that they are busier working for game developers than for movie producers.

Massachusetts is also host to activity at the intersection of media arts and technology. The MIT Media Lab's "Computing Culture" center includes several projects that involve linkages between moving images and new technologies. Other local university centers interested in these linkages include Mass Art's Studio for Interrelated Media (SIM), MIT's Center for Advanced Visual Studies (CAVS), and RISD's new Digital/Media Department. George Fifield, Curator of New Media at the DeCordova Museum, also directs the Boston Cyberarts Festival, which features many exhibitions and conferences on computer-based motion media productions.

The SIGGRAPH conference, sponsored by the Association for Computing Machinery's Special Interest Group on Graphics and Interactive Techniques, will be held in Boston in late July and early August of 2006. This is the leading gathering of technology professionals who focus on visual imagery. This conference provide opportunities for motion picture professionals to learn about relevant work in the technology field and to meet people who are doing visual work, too, but with computers instead of cameras.

### ***Finance***

In recent years, Massachusetts investors have shown growing interest in the media sector. Two state-based investment groups—Investors’ Circle and Spark Capital—are now investing directly in media ventures. A third Massachusetts-based organization, Spartacus Media Enterprises, connects media makers with socially responsible investors.

Investors’ Circle (IC), based in Brookline, comprises angel investors, professional venture capitalists, foundations, and others who are using private capital to promote the transition to a sustainable economy. Since IC’s inception in 1992, its members have invested more than \$106 million into 170 companies or small venture funds. Investors’ Circle’s interest in media was sparked in part by its co-hosting of the “Investing in Media that Matters” conference at Sundance with Spartacus Media Enterprises in January 2003.

Spartacus Media is a Massachusetts-based social mission media company that produces conferences and advises media makers and their supporters. Spartacus was producer and co-host of the 2003 Sundance conference, where more than 240 artists and funders assembled. Ongoing advisory work by Spartacus has resulted in numerous distribution, marketing, and production partnerships for socially-themed media makers, including many from New England, as well as helped to raise capital for mission-driven media companies.

Spurred by its experience at the 2003 Sundance Conference, Investors’ Circle added a media track to its categories of focus, with a primary interest in supporting production companies rather than individual filmmakers.

In 2004, IC completed a report, *The Double Bottom Line (DBL) Media Industry: An Analysis of Investment Opportunities*, with sponsorship from the Ford Foundation and in collaboration with Calvert Investment Foundation. This report provides preliminary insights into DBL media companies, funders, and investors. Driven by the findings from this report, IC has begun a dialogue around the need to establish a media fund focused on double bottom line media makers.

Spark Capital is a Boston-based venture capital firm focused on early-stage investments at the confluence of the media, entertainment, and technology industries. Investing in companies it believes will benefit most from the rapid

transformation of media and content driven by innovative technologies and evolving business models, the firm recently launched with a first fund totaling \$260 million.

With a background in the media, entertainment and technology industries, Spark's management team includes former film and television executives with experience in the development, production and distribution of entertainment and media and its underlying technologies.

The rise of Massachusetts-based investment funds with a focus on media is an encouraging development. Nonetheless, much work remains to build financial intermediaries that can effectively match producers who have good ideas with suitable investors.

### ***Tourism***

In addition to generating well-paying, environmentally-friendly jobs, film production creates images of Massachusetts that are shared around the world. Having Massachusetts locations depicted in movies and television shows encourages tourists to come to the state and visit the places they have seen on screen.

Mainstream productions that have spurred tourism for Massachusetts include *Jaws*, made in the mid-1970s, and *Good Will Hunting* from the 1990s. Perhaps the most notable was the 1980s television series, *Cheers*, which wasn't produced in Boston but centered on a fictional bar set in Back Bay. *Little Women*, also shot in the 1990s, triggered a major increase in the number of visitors to historic Deerfield, which was the film's key location. The Crow's Nest, a bar in Gloucester featured in the 2000 production, *A Perfect Storm*, has recently become a popular tourist destination.



## Next steps

The state's production community is optimistic about its future. The tax incentives passed in January 2006 have already spurred a major increase in activity. And the collective effort that led to the legislation—and also produced this report—has demonstrated what this community can accomplish when it works together.

