An Economic Assessment of Maryland's Film & Television Production Industry and Policy Implications

Submitted by:
Sage Policy Group, Inc.

Submitted to:

Maryland Department of Business and Economic Development, Maryland Film Office

January 2010

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Executive Summary

American movies are a global phenomenon. The worldwide popularity of American films is an economic as well as a cultural benefit. While this country has endured years of trade deficits, importing more goods from China and other countries than we export, films and television are a bright light in U.S. foreign trade, consistently generating trade surpluses. On a national and global scale, there is compelling evidence that incentives are successful in attracting film and television production activity. In fact, the availability of incentives is an inherent part of the industry and the default position for states that wish to maintain or encourage the development of the industry.

Due to strained budgets, Maryland and many states are considering the extent to which they should incentivize filmmaking, television production and related activities. Maryland has for many years been a leader in these activities, hosting a combination of prominent television shows and serving as backdrop for films with global appeal. These activities have spawned a significant infrastructure of people, equipment and facilities, as well as an infrastructure of local businesses that produce jobs and positive economic and revenue impacts for Maryland. The hallmarks of the industry in Maryland include:

- **Human capital investment.** Almost 6,000 Marylanders were employed in the industry in 2008. At least 30 higher and post-secondary and two dozen secondary educational institutions in Maryland offer programs in film, television, video and related activities. A vibrant film and television industry creates opportunity to retain the creative human talent in which Maryland has invested.
- **Good jobs.** Nationally jobs in the industry pay 77 percent more ($80,531 vs. $45,589) than the typical job. The industry provides an extra employment bonus— for every Maryland film industry job, the industry supports on average an additional 1.26 jobs.
- **Economic and fiscal impacts.** Direct spending on film and television production benefits many local vendors. A feature film spending $15 million could purchase or rent goods and services from approximately 380 Maryland businesses. Analysis has determined that 57.6 percent of each dollar of incentive is recovered in state and local tax revenues. While this is a solid return, it should be noted that the incentives do not generate a corresponding amount of offsetting tax revenues. It should also be noted that this percentage does not account for the significant indirect impact of the film industry.

In recent years, the combination of falling State of Maryland revenues and the intensity of competition for film production has resulted in decreased appropriations to the Film Production Rebate Program. Predictably, production activity is now in decline.

This is a pivotal year for Maryland's film industry. Maryland's program has been demonstrably effective in the past when sufficiently funded. A reasonable investment should be made to sustain Maryland's film industry until a time when fiscal circumstances would allow Maryland to better compete on a national and global level.

1. Size, scope, and trends in US film and television industry

The creation of the film and television industry as an economic juggernaut is a quintessentially American story. Originally centered in New York and led by self-made recent immigrants, the industry migrated to southern California after Cecil B. De Mille filmed *The Squaw Man* in Hollywood in 1913.[1] It has since been transformed from silent films to talkies, responded to the challenge of new technologies and dissemination mechanisms, and emerged as a cultural force with global reach.

Recent and current industry trends in filmmaking

While still dominated by activities in California and New York, film and television production is a national industry supported by 115,000 businesses nationally. Films and television make a substantial contribution to the nation's economy. The industry in its various forms and activities creates or supports millions of jobs and tens of billions of dollars of income for Americans.[2]

According to a report from the Motion Picture Association of America (MPAA), in 2007, the motion picture and television industry was responsible for:

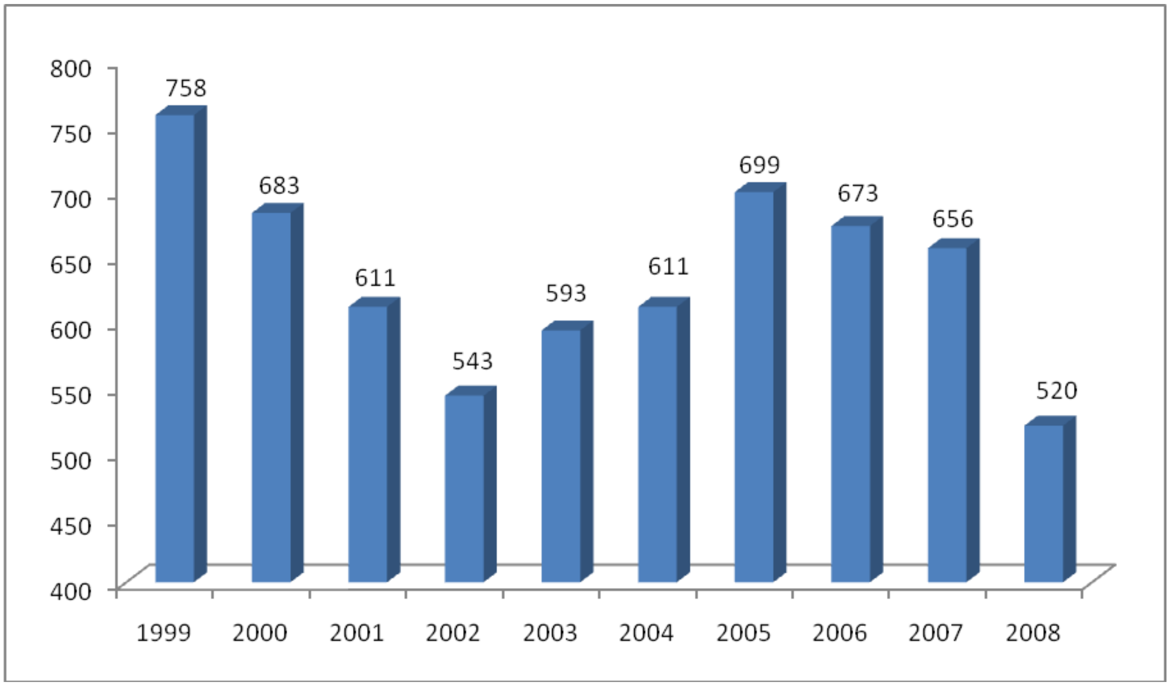
- 2.5 million American jobs;
- $41.1 billion in wages for workers in America;
- $38.2 billion in payments to U.S. vendors and suppliers, small businesses and entrepreneurs;
- $14 billion in income and sales taxes; and
- $13.6 billion in trade surplus.

The MPAA report also indicated that the industry was a source of high quality employment. From 2001 to 2008, the number of jobs grew almost 15 percent. Nationally this employment is particularly remunerative, averaging $80,531 a year compared to $45,589 for all industries in the U.S.

As measured by the number of films produced, the industry is relatively volatile. Between 1999 and 2008, the number of films produced in the U.S. declined from 758 films to 520 films. Over that 10-year period, however, no consistent trend is evident. As shown in Exhibit 1-1, the number of films produced each year declined from 1999 to 2002, then increased steadily for 3 years before entering another period of annual decreases.

[1] Ephraim Katz, *The Film Encyclopedia, 5th Edition*, Collins, 2005.
[2] "The economic impact of the motion picture & television industry on the United States," Motion Picture Association of America, April 2009.