The most important next step is to make Massachusetts as a whole, and the city of Boston in particular, friendly to production. This can be achieved through more effective coordination by government agencies, increased outreach to Hollywood studios and advertising agencies, and having well-run film offices at the state and local levels.

To this end, the MPC is encouraging the state's Executive Office of Economic Development (EOED) and Department of Revenue (DoR) to develop clear and consistent regulations for the administration of the tax incentives. The MPC is also urging the EOED and other state policy makers to take the lead in both funding and outlining the responsibilities of a film office in Massachusetts.

The tax incentives will make independent productions—documentaries, feature films, animation and experimental work—less expensive to make in Massachusetts. But to become truly sustainable, the state's independent sector also needs access to capital that can finance new ideas and distribution channels that can take finished work out into the world. Getting independent work from Massachusetts more widely seen, however, will require either adapting emerging channels enabled by new technologies or building stronger ties to the established distribution networks centered in Los Angeles and New York. For AIMM, helping independents to get better access to funding and distribution is the next step.

AIMM will also build on this study by tracking future employment levels in the state's production industry. This ongoing tracking will show the impact of the tax incentives and the overall progress of the industry in coming years.

Another key challenge faced by the commercial segment is managing the increased level of production the tax incentives are likely to spur. This will require enhancing the state's equipment and post-production infrastructure and building its talent base. The latter goal can be accomplished by a combination of luring back veterans who have left the state and keeping newcomers. The state's film schools and training programs such as CDIA are a prime source for potential new talent.

The long-term goal is to make Massachusetts a place where people can build and sustain production careers. In some aspects of the motion media industry, it is not reasonable to expect Massachusetts to achieve parity with California and New York. As a result, young people who hope to make careers in areas like episodic television or studio features will always have to move to Los Angeles or New York City.

But it is reasonable to envision Massachusetts as a place where production careers can be launched and maintained in areas where the state has distinctive strengths.

The state is an attractive location for shooting studio features and commercials. This combined with a well-educated and dedicated workforce is what makes Massachusetts a leading production center. It also has a longstanding reputation as one of the pre-eminent places in the world for documentaries. And it possesses distinctive and in-demand skills in animation and experimental filmmaking.

The industry can also build new areas where it is distinctive. One interesting possibility is for Massachusetts to become a leader in emerging work at the intersection of motion picture production and digital technology, where the state has long held a position of global prominence.

Given these strengths, there is potential for the Massachusetts industry to assume a prominent place among the world's motion picture production centers and become a growth sector in the state's economy. The challenge for the state's production community, and for policy makers and leaders in the business and nonprofit sectors, is to realize the industry's considerable potential.

## **Appendices**



## Study methodology

Researchers who set out to examine the economic impact of industries typically use government statistics that measure employment levels and wages. This is a useful approach for several reasons. For one thing, statistics on employment and income are a direct measure of the well-being of the workers active in the industry. Another important factor is that these kinds of government statistics are gathered in ways that allow for comparisons over time and between states or regions.

### *Government statistics used in this study*

This study has used three primary government data sources.

The first is the Quarterly Census of Employment and Wages, undertaken by U.S. Bureau of Labor Statistics. Data on Massachusetts in this BLS census is taken from the state office that keeps track of how many workers are employed by firms on an industry basis in the course of collecting unemployment insurance payments. For more on the data available from the QCEW, see <http://www.bls.gov/cew/cewnote.htm>.

The other two data sets are surveys undertaken by the U.S. Census Bureau: County Business Patterns; and Nonemployer Statistics. The Census Bureau data is based on surveys of two groups of business owners. County Business Patterns surveys businesses that have paid employees, while Nonemployer Statistics surveys business owners who have no paid employees but submit tax returns indicating that their activities have earned gross receipts of at least \$1,000 in a year. For more on the Country Business Patterns, see <http://www.census.gov/epcd/cbp/view/cbpview.html> and on Nonemployer Statistics, see <http://www.census.gov/epcd/nonemployer/>.

All three surveys provide similar types of data—number of establishments (that is, business locations), number of employees, total wages paid (or total business receipts in the case of the nonemployer survey), and average annual wages (or receipts).

The government surveys used in the study break out employment according to industries as defined by the North American Industry Classification System (NAICS). The NAICS splits all activity in the economy according to a numerical taxonomy, ranging from 2 digit numbers for high level economic sectors (for example, 11 for agriculture or 31 through 33 for manufacturing) all the way to

a very detailed industry segmentation at the six-digit level. For more on NAICS, see <http://www.census.gov/epcd/www/naics.html>.