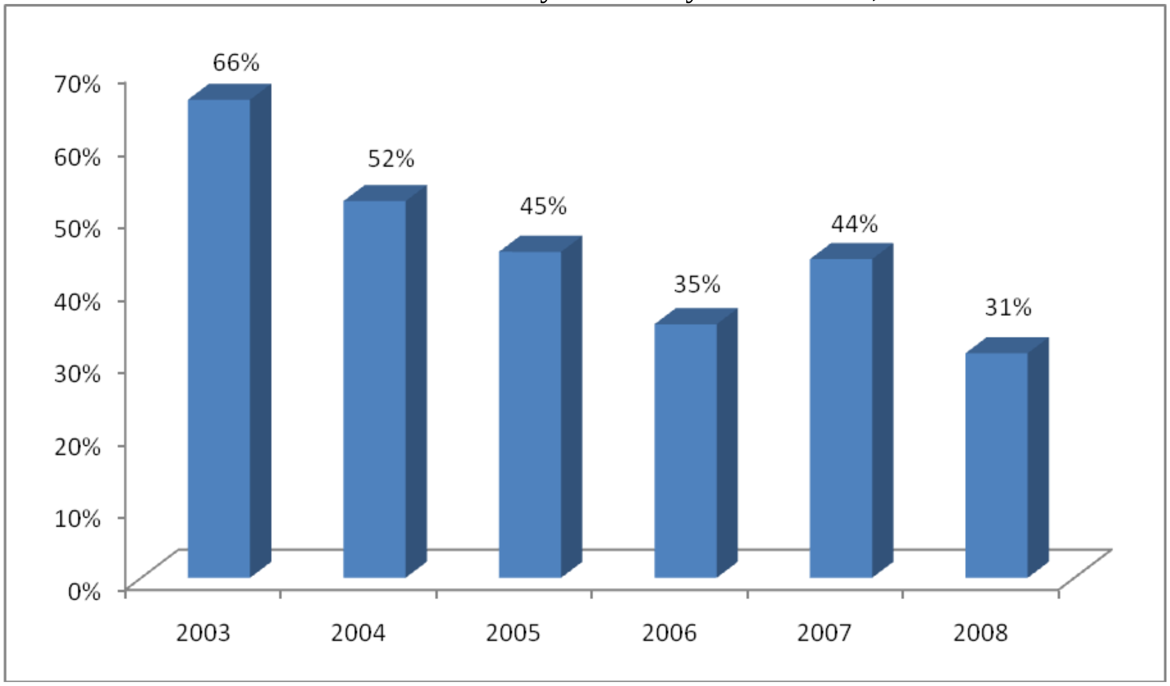
Exhibit 1-1: Films Produced in the United States, 1999-2008



Source: MPAA, Nielsen EDI

More persistent is the decline in the use of California as a filming location. The share of films shot partially or entirely in California has dropped by more than half since 2003. In part, this can be attributed to the impact of the incentives offered by other states, though the direction of causation also works the other way. Incentives have been on the rise precisely because many states recognize that California no longer has a strangle hold on film production. Increased competition from other nations represents another factor. Exhibit 1-2 tracks the percentage of films using California as a shooting location from 2003 through 2008.

Exhibit 1-2: Studio Features Shot Partially or Entirely in California, 2003-2008



Source: ERA, California Film Commission (based on a confidential survey of MPAA members)

The dispersal of television and film production can be seen in Exhibit 1-3, which shows lists of activities in each state and the District of Columbia in 2007 and 2008. Also listed are employment and wages associated with film and television production and postproduction activity in 2008. The employment and wages data include the so-called indigenous industry in each state as well as workers who are employed on film and television that are imported into states and their wages. As a result, the Maryland employment and wages data would include jobs associated with, for example, the production of commercial for local businesses as well as employment and wages associated with films shot on location in Maryland as a result of incentives provided by the Maryland Film Office. States are listed in descending order of the number of television and film projects in 2008.

Exhibit 1-3: Films and TV Filming and Affiliated Employment and Wages for Production and Post Production Jobs in 2008 (millions of dollars)

State	*Films and TV Filming, 2007*	*Films and TV Filming, 2008*	*Production and postproduction workers, 2008*	*Total Wages of production and postproduction workers (millions)*
California	529	480	128,770	$11.7
New York	371	351	35,920	$3.3
Nevada	234	264	1,133	$38.9
Texas	134	115	3,427	$209.2
Arizona	147	106	884	$35.0
Sources: MPAA, Bureau of Labor Statistics				

Exhibit 1-3: Films and TV Filming and Affiliated Employment and Wages for Production and Post Production Jobs in 2008 (thousands of dollars)--continued

State	*Films and TV Filming, 2007*	*Films and TV Filming, 2008*	*Production and postproduction workers, 2008*	*Total Wages of production and postproduction workers (millions)*
Georgia	82	92	2,161	$139.8
Louisiana	54	56	3,853	$128.0
Pennsylvania	57	52	2,898	$165.7
Montana	47	51	187	$6.3
New Mexico	36	47	2,413	$102.6
Utah	28	47	1,392	$44.6
Michigan	11	43	1,816	$93.9
South Dakota	18	39	107	$3.9
Illinois	72	38	3,307	$237.7
New Jersey	26	38	2,888	$194.7
Florida	41	35	5,157	$372.2
Connecticut	45	31	1,401	$64.9
Virginia	29	31	1,268	$72.1
New Hampshire	15	29	115	$9.2
Massachusetts	15	27	3,280	$165.7
North Carolina	43	26	937	$49.9
Tennessee	30	26	1,497	$77.0
West Virginia	32	25	0	$0
Wisconsin	4	25	1,042	$41.4
Alabama	14	21	299	$11.9
District of Columbia	36	21	794	$59.9
Rhode Island	23	21	505	$17.0
Hawaii	22	18	974	$36.5
Colorado	14	16	1,106	$58.1
Minnesota	4	14	1,282	$54.0
Missouri	10	14	772	$35.6
Washington	11	13	1,923	$69.9
Wyoming	1	11	0	$0
Indiana	4	9	613	$26.9
Kansas	3	9	149	$7.0
Mississippi	3	9	92	$1.9
Oregon	6	9	1,943	$71.7
South Carolina	6	9	661	$12.4
Iowa	3	7	249	$11.3
Maryland	**10**	**7**	**2,242**	**$80.2**
Kentucky	5	6	203	$8.0
Ohio	8	6	1,014	$45.9
Oklahoma	2	6	363	$17.2
Sources: MPAA, Bureau of Labor Statistics				

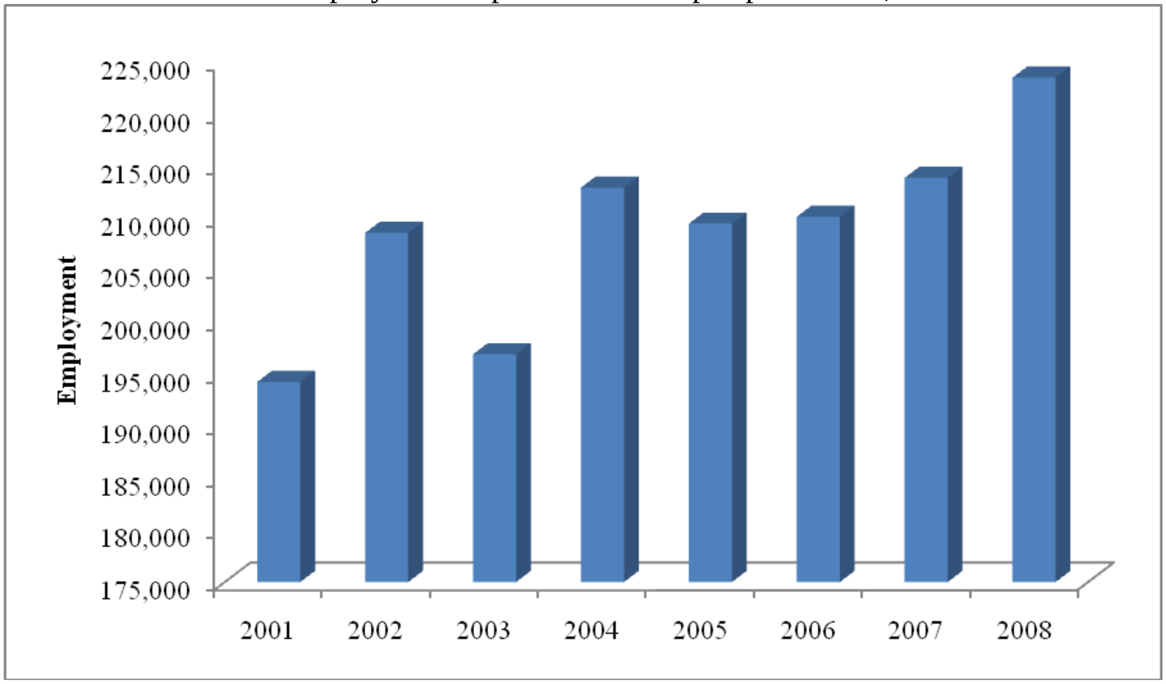
Exhibit 1-3: Films and TV Filming and Affiliated Employment and Wages for Production and Post Production Jobs in 2008 (thousands of dollars)--continued

State	*Films and TV Filming, 2007*	*Films and TV Filming, 2008*	*Production and postproduction workers, 2008*	*Total Wages of production and postproduction workers (millions)*
Arkansas	2	5	258	$1.0
Alaska	2	4	0	$0
North Dakota	4	4	53	$1.7
Idaho	4	3	137	$3.2
Maine	9	2	721	$32.4
Vermont	10	2	83	$3.1
Delaware	1	1	57	$2.4
Nebraska	9	1	72	$2.6
Total	2,326	2,322	222,421	$17.9
Sources: MPAA, Bureau of Labor Statistics				

As the exhibit indicates, Maryland ranks down the list in terms of television and film projects in 2008. Even with this decline, for the time being Maryland is one of only a dozen states with over 2,000 workers in production and postproduction segments of the film and television industry.

Employment in key segments of the film and television industry has grown steadily in recent years as shown in Exhibit 1-4. In 2001, employment in two segments--motion picture and video (NAICS Code 51211) and postproduction services and other motion picture and video industries (NAICS Code 51219) was approximately 195,000. By 2008, those involved in film production and post production accounted for 223,518 jobs with three out of four of these jobs in California and New York. From 2001 to 2008, the number of jobs grew almost 15 percent. Nationally this employment is particularly remunerative, averaging $80,531 a year compared to $45,589 for all industries in the U.S. In other words, these jobs pay roughly 77 percent more than the typical job. Variation in income per job varies widely, however, with New York and California averaging over $90,000 per job and Arkansas and South Carolina averaging under $20,000 per job.

Exhibit 1-4: National employment in production and postproduction, 2001-2008



Source: Bureau of Labor Statistics

Future of television and film industry

The federal government's most recent projections indicate that industry growth may slow somewhat in the future. From 2006 to 2016, employment of camera operators and editors is expected to grow 12 percent, a rate similar to all U.S. occupations. However, there is need for a certain amount of caution. According to the Bureau of Labor Statistics, "growth will be tempered by . . . increased offshore production of motion pictures.[3]

The reference to offshore production may be an omen. Just as film and television productions have spread from California and New York to the rest of the country, production has also spread from this country overseas. Unrelenting pressures for cost controls have combined with globalization to generate unexpected results such as the use of Romania as the location for filming much of a quintessentially American story, *Cold Mountain*.[4]

The growth of the film and television industry around the world can also be seen in the results of a recent United Nations Educational, Scientific, and Cultural Organization (UNESCO) survey. In 2005, Nigerian film production surpassed that of the United States. Indeed, at least by this measure, over the past decade or so, growth in the number of feature-length films produced in

[3] Bureau of Labor Statistics, *Occupational Outlook Handbook, 2008-09 Edition.*
4 Ian Fisher, "Bucharest Journal: On Dracula's Terrain, an Infusion of New Blood," *New York Times*, July 22, 2003.

the top countries has been slowest in the United States.[5] Survey results for the 10 countries producing the highest number of feature films are summarized in Exhibit 1-5.

Exhibit 1-5. Global production of feature-length films

Country	*1995*	*1996*	*2005*	*2006*
India	N.A.	683	1,041	1,091
Nigeria	N.A.	N.A.	872	N.A.
United States	370	420	699	480
Japan	289	278	356	417
France	141	134	240	203
Germany	63	64	146	174
Spain	59	91	142	150
Italy	75	109	98	116
Republic of Korea	64	65	87	110
Canada	53	43	52	74
Source: UNESCO Institute for Statistics				

Although film production is increasing rapidly in many countries, it is likely that much of this production is for domestic consumption in those countries. As far as global distribution is concerned, the American film industry appears to be doing quite well. A recent UNESCO report found that the 10 most popular films in countries as diverse as Australia, Bulgaria, Canada, Costs Rica, Namibia, Romania, and Slovenia were all American-made.[6]

The worldwide popularity of American films is an economic as well as a cultural benefit. While the country has endured years of trade deficits, importing more goods from China, OPEC countries, Japan, and other countries than we export, films and television (along with aircraft manufacturing) are bright lights in U.S. foreign trade, consistently generating trade surpluses. American films are a global phenomenon and this renders the local presence of the industry all the more attractive.

[5] According to the Motion Picture Association of America and as shown in Exhibit 1-1 of this report, 673 movies were produced in the U.S. in 2006, a considerably higher number than the 480 feature length films reported by UNESCO. Using the MPAA number, U.S. film production has been expanding at a higher rate than many of the other countries listed. In either case, it is reasonably clear that film production is expanding worldwide.
[6] "Nigeria surpasses Hollywood as world's second largest film producer," UN News Centre, May 5, 2009.