This study focused on seven five-digit NAICS codes:

- 51211 Motion Picture and Video Production
- 51212 Motion Picture and Video Distribution
- 51219 Postproduction Services and Other Motion Picture and Video Industries
- 51512 Television Broadcasting
- 51521 Cable and Other Subscription Programming
- 51751 Cable and Other Program Distribution
- 53223 Video Tape and Disk Rental

This study used the BLS data to measure regular employees for several reasons. Data for 2004 was available from BLS, while the most recent data from the Census Bureau on regular employees was from 2003.

Another reason for preferring the BLS data in a study of the media sector is that it is based on where the worker is employed. Crew members on a Massachusetts production who were hired by a producer based in California would likely show up in the Census Bureau survey as motion picture production employees working in California. The BLS data, by contrast, is taken from the Massachusetts state unemployment insurance rolls, and as a result, even if workers on a Massachusetts production were paid by an out-of-state company, they would show up as working in Massachusetts in the BLS data set.

We used the Census Bureau Nonemployer Statistics to provide estimates of the number of independent contractors. Data from the Census Bureau's County Business Patterns series was used to check the fidelity of the employee data from the BLS.

Estimates on the split of production vs. non-production employees in the Massachusetts television industry are based on the BLS's estimates of splits of occupations in the broadcast and cable sectors. For more see <http://www.bls.gov/oes/current/oesrci.htm#51>.

***Independent contractors, payroll companies, and closely related sectors***

In any effort to assess the size of a state or region's motion picture production sector, the unconventional nature of employment relationships in the industry creates complications. Two specific issues are the most challenging: the industry's use of both regular employees and independent contractors; and producers' reliance on third-party payroll companies to issue paychecks and make tax payments on their behalf. Another issue is that some workers—such as soundtrack mixers, writers, and actors—work on motion picture productions but are classified by government agencies as being part of other sectors of the economy.

In certain instances, a motion picture production worker will work as both a regular employee and independent contractor in the same year. As a result, such a person could show up in government statistics in both the employee and independent contractor categories and thus be double counted.

We acknowledge the potential for such double counting but believe it does not materially affect our estimates of employment levels. This is in large part because any double counting that could occur is likely offset by the other complicating factor in the motion picture production industry—the widespread use of payroll companies, especially on studio features and television commercials.

Motion picture production workers who receive their paychecks through payroll companies typically are considered employees of the payroll company. As a result, these workers get classified within NAICS code 541214, Payroll services. Interviews with local producers and union officials have shown that crew members who work on a freelance basis tend to get paid the majority of the time by payroll companies as regular employees. But almost all of these workers also sign on for at least a few projects each year where they get paid as independent contractors.

When these workers are paid as employees through a payroll company, they do not get classified as being part of the motion picture industry, but rather, as part of the payroll services sector. But when they work as independent contractors, they do get classified within the motion picture production segment. Such people would show up only once as part of the motion picture production sector, as independent contractors. Thus they would not be double counted.

Given this, we believe the figures we have gathered on employment levels in the state's motion picture production industry provide a good estimate of the actual number of people working in the sector. But due to the effect of payroll companies, our estimates may slightly understate the amount of income these workers earn. Discussions with IATSE Local 481 lead us to believe that because of the omission of wages received through payroll companies, our 2004 estimates of the state's motion picture production industry's aggregate income may be understated by as much as 5 percent. But to be conservative, we have not included earnings from payroll companies in our formal estimates of the industry's size.

If the tax incentives spur an increase in the number of studio features and television commercials produced in Massachusetts, the amount of income earned through payroll companies could increase substantially. In the future, we hope to estimate on an ongoing basis income that flows through payroll companies, since this is a particularly important indicator of the health of the state's production sector. And if this amount becomes a larger proportion of the total income earned in the sector, it may be worth including it in our formal estimates of the sector's size.

The production sector also employs small numbers of workers who are formally classified in other sectors, but who do a great deal of work related to motion picture production. Examples include engineers who do sound work during post-production, freelance writers who write film scripts, and actors who appear in local productions. These kinds of workers show up in other NAICS categories, for example 51224 Sound Recording Studios, 51229 Other Sound Recording Industries, or 71151 Independent Artists, Writers, and Performers.