2. Maryland total film and television industry

Project-oriented film and television productions that are the main focus of the Maryland Film Office operate in the context of the ongoing and indigenous film and television production industry in Maryland. That larger industry includes a wide range of activities, including, but not limited to, local film and video productions for commercial and corporate applications. The film and video industries include both production activities and distribution through an increasing variety of media. An estimate of the total Maryland motion picture and video industry is presented in Exhibit 2-1 in terms of jobs, associated income for these workers, and revenue for the businesses included in the industry. Because these data include an unknown level of activity that is more properly classified as the "imported" segment of the industry, these data may overestimate the industry that is indigenous to the state. On the other hand, production activities in Maryland include some locally produced television programming that is included in the television broadcasting industry and other programming that is developed for cable and other narrowcasting platforms. These activities are similar in nature to motion picture and video industry, but are difficult to separate from other data on television broadcasting and on the cable industry.

Exhibit 2-1. Overview of Maryland's motion picture and video industry, 2008
(dollars in millions)

Industry segment	*Jobs*	*Income*	*Business Sales*
Motion picture and video industries	5,897	$140	$693
Source: IMPLAN			

As with other industries, there is a multiplier effect for the motion picture and video industry in the state. This effect is derived from the supply chain for motion picture and video operations. These operations require goods and services from other Maryland businesses and these businesses in turn require their own suppliers. The totality of business-to-business transactions that begins with the needs to the motion picture and video industry is called the indirect effect. When workers in this industry and the workers in the supply chain for the industry spend their earnings in Maryland, a final set of impacts (called the induced impacts) is generated. Exhibit 2-2 lists the total impacts of Maryland's motion picture and video industry for 2008 (i.e. direct, indirect, and induced impacts). As indicated below, the industry supports over 11,300 Maryland jobs with associated income of over $250 million. In addition, the industry supports $1.3 billion worth of revenue of or sales of goods and services by Maryland businesses.

Exhibit 2-2. Total impacts of Maryland's motion picture and video industry, 2008
(dollars in millions)

Industry segment	*Jobs*	*Income*	*Business Sales*
Motion picture and video industries	11,309	$268	$1,329
Source: IMPLAN			

3. Maryland's imported/project film/television industry versus indigenous industry

It is virtually impossible to make a clear distinction between the ongoing, indigenous film and television industry in Maryland and that part of the industry that is associated with "imported" film and television projects. In this case, imported activity is to be viewed positively since it represents activity that could have taken place elsewhere, but instead took place in Maryland, perhaps because of the presence of incentives. Part of the difficulty is that standard sources of economic data do not make distinctions at this level of detail. The federal government accounts separately for film and video production workers and post-production workers, but does not distinguish between workers for video productions or post-production activities that are part of the local economy (e.g. commercials for Maryland businesses produced by Maryland firms) and workers for productions that are part of the "imported" industry (e.g., episodes of "Homicide" or "The Wedding Crashers").

Another part of the difficulty is the very nature of film and television productions. Film and television productions are notoriously collaborative. Teams of creative class members come together around a single project and then dissipate like atoms from a molecule searching for the next molecule (project) to join. The next project might well be work at the Hippodrome or on a local commercial. As a consequence, the line that divides the indigenous and imported industry can run not only between different projects, but also between the different paychecks that an individual worker receives.

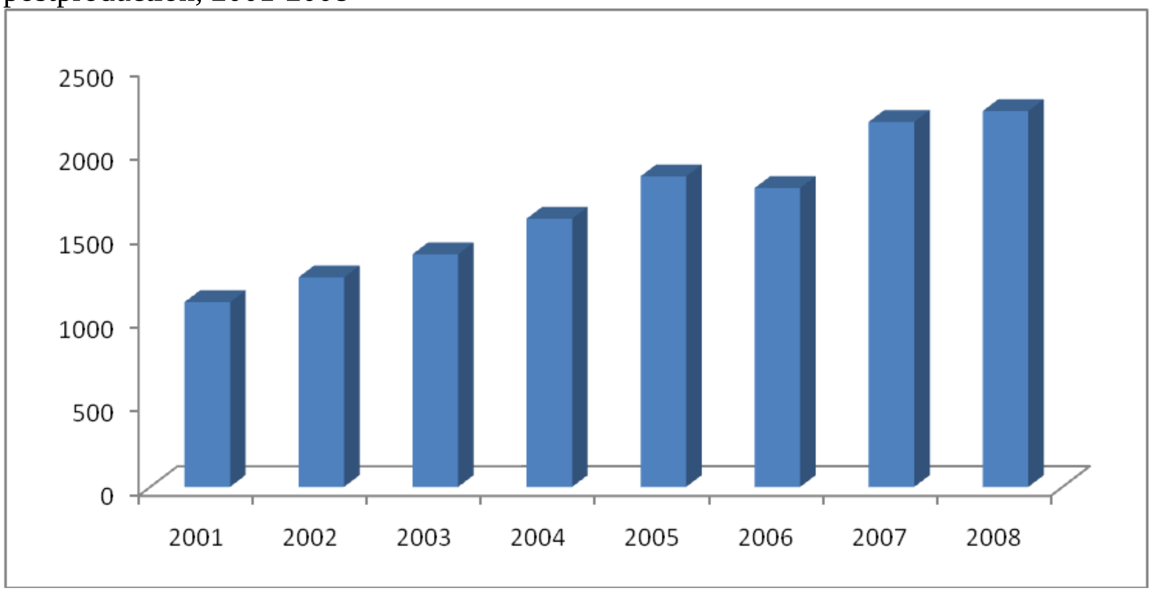
An additional confounding factor is the fact that film and television productions employ a very wide spectrum of skills and workers. The crew for a given production may include not only directors, camera operators, actors, and other occupations clearly tied to film and television, but also electricians, carpenters, tutors for child actors, medics, and other workers that could as easily be working on projects or for establishments totally unconnected to film or television. No conventional data source tracks all of these types of employment under film and television production.

In assessing the imported industry in Maryland, this analysis has relied on a number of measures, some more easily tied to imported activities than others. The most closely related employment and establishment/firm data tend to include both indigenous and imported segments of the overall industry although data on some workers (e.g., electricians) and establishments will be absent altogether. Spending data are more easily tied to imported activities, although it is not always clear that these data are all inclusive of the expenditures that imported projects bring to Maryland.

Employment and establishments in Maryland's imported industry

The Bureau of Labor Statistics tracks employment in a multitude of categories. The two most relevant for the kinds of film and television projects that the Maryland Film Office targets are film and video production workers (NAICS Code 51211) and postproduction and other film and video production workers (NAICS Codes 51219). As reflected in Exhibit 3-1 the number of workers in these categories has shown generally consistent growth since 2001 increasing from approximately 1,000 workers in 2001 to 2,242 workers in 2008. As noted, however, these counts include both the indigenous and imported activities of the industry.