In 2004, the two sound recording categories listed above employed 165 people in Massachusetts, and these workers earned combined income of \$6.7 million. It is safe to assume that motion picture production represented only a fraction of these sectors' employment and earnings. Conversations with the Boston office of AFTRA/SAG lead us to believe that in 2004, Massachusetts actors earned approximately \$5 million through their work on motion picture productions in the state. It is almost impossible to estimate the earnings of film writers, but our interviews indicate that in Massachusetts, this sum is small.

The combination of sound recording activities and actors thus appear to account for another 5 percent incremental addition to our estimated income for the production sector in 2004. To be conservative, we have also not included these

amounts in our formal estimates of the production sector's size. But these, too, are figures worth tracking in the future, to gauge the impact of the tax incentives and the overall health of the state's production sector.

It is important to emphasize that the government statistics used in this study cannot be interpreted as providing exact figures on the number of workers in every industry in the economy. And each data set presents its own quirks and difficulties. For example, while the BLS figures are reported on a quarterly basis, the quarterly figures are usually checked and corrected at year's end. So it is not advisable to use partial year results from the BLS to track developments in the industry.

Despite all the challenges they present, these data sets are the best source available for estimating the level of activity in the Massachusetts media sector and making comparisons over time and across different states.

## Statistical tables

**Table 1: Employment and wages in Massachusetts media sector, 2004**

	NAICS Code	Establishments	Workers	Total personal income	Avg. annual income
Motion picture production	51211	297	1,187	\$64,568,485	\$54,415
Motion picture distribution	51212	25	117	\$8,451,811	\$72,341
Post production and other services	51219	30	318	\$11,355,538	\$35,728
Motion picture independent contractors			982	\$39,500,000	\$40,224
<b>Total production and related activities</b>		<b>352</b>	<b>2,604</b>	<b>\$123,875,834</b>	<b>\$47,571</b>
Motion picture exhibition	51213	108	3,181	\$38,195,560	\$12,008
Video tape and disk rental	53223	396	3,360	\$44,751,000	\$13,318
<b>Total motion picture</b>		<b>856</b>	<b>9,145</b>	<b>\$206,822,394</b>	<b>\$22,616</b>
Television broadcasting	51512	46	3,067	\$200,695,000	\$65,442
Cable programming	51521	51	808	\$49,244,000	\$60,920
Cable distribution	51751	125	4,923	\$258,451,000	\$52,501
Television independent contractors			399	\$12,800,000	\$32,080
<b>Total television</b>		<b>222</b>	<b>9,197</b>	<b>\$521,190,000</b>	<b>\$56,670</b>
<b>Total motion media sector</b>		<b>1,078</b>	<b>18,342</b>	<b>\$728,012,394</b>	<b>\$39,691</b>

*Includes paid employees and independent contractors.*

*Source: U.S. Bureau of Labor Statistic, Quarterly Census of Employment and Wages (QCEW); U.S. Census Bureau, Nonemployer Statistics*

**Table 2: Regular employees and average income in Massachusetts motion picture production and related sectors, 1990-2004**

	1990	1991	1992	1993	1994
<b>Production employees</b>	1,299	1,220	1,374	1,488	1,434
<b>Distribution employees</b>	135	118	145	111	116
<b>Post-production employees</b>	161	158	158	133	170
<b>Other services employees*</b>	41	35	31	40	49
<b>Total employees</b>	1,639	1,531	1,708	1,772	1,769
<b>Avg annual income (\$1000s)</b>	\$32.9	\$36.0	\$37.5	\$37.6	\$39.0
<b>Inflation adjusted (\$1000s)</b>	\$47.6	\$49.9	\$50.5	\$49.2	\$49.7
	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>
<b>Production employees</b>	1,519	1,651	1,732	1,736	1,621
<b>Distribution employees</b>	132	115	96	90	82
<b>Post production employees</b>	198	203	205	250	225
<b>Other services employees*</b>	216	157	297	121	76
<b>Total employees</b>	2,110	2,126	2,330	2,197	2,004
<b>Avg annual wages (\$1000s)</b>	\$36.4	\$41.2	\$41.3	\$41.3	\$44.8
<b>Inflation adjusted (\$1000s)</b>	\$45.1	\$49.6	\$48.6	\$47.9	\$50.8
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>Production employees</b>	1,836	1,753	1,471	1,285	1,187
<b>Distribution employees</b>	76	90	95	103	117
<b>Post production employees</b>	263	243	213	189	185
<b>Other services employees*</b>	88	39	166	41	134
<b>Total employees</b>	2,263	2,125	1,945	1,618	1,622
<b>Avg annual income (\$1000s)</b>	\$49.5	\$50.5	\$45.3	\$51.1	\$52.0
<b>Inflation adjusted (\$1000s)</b>	\$54.3	\$53.9	\$47.6	\$52.5	\$52.0