Exhibit 3-1: Maryland employment, film/video production and postproduction, 2001-2008



Source: Bureau of Labor Statistics

Jobs in production and postproduction support a broad range of other employment. For each production or postproduction job in Maryland, there are on average an additional 1.26 jobs. Most of these additional jobs are considered indirect jobs (i.e., those in the supply chain of businesses that support production and postproduction firms. Some of these jobs would be considered part of the crew base for Maryland, that is, the types of jobs that are supported by production activities at the vendors that supply goods and services to productions. Indirect jobs also include more generic employment such as jobs at utilities that supply power to video productions. Another type of supported employment is considered induced jobs, part of the consumer economy, that are supported when direct workers (i.e., those involved in production and postproduction) and indirect workers (i.e., those in the supply chain) spend their earnings in Maryland. In 2008, the estimated 2,242 workers involved in production and postproduction supported over 5,000 total jobs in Maryland. This is an unusually large impact for employment since each Maryland job on average supports 0.76 additional jobs. While this total is similar to the estimated 5,897 total employment in Maryland's motion picture and video industry in 2008, this is coincidence. The total of 5,070 jobs shown in Exhibit 3-2 are all jobs in Maryland supported solely by production and postproduction activities.

Exhibit 3-2: Employment impact of film/video production and postproduction activities, 2008

Type of Impact	*Jobs per production, postproduction worker*	*Jobs (full and part-time)*
Direct	1.00	2,242
Indirect	0.84	1,886
Induced	0.42	942
Total	2.26	5,070

Source: Bureau of Labor Statistics, Sage

The Bureau of Labor Statistics also counts the number of business establishments or firms that are engaged in film and video production and postproduction activities. From this perspective, Maryland has had a more varied history since 2001. Over the past several years, as other states have been aggressively courting the film/television industry with incentives, Maryland has taken a more conservative path, reducing its annual expenditures on film and television incentives as state government revenues in general have been more scarce and reductions have been made in many other economic development programs.

One apparent result, as shown in Exhibit 3-3, is a general reduction in the number of firms involved in production processes in Maryland. Similar trends have been evident in states such as Massachusetts and Pennsylvania. Nationally, however, there has been only a slight change in the number of firms involved in production and postproduction (i.e., NAICS codes 51211 and 51219). Given that these firms serve both the indigenous and imported film and television industry, the significance of these trends for imported industry is not necessarily clear.

Exhibit 3-3: Production and postproduction firm growth, change from prior year, 2002-2008

Firms Growth	Maryland	Massachusetts	Pennsylvania	National
2002	-1.9%	-1.7%	-12.3%	-3.0%
2003	-3.5%	-5.3%	1.6%	-3.4%
2004	2.9%	1.2%	-5.3%	-1.8%
2005	3.6%	0.6%	-3.3%	0.5%
2006	0.0%	-8.8%	0.3%	4.2%
2007	0.0%	1.0%	0.7%	1.5%
2008	-5.7%	8.6%	4.1%	1.2%
Change 2001-2008	-5.0%	-5.2%	-14.3%	-1.1%

Source: Bureau of Labor Statistics

Impacts of imported film and television activity in Maryland

The Maryland Film Office possesses data on in-state expenditures by film and television producers that have brought projects to Maryland. Unlike the employment and firm data above, these expenditures are clearly tied to the imported film and television industry. As such, they provide a clearer perspective on the activities and impacts of this segment of the industry in Maryland.

Unlike the employment and firm data that includes the indigenous industry and therefore overstates the impacts of imported activities, expenditures reported to the Maryland Film Office are accurate, but may occasionally understate the impacts of the imported industry. There may be additional expenditures that may not be reported once a production company has reached their agreed upon rebate amount. In addition, non-resident production cast and crew working in Maryland may receive a relatively modest per diem allowance for meals and sundry expenses (e.g., $50). While many production workers may keep their spending within these limits, major stars, directors, and other highly paid members of the production are unlikely to be bound by these strictures and very likely spend substantially more at Maryland restaurants and other establishments. There are also many anecdotal reports of high end purchases that clearly benefit Maryland but, like the spending of the highly paid members of the production, are impossible to track.

Based on data supplied by full feature and television producers to the MFO, Sage established an average breakdown of direct expenditures in the state for eleven productions. Shown in Exhibit 3-4, these direct expenditures can be used to estimate a variety of impacts in Maryland. As shown, almost 43 percent of in-state spending goes to wages of Marylanders. Most of these wages are paid to the crew although almost 8 percent go to local actors. Over 8 percent goes to the Maryland lodging industry. While not separately listed, a significant share of local spending goes to restaurants and other segments of the hospitality industry. This spending on the hospitality industry (other than lodging) is part of a mix of other spending that constitutes almost half of the typical in-state expenditures of the imported film and television production industry.

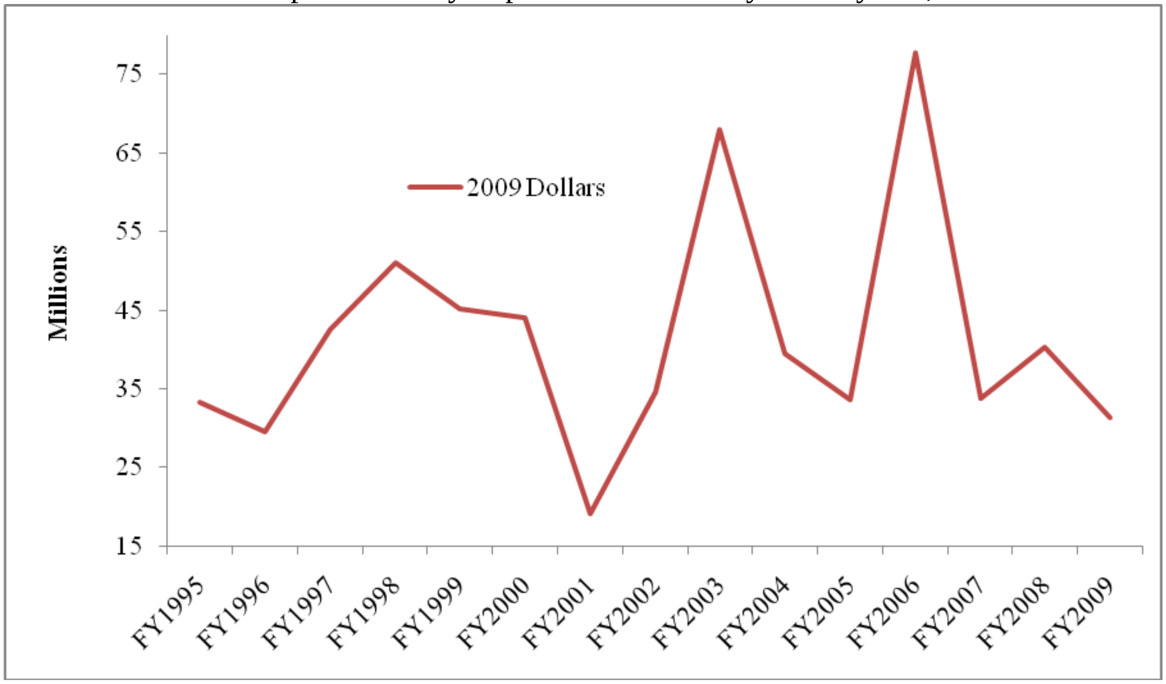
Exhibit 3-4: Breakdown of Expenditures in Maryland by Imported Film Industry