*Note: Independent contractors not included.*

*Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW)*

*\*Volatility in "Other services" is assumed to be due to inclusion of booking agencies in this category, which leads to inclusion of film extras.*

**Table 3: Independent contractors and average income in Massachusetts motion picture production and related sectors, 1997-2003**

	1997	1998	1999	2000	2001	2002	2003
<b>Independent contractors</b>	1,085	1,011	979	947	923	942	982
<b>Total income (\$ million)</b>	\$34.8	\$38.6	\$36.7	\$37.4	\$33.9	\$33.6	\$39.5
<b>Avg annual income (\$1000s)</b>	\$32.1	\$38.2	\$37.5	\$39.5	\$36.7	\$35.7	\$40.2
<b>Inflation adjusted (\$1000s)</b>	\$37.7	\$44.2	\$42.5	\$43.3	\$39.2	\$37.5	\$41.3

*Note: Regular employees not included.*

*U.S. Census Bureau, Nonemployer Statistics*

**Table 4: Employment and income in motion picture production vs. professional sports and museums/historical sites for Massachusetts, 2004**

		<b>Workers income</b>	<b>Total personal (millions)</b>	<b>Avg. annual income</b>
<b>Museums &amp; historical sites</b>	Employees	5,845	\$176.4	\$30,178
	Independent contractors	165	\$2.3	\$13,665
	<b>Total</b>	<b>6,010</b>	<b>\$178.6</b>	<b>\$29,725</b>
<b>Sports teams</b>	Employees (except 4 major sports' athletes)	1,345	\$102.5	\$76,231
	Independent contractors	1,126	\$34.6	\$30,689
	<b>Total</b>	<b>2,471</b>	<b>\$137.1</b>	<b>\$55,477</b>
<b>Motion picture production</b>	Employees	1,622	\$84.4	\$52,020
	Independent contractors	982	\$39.5	\$40,224
	<b>Total</b>	<b>2,604</b>	<b>\$123.9</b>	<b>\$47,571</b>

Source: Source: U.S. Bureau of Labor Statistic, *Quarterly Census of Employment and Wages (QCEW)*; U.S. Census Bureau, *Nonemployer Statistics*; *USA Today* (for salaries of athletes at four major professional sports teams)

**Table 5: Massachusetts motion picture production employment vs. United States overall and selected states, 2001-04**

	2001	2002	2003	2004
<b>MA</b>				
Production employees	1,753	1,471	1,285	1,187
Production establishments	311	308	293	297
Production total wages (1000s)	\$88,869	\$71,535	\$66,003	\$64,568
Production average annual pay	\$50,700	\$48,624	\$51,370	\$54,415
Distribution employees	90	95	103	117
Distribution establishments	17	20	23	25
Distribution total wages (1000s)	\$4,581	\$4,835	\$5,222	\$8,452
Distribution average annual pay	\$51,182	\$50,676	\$50,951	\$72,341
Post/Other employees	282	379	230	318
Post/Other establishments	36	33	30	30
Post/Other total wages (1000s)	\$13,924	\$11,726	\$11,498	\$11,356
Post/Other average annual pay	\$49,301	\$30,932	\$49,953	\$35,728
<b>All employees</b>	<b>2,125</b>	<b>1,945</b>	<b>1,618</b>	<b>1,622</b>
All establishments	364	361	346	352
All wages (1000s)	\$107,374	\$88,096	\$82,723	\$84,376
<b>Average annual pay overall</b>	<b>\$50,529</b>	<b>\$45,294</b>	<b>\$51,127</b>	<b>\$52,020</b>
<b>U.S.</b>				
Production employees	172,722	187,443	176,455	192,856
Production establishments	16,019	15,455	14,875	14,539
Production total wages (1000s)	\$12,135,771	\$12,929,492	\$12,684,682	\$14,153,575
Production average annual pay	\$70,262	\$68,978	\$71,886	\$73,389
Distribution employees	11,534	10,365	9,935	9,557
Distribution establishments	772	715	646	614
Distribution total wages (1000s)	\$664,756	\$659,707	\$690,508	\$783,088
Distribution average annual pay	\$57,633	\$63,650	\$69,504	\$81,939
Post/Other employees	21,526	21,141	20,451	20,082
Post/Other establishments	1,958	1,979	1,958	1,996
Post/Other total wages (1000s)	\$1,405,992	\$1,350,809	\$1,419,020	\$1,401,108
Post/Other average annual pay	\$65,316	\$63,895	\$69,387	\$69,770
<b>All employees</b>	<b>205,782</b>	<b>218,949</b>	<b>206,841</b>	<b>222,495</b>
All establishments	18,749	18,149	17,479	17,149
All wages (1000s)	\$14,206,519	\$14,940,008	\$14,794,210	\$16,337,771
<b>Average annual pay overall</b>	<b>\$69,037</b>	<b>\$68,235</b>	<b>\$71,525</b>	<b>\$73,430</b>

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>CA</b>				
Production employees	85,913	108,104	104,905	122,773
Production establishments	5,816	5,758	5,412	5,165
Production total wages (1000s)	\$7,421,502	\$8,910,942	\$8,727,928	\$9,971,535
Production average annual pay	\$86,384	\$82,429	\$83,198	\$81,220
Distribution employees	2707	2,452	2,303	2,291
Distribution establishments	192	183	168	161
Distribution total wages (1000s)	\$247,911	\$291,565	\$313,955	\$411,545
Distribution average annual pay	\$91,598	\$118,901	\$136,334	\$179,675
Post/Other employees	11,618	11,594	10,801	11,023
Post/Other establishments	845	834	798	822
Post/Other total wages (1000s)	\$911,776	\$867,948	\$907,248	\$908,371
Post/Other average annual pay	\$78,482	\$74,865	\$83,995	\$82,404
<b>All employees</b>	<b>100,238</b>	<b>122,150</b>	<b>118,009</b>	<b>136,087</b>
All establishments	6,853	6,775	6,378	6,148
All wages (1000s)	\$8,581,189	\$10,070,455	\$9,949,131	\$11,291,451
<b>Average annual pay overall</b>	<b>\$85,608</b>	<b>\$82,443</b>	<b>\$84,308</b>	<b>\$82,972</b>
<b>NY</b>				
Production employees	38,940	33,839	29,470	28,546
Production establishments	2,175	1,988	1,890	1,860
Production total wages (1000s)	\$2,305,384	\$2,171,364	\$2,136,890	\$2,245,699
Production average annual pay	\$59,203	\$64,167	\$72,511	\$78,671
Distribution employees	1,055	1,020	1,030	1,016
Distribution establishments	125	117	116	104
Distribution total wages (1000s)	\$102,268	\$98,035	\$104,096	\$102,864
Distribution average annual pay	\$96,906	\$96,081	\$101,080	\$101,211
Post/Other employees	3,334	2,892	2,770	2,972
Post/Other establishments	322	302	299	304
Post/Other total wages (1000s)	\$229,704	\$210,995	\$216,350	\$229,929
Post/Other average annual pay	\$68,904	\$72,958	\$78,109	\$77,376
<b>All employees</b>	<b>43,329</b>	<b>37,751</b>	<b>33,270</b>	<b>32,534</b>
All establishments	2,622	2,407	2,305	2,268
All wages (1000s)	\$2,637,356	\$2,480,394	\$2,457,336	\$2,578,492
<b>Average annual pay overall</b>	<b>\$60,868</b>	<b>\$65,704</b>	<b>\$73,860</b>	<b>\$79,255</b>