Component	*Percent of Total*	
Local Labor		
Technician & Labor, local hires	35.0%	
Actors & Extras, local hires	7.8%	
Sub-total		42.8%
Hotel Rooms		8.2%
Additional Local Expenditures		
Casting & Talent Agency Fees	1.0%	
Equipment Rentals	4.1%	
Set Construction Costs	6.9%	
Security	2.1%	
Catering	3.5%	
Props, Set Dressing, Wardrobe	6.2%	
Office & Studio/Stage Rental	1.7%	
Transportation	9.5%	
Film Processing (local)	0.1%	
Post Production Services (local)	0.1%	
Location Fees	4.8%	
Pre-Production days	4.5%	
Wrap days	1.2%	
Miscellaneous	3.3%	
Sub-total		49.0%
Grand Total	100%	100%

Source: Maryland Film Office, Sage

Exhibit 3-5 provides a graph of total spending by the imported film industry for each fiscal year since 1995. To eliminate the effects of inflation, the chart presents all expenditures in 2009 dollars. As shown, there is considerable volatility from year to year. Peak years include 1998, 2003, and 2006 while the lowest total expenditures occurred in 2001, a year in which one strike by the writer's guild occurred and another strike in the industry was threatened. These labor problems plus the general economic shock waves following the attacks of September 11, 2001 helped depress production activities in Maryland and many other states.

Exhibit 3-5: Direct expenditures by imported film industry in Maryland, FY 1995-FY2009



Source: Maryland Film Office

It should be noted that the expenditures graphed in Exhibit 3-5 are not all directly tied to Maryland's film incentive program. Spending prior to 2005 actually predates the program while a significant share of spending after the program was established occurred without a direct incentive from the MFO.

Details regarding the spending shown in the chart above are presented in Exhibit 3-6. This table uses the broad categories of local spending listed in Exhibit 3-4 as they are applied to total spending by the imported industry each fiscal year from 1995 through 2009. Thus approximately 49 percent of total direct expenditures goes to general costs of the motion picture industry, while 35 percent goes to the local crew (i.e. technicians and labor), another 8 percent goes to local actors, and a final 8 percent goes to hotels and other lodging establishments.

Exhibit 3-6: Imported film industry expenditures in Maryland, FY1995-FY2009

(millions of 2009 dollars)

Fiscal Year	*Technicians and Other Crew Labor*	*Local Actors*	*Hotels*	*Local Production Expenditures*	*Total Direct Expenditures*
FY1995	$11.6	$2.7	$2.7	$16.3	$33.2
FY1996	$10.3	$2.4	$2.4	$14.5	$29.6
FY1997	$14.9	$3.4	$3.4	$20.9	$42.6
FY1998	$17.8	$4.1	$4.1	$25.0	$51.0
FY1999	$15.8	$3.6	$3.6	$22.1	$45.2
FY2000	$15.3	$3.5	$3.5	$21.6	$43.9
FY2001	$4.8	$1.5	$1.5	$9.3	$17.2
FY2002	$8.9	$2.8	$2.8	$16.9	$31.3
FY2003	$20.8	$5.4	$5.4	$33.3	$64.9
FY2004	$10.6	$3.2	$3.2	$19.4	$36.3
FY2005	$9.0	$2.7	$2.7	$16.5	$30.9
FY2006	$23.5	$6.2	$6.2	$38.1	$74.0
FY2007	$7.0	$2.7	$2.7	$16.6	$29.0
FY2008	$10.4	$3.2	$3.2	$19.8	$36.6
FY2009	$6.8	$2.5	$2.5	$15.3	$27.1

Source: Maryland Film Office, Sage

This direct spending on film and television production can be a major source of business sales for vendors and employment for crew members. The number of vendors engaged in these productions can be remarkable. For example, a feature film spending $15 million in Maryland might hire approximately 380 vendors while a television series spending $26 million in the state would hire over 600 vendors. The experience of past projects in the state supported by the MFO indicates that a typical project hires of a crew of almost 200 local workers and larger projects can require substantially more help from the local crew base.[7]

As with employment related to production and postproduction activities, there is a multiplier effect associated with the direct spending of film and television productions in Maryland. The impacts associated with the multiplier effect can be measured in several ways, including the income associated with the workers directly employed by these productions and the indirect and induced income related to the employment supported by the productions. Similarly, Maryland businesses garner sales from these production activities both directly as vendors for the individual projects, as suppliers for these vendors, or as part of the consumer economy that is supported by the spending of the direct and indirect workers. These economic impacts give rise

[7] Data on the use of vendors is based on past projects in Maryland. Data on crew base utilization is based on 22 projects in Maryland from fiscal 2002 through fiscal 2009 for which there were specific numbers for the local hires from the state's crew base.

to a range of tax revenues which are considered fiscal impacts. These include state and local income and sales taxes as well as hotel occupancy taxes.

These total economic and fiscal impacts for imported film and television productions in Maryland are listed in Exhibit 3-7. Fiscal impacts as considered here are general estimates of state and local income taxes and sales taxes based primarily on the labor income shown in Exhibit 3-7 and the hotel occupancy tax based on hotel expenditures shown in Exhibit 3-6. As will be seen in the following section, a number of factors in addition to direct production spending in Maryland are involved in estimating economic and, therefore, fiscal impacts. As there was insufficient historical data to consider these other factors (e.g. residual income, wages paid to non-residents for work done in Maryland), tax revenues associated with these factors could not be included in the estimates in Exhibit 3-7.[8]

Exhibit 3-7: Total Economic and Fiscal Impacts of Direct Expenditures of Imported Filming in Maryland, FY1995-FY2009

Year	*Total Direct Expenditures*	*Total Labor Income*	*Total Business Sales*	*Total Fiscal Impact*
FY1995	$33.2	$18.1	$61.3	$2.1
FY1996	$29.6	$16.1	$54.5	$1.9
FY1997	$42.6	$23.2	$78.5	$2.7
FY1998	$51.0	$27.8	$94.0	$3.2
FY1999	$45.2	$24.6	$83.3	$2.8
FY2000	$43.9	$24.0	$81.2	$2.8
FY2001	$17.2	$10.4	$35.2	$1.2
FY2002	$31.3	$18.8	$63.7	$2.2
FY2003	$64.9	$37.0	$125.2	$4.3
FY2004	$36.3	$21.5	$72.9	$2.5
FY2005	$30.9	$18.3	$62.1	$2.1
FY2006	$74.0	$42.3	$143.2	$4.9
FY2007	$29.0	$18.4	$62.4	$2.1
FY2008	$36.6	$22.0	$74.4	$2.5
FY2009	$27.1	$17.0	$57.6	$2.0

[8] These other factors are considered in the analysis in the following section which takes a more detailed look at fiscal impacts based on a more comprehensive understanding of recent experience. The lack of historic data on income from residuals or income paid to non-residents for work done in Maryland reduces confidence in trying to include these factors in an analysis of the longer-term experience of the Maryland's film incentive efforts.