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<b>NJ</b>				
Production employees	2,262	2,185	2,042	2,410
Production establishments	271	272	273	264
Production total wages (1000s)	\$120,221	\$112,678	\$111,291	\$149,740
Production average annual pay	\$53,152	\$51,571	\$54,499	\$62,144
Distribution employees	571	535	179	155
Distribution establishments	61	59	27	28
Distribution total wages (1000s)	\$23,450	\$22,203	\$16,500	\$12,805
Distribution average annual pay	\$41,081	\$41,528	\$91,967	\$82,882
Post/Other employees	49	259	282	259
Post/Other establishments	24	34	33	32
Post/Other total wages (1000s)	\$2,379	\$15,163	\$16,150	\$16,834
Post/Other average annual pay	\$48,463	\$58,449	\$57,217	\$65,079
<b>All employees</b>	<b>2,882</b>	<b>2,979</b>	<b>2,503</b>	<b>2,824</b>
All establishments	356	365	333	324
All wages (1000s)	\$146,050	\$150,044	\$143,941	\$179,379
<b>Average annual pay overall</b>	<b>\$50,677</b>	<b>\$50,367</b>	<b>\$57,507</b>	<b>\$63,519</b>
<b>PA</b>				
Production employees	1,885	1,766	1,773	1,741
Production establishments	326	284	289	269
Production total wages (1000s)	\$115,583	\$102,791	\$108,253	\$117,461
Production average annual pay	\$61,323	\$58,214	\$61,056	\$67,455
Distribution employees	68	19	61	97
Distribution establishments	18	19	19	22
Distribution total wages (1000s)	\$2,832	\$876	\$1,414	\$2,111
Distribution average annual pay	\$41,445	\$46,119	\$23,269	\$21,785
Post/Other employees	374	447	574	430
Post/Other establishments	31	29	29	32
Post/Other total wages (1000s)	\$15,575	\$16,068	\$23,728	\$18,334
Post/Other average annual pay	\$41,616	\$35,987	\$41,333	\$42,621
<b>All employees</b>	<b>2,327</b>	<b>2,232</b>	<b>2,408</b>	<b>2,268</b>
All establishments	375	332	337	323
All wages (1000s)	\$133,990	\$119,735	\$133,395	\$137,906
<b>Average annual pay overall</b>	<b>\$57,581</b>	<b>\$53,645</b>	<b>\$55,397</b>	<b>\$60,805</b>

	2001	2002	2003	2004
<b>LA</b>				
Production employees	497	516	993	1,281
Production establishments	104	96	88	84
Production total wages (1000s)	\$12,182	\$12,050	\$15,995	\$18,999
Production average annual pay	\$24,490	\$23,350	\$16,114	\$14,827
Distribution employees	71	22	10	6
Distribution establishments	8	8	7	6
Distribution total wages (1000s)	\$71	\$22	\$10	\$6
Distribution average annual pay	\$4,537	\$10,670	\$33,101	\$39,564
Post/Other employees	201	195	352	732
Post/Other establishments	10	10	10	13
Post/Other total wages (1000s)	\$2,944	\$5,782	\$6,753	\$22,154
Post/Other average annual pay	\$14,652	\$29,728	\$19,181	\$30,262
<b>All employees</b>	<b>769</b>	<b>733</b>	<b>1,355</b>	<b>2,019</b>
All establishments	122	114	105	103
All wages (1000s)	\$15,197	\$17,854	\$22,758	\$41,159
<b>Average annual pay overall</b>	<b>\$19,762</b>	<b>\$24,357</b>	<b>\$16,796</b>	<b>\$20,386</b>
<b>NM</b>				
Production employees	286	460	362	506
Production establishments	88	84	81	76
Production total wages (1000s)	\$6,185	\$12,450	\$8,490	\$7,738
<b>Production average annual pay</b>	<b>\$21,633</b>	<b>\$27,042</b>	<b>\$23,437</b>	<b>\$15,292</b>

*Note: Independent contractors not included.*

*Source: U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW)*

## **Summary of the economic impact of the media sector in Massachusetts**

### ***Methodology***

The economic impact of the media sector in Massachusetts was calculated using REMI Policy Insight, an econometric model from Regional Economic Models, Inc. of Amherst, Massachusetts. The model used in this study contains three regions: Suffolk County, the four county region encompassing Middlesex, Norfolk, Essex, and Plymouth Counties, and the rest of Massachusetts. To measure the impact of the media sector on the state and local economy, a counterfactual simulation was performed. The counterfactual approach is employed by contracting existing variables and analyzing the subsequent impact. In this case, direct media sector employment was contracted in the three regions of the model. Media sector employment in Massachusetts totaled 18,342 in 2004 (5,785 in motion picture and video production, 9,197 in broadcasting, and 3,360 in rental and leasing). In addition, since the REMI model had slightly different wage rates than the data showed, due to industry detail differences, the wage bill variable was used to correct the inconsistencies for each region.