4. Maryland's film incentive program

In 2005, Maryland established its first substantial incentive program for film production although a sales tax exemption had been in place since 1999. That initial program offered rebates for qualified employee's wages. In 2007, the program was changed to one offering 25 percent of the direct costs of film production incurred while filming in the state. The 2007 changes did not place a limit on the total amount of credit available to a given company leaving that decision to the discretion of the Department of Business and Economic Development.

The Executive Branch submits an annual budget and proposes funding to the program. The final funding level is set by the legislature. In recent years, funding reached a peak of $6.875 million, but has steadily declined since then. Funding since fiscal year 2006 has been set at the following levels by the state legislature.

- Fiscal year 2006: $4 million appropriation
- Fiscal year 2007: $6.875 million appropriation
- Fiscal year 2008: Executive branch included appropriation allowance of 6.875 million appropriation, legislature reduced to $4 million
- Fiscal year 2009: $4 million appropriation
- Fiscal year 2010: Executive branch included appropriation allowance of $2 million appropriation, legislature reduced to $1 million

Maryland’s Production Rebate Program has proven to be successful when sufficiently funded. Exhibit 4-1 provides the return on investment in production expenditures, business for Maryland vendors, and employment for Maryland crew and actors of those productions that received production rebate grants.

To attract a television series, which has the highest number of production days, expenditures and potential longevity, a $6-8 million per year incentive package would need to be offered. To attract a moderately budgeted feature film, an incentive package of $3-4 million per film would need to be offered. A television series and a moderately budgeted feature film, or two to three moderately budgeted films would be needed annually to sustain Maryland’s film industry.

Exhibit 4-1. Maryland Film Production Rebate Fund - Recipients To Date

Recipient	*Grant Amount*	*Production Expenditures*	*No. Of Vendors*	*Maryland Local Hires*	
Rocket Science	$400,000	$2,159,148	202	Technicians -	195
				Actors/Extras -	627
Step Up	$2,000,000	$7,170,519	352	Technicians -	330
				Actors/Extras -	1,522
The Wire (season 4)	$1,600,000	$28,276,158	798	Technicians -	521
				Actors/Extras -	3,831
Boy of Pigs	$300,000	$2,473,256	718	Technicians -	150
				Actors/Extras -	215
The Wire (season 5)	$2,000,000	$13,082,456	672	Technicians -	364
				Actors/Extras -	2,701
From Within	$400,000	$1,975,831	134	Technicians -	95
				Actors/Extras -	861
Step Up 2	$3,529,123	$14,119,907	379	Technicians -	259
				Actors/Extras -	1,372
Bumper	$400,000	$1,624,509	94	Technicians -	127
				Actors/Extras -	122
My One & Only	$3,000,000	$11,999,493	334	Technicians -	238
				Actors/Extras -	567
Past Life	$1,000,000	$4,540,180	244	Technicians -	217
				Actors/Extras -	318
Washingtonienne	$740,763	$2,964,802	152	Technicians -	169
				Actors/Extras -	421
The Dead Ones	$100,000	$598,000 (*)	150 (*)	Technicians -	44
				Actors/Extras -	42
Total	**$15,469,886**	**$90,984,259**	**4229**	**Technicians -**	**2,709**
				Actors/Extras -	**12,599**

Note. (*) Data are projections.
Source. Maryland Film Office

In 2009 legislation was introduced by the newly formed Maryland Film Industry Coalition in the Maryland General Assembly that would have increased the subsidy for qualified activities from 25 percent to 28 percent and would have created a tax credit program different in nature, but not intent, from the current program. This legislation (Senate Bill 596) did not place caps on the credits available to a given company or in a given year. While proposed, this legislation was not voted on in committee and never reached the floor of the legislature. This legislation did give rise to a fiscal analysis of the film incentive program by the Department of Legislative Services, which reviewed Maryland's history of film incentives, examined other states' programs in general and five states' programs in more detail, and pointed out difficulties that many state film incentive programs have faced. The fiscal note focused on a number of programs that have been able to recoup relatively little of the costs of their incentive programs, but failed to note others (e.g., New Mexico, North Carolina, and New York) which had demonstrated an ability to generate tax revenue equal to or in excess of the costs of the incentive programs.[9] Many states are in constant competition with Maryland for film and television productions. Exhibit 4-2 provides a representative, not exhaustive list, of Maryland and its competitors.

Exhibit 4-2: Comparison of Incentive Programs of MD's Leading Competitors

State	*Type of Incentive*	*Funding Level*
Connecticut	• Transferable Tax Grant • 30% of qualified production spending	• No annual cap • No per project cap • Compensation capped at $15 million per person
Louisiana	• Partially Refundable, Transferable Tax Grant • 25% of qualified production spending & additional 10% on Louisiana labor	• No annual cap • No per project cap
Massachusetts	• Partially Refundable, Transferable Tax Grant (or rebate @ 90% of value) • 25% of qualified production spending	• No annual cap • No per project cap
New Mexico	• Refundable Tax Grant • 25% of qualified production spending	• No annual cap • $5 million per project cap on the credit for all "performing artists' compensation
Pennsylvania	• Transferable Tax Grant • 25% of qualified production spending	• $42 million annual cap • $15 per project cap on aggregate compensation paid to performing artists
Maryland	• Rebate as a Grant • 25% of qualified production spending	• Subject to annual appropriation ($1 million in FY 2010) • No per project cap

As shown above, funding available for the Maryland film incentive program has been more limited lately. The assessment of this program acknowledges the limits the current fiscal climate places on funding the current program. The following analysis is based on the existing Maryland program at its average funding level for FY'06-'09, that is, an annual appropriation of $4.5 million In examining the impacts of such a program in Maryland, the following were considered or assumed.

- Most states will likely continue to have film incentive programs although in at least some states these programs will be less generous and less aggressive than has been true in the most recent past;

[9] Robert J. Rehrmann, "Fiscal and policy note. Income tax - film production activity credit," Department of Legislative Services, Maryland General Assembly, 2009 Session.

- Despite this prospect for retrenchment, the "market" for film incentives will center on tax credits or rebates of one sort or another at rates ranging from 20 percent to 30 percent of spending occurring within state borders;
- The longer a state maintains a viable film and television production industry, the more likely it is that secondary effects with important consequences for state tax revenue will occur. In particular, long-term viability will encourage investment and an expansion in the goods and services that can be provided locally. This will result in greater potential for in-state spending and larger multiplier effects. Long-term viability also increases the probability that tourism related to film and television production will expand and become a significant segment of the overall tourism market;
- Open-ended incentive programs that have no caps on the value of tax credits or rebates issued in a given year are ill-advised in a time of the present fiscal circumstances.