### ***Results***

The table on the next page shows a few of the major findings of the simulation, for Massachusetts as a whole and for Suffolk County alone. The media sector in Massachusetts supported a total of 41,600 jobs state-wide both directly and indirectly in 2004. Since there were 18,342 direct jobs in the media sector (shown above), each media sector job supports an additional 1.3 jobs in the state economy. These “indirect jobs” are spread out among many sectors of the economy, including professional and business services, retail trade, and finance. Of the 41,600 total direct and indirect jobs supported by the media sector in Massachusetts, 12,450 are in Suffolk County. The city of Boston (which consists of roughly 98% of the Suffolk Co. economy) contains most of the direct broadcasting employment and much of the indirect professional services and finance jobs supported by the media sector.

The total gross regional product, of the media sector in Massachusetts equals \$5 billion. The gross regional product (or GRP) is analogous to the national concept of Gross Domestic Product and is equal to the output (defined below) excluding the intermediate inputs. GRP, thus, represents mainly compensation and profits (the money that generally stays in the region). The media sector represents roughly 1.6% of the entire gross state product of Massachusetts, which was \$318 billion in 2004, according to the Bureau of Economic Analysis. A total of 43% or

\$2.2 billion of the gross regional product of the media sector in Massachusetts is generated in Suffolk County. The media sector represents 3.3% of Suffolk County’s estimated \$67 billion gross regional product.

The total personal income generated by the media sector equaled \$1.8 billion state-wide in 2004. Personal income includes wage and salary disbursements and all other personal income such as dividends, interest, and rents. Of the total personal income, \$1.7 billion are from the wage and salary disbursements of the direct and indirect jobs supported by the media sector. Roughly \$320 million, or 19%, of the total personal income generated by the media sector in Massachusetts is earned by Suffolk County residents.

Total Output for the media sector in Massachusetts equaled roughly \$9.4 billion in 2004. Output is defined as the amount of production in dollars, including all intermediate goods purchased as well as value-added (compensation and profit). Output includes the gross regional product (or valued added) plus all intermediate goods purchased, and can also be thought of as sales. Roughly 44% (\$4.1 billion) of the total output of the media sector in Massachusetts is generated in Suffolk County.

**Economic Impact of the Media Sector in Massachusetts and Suffolk County in 2004**

	Massachusetts	Suffolk County
<b>Total Employment Supported</b> (direct + indirect)	41,600	12,450
<b>Gross Regional Product</b>	\$5,013,554,000	\$2,182,635,000
<b>Personal Income Generated</b>	\$1,792,656,000	\$ 319,555,800
<b>Total Output</b>	\$9,445,072,000	\$4,064,788,000



**THOMAS M. MENINO, MAYOR**  
**CITY OF BOSTON**

**Boston Redevelopment Authority**  
Mark Maloney, *Director*

- Clarence J. Jones, *Chairman*
- Consuelo Gonzales Thornell, *Treasurer*
- Joseph W. Nigro, Jr., *Co-Vice Chairman*
- Michael Taylor, *Co-Vice Chairman*
- Christopher J. Supple, *Member*
- Harry R. Collings, *Executive Director / Secretary*

**Prepared by:**  
Dominic Modicamore, *Senior Research Associate / Economist*

**Research Division**  
Alvaro Lima, *Director*



### ***Alliance for Independent Motion Media***

AIMM is an evolving strategic alliance of media arts organizations and partners designed to stimulate and sustain independent production in Massachusetts. We empower and position the Massachusetts motion media industry, help develop a skilled marketable media workforce, and connect makers to new audiences, markets and resources.

Founding members are the Center for Independent Documentary, Central Productions, the Color of Film, Filmmakers Collaborative, LEF Foundation, and WGBH Boston Media Productions.

**<http://www.motionmedia.org>**



### ***Massachusetts Production Coalition***

MPC is a nonprofit corporation whose members include educational and professional organizations; talent and craft unions; equipment, facility and service providers; production and post-production companies; and allied industries and professions related to the production of visual media. Our mission is to help maintain, promote, increase and expedite the development, creation and production of film, video and new media content in Massachusetts.

**<http://www.massprodcoalition.com>**