The prospective impacts of a Maryland film incentive program

In analyzing the prospective impacts of a film incentive program intended to support a viable industry presence in Maryland, this assessment only addresses the impacts directly connected to film and television productions. Other impacts (e.g., infrastructure investment) that might occur from a sustained effort to build the industry are not considered.

This analysis assumes that a film incentive program in Maryland will be able to offer tax rebates or grants up to a maximum of 25 percent of the total value of a production's expenditures incurred while filming in the state. It is also assumed, however, that the 25 percent limit is flexible and the Maryland Film Office would negotiate agreements on a case-by-case basis.

As a result of these negotiations and individual agreements, the analysis assumes that on average the production rebate equals 20 percent of in-state spending. This 20-percent value is based on the recent experience of the Maryland Film Office. In 2009, current estimates of the Maryland Film Office indicate that incentives will equal 19.8 percent of projected costs incurred while in the state. Since 2007, incentives have totaled 21.2 percent of these costs. .[10]

With an average production rebate of 20 percent and an annual budget of $4.5 million, an incentive program could support over $22 million in direct spending in Maryland by film or television production activities. Based on the experience of film and television projects supported in the past by the Maryland Film Office, 35 percent of this spending would go to the local crew base, almost 8 percent would go to local actors, just over 8 percent of this in-state spending would go to lodging expenses with the remaining spending covering a wide range of goods and services required by film and television production for the crew base.

In addition, a substantial cost would be compensation for non-Marylanders involved in the production for work done in Maryland. This would include wages paid to directors, actors, or

[10] Maryland Film Office records indicate that actual and projected tax credit value will be $3.5 million in 2009 versus $17.7 million in direct Maryland spending. Actual and projected tax credit value for 2007 through 2009 will be $13.4 million versus $63 million of direct Maryland spending.

crew members who traveled to Maryland for a specific project for the work they did while on location here. These wages are subject to Maryland income taxes. Recently, the Maryland Film Office collected data on the value of these wages, which have averaged approximately 32 percent of total spending on local crew and actors and locally provided goods and services plus wages for non-residents for work done on location in Maryland. The impact of these wages on tax revenues generated for state and local government is significant. Given the recent availability of data on the value of these wages, Sage is confident of including them in an analysis of a prospective film incentive program.

Key information for in-state spending for a $4.5 million annual incentive program is summarized in Exhibit 4-3. Assuming an average effective rebate rate of 20 percent, total production spending in Maryland linked to this rebate value of $4.5 million would be $22.5 million. Based on the historic patterns of spending on local crew, local actors, hotels, and other general production expenses, this direct spending by film or television productions can be categorized as shown in Exhibit 4-3.

Exhibit 4-3. In-state spending on local crew and actors, hotel, and other expenses related to a $4.5 million Maryland film incentive program (dollars in millions)

Variable	*Value*
Budget for incentives	$4.5
Production rebate rate (effective) = 20%	20.0%
Production spending in Maryland	
Local crew	$7.9
Local actors	$1.8
Hotel	$1.8
General film production	$11.0
Total production spending in Maryland	$22.5
Source: Sage	

Using standard procedures for assessing the economic impacts of this production spending in Maryland, an estimate of over $45 million of sales for Maryland businesses would result from the direct film production spending (i.e. $22.5 million in direct film production spending and another $23.1 million in secondary spending). This total impact from the in-state spending of productions is summarized in Exhibit 4-4.

Exhibit 4-4. Multiplier effect of direct production spending in Maryland (millions)

Maryland	Sales for Maryland businesses
Direct production spending	$22.5
Indirect impacts	$15.9
Induced impacts	$7.1
Total impacts	$45.6
Sources: Sage, IMPLAN	

As noted above, productions in Maryland also pay wages to non-residents for work done while they are on location in Maryland. In recent years, the total value of these wages paid to non-Marylanders has equaled almost one-third of the total value of spending on local crew and actors and locally provided goods and services ($22.5 million) plus wages for non-residents for work done on location in Maryland ($10.7 million). This compensation is in addition to all compensation for local crew and actors and is subject to Maryland income tax. Exhibit 4-5 summarizes the estimated value of these wages for a $4.5 million film incentive program.

Exhibit 4-5. Wages paid to non-residents for work done in Maryland related to a $4.5 million Maryland film incentive program (dollars in millions)

Variable	*Value*
Production spending in Maryland for local crew and actors, local goods, and local services (1)	$22.5
Value of wages paid to non-residents for work done in Maryland (2)	$10.7
Total	$33.2

Note. (1) This is the same value as total production spending in Maryland shown in Exhibit 4-3.
(2) These wages are in addition to the local crew and local actors shown in Exhibit 4-3.
Source: MFO, Sage

As noted earlier in this report, residual income for Screen Actors Guild (SAG) members in the Washington-Baltimore Branch totaled approximately $4.5 million in 2004 and approximately $3.5 million in 2006, or an average of approximately $4 million annually. Because this income was reportedly earned overwhelmingly by Maryland members of SAG, this analysis assumes that an ongoing viable film industry in Maryland would generate approximately $2.7 million in residual income for Marylanders (i.e. two-thirds of the $4 million). This income would be in addition to the $18 million in income associated with production activities.

Exhibit 4-6 summarizes the fiscal impacts of a $4.5 million film incentive program in Maryland and $2.7 million in residual income for Marylanders, as described above. Income taxes are shown separately for three types of income.

- MD residents, production income. This is all income, including income from indirect and induced workers, that is derived from productions brought to Maryland because of the incentive program.
- Non- MD residents, production income. This is the income paid to non-residents for work done in Maryland for productions brought to Maryland because of the incentive program
- MD residents, residual income. This is the income Maryland residents receive as a result of work on Maryland productions in prior years that generate residual income.

Exhibit 4-6. Fiscal impacts of film production, residuals, and investments (thousands)

Type of tax	*Value of impact*
Corporate income taxes (1)	$182
Property taxes (1)	$434
Hotel occupancy taxes (1)	$110
Local income, MD residents, production income (2, 3)	$265
State income, MD residents, production income (2, 3)	$396
Local income, non-MD residents, production income (2, 3)	$133
State income, non-MD residents, production income (2, 3)	$507
Local income, MD residents, residual income (2, 3)	$61
State income, MD residents, residual income (2, 3)	$90
Sales tax by workers (2)	$313
Sales tax on direct purchases (2)	$20
Other taxes and fees (1)	$81
Total	$2,593

Notes. (1) Estimate from IMPLAN
(2) Estimate by Sage.
(3) Income for Maryland residents is assumed to be non-incremental and subject to deductions and reductions that lower taxable income. Tax estimates for Maryland residents are based on effective tax rates of 3.39 percent for state income and 2.27 percent for local income. Income for non-Maryland residents is assumed to be incremental to other income and tax estimates are based on the marginal rates of 4.75 percent for the state tax which applies to taxable income up to $200,000 for joint returns and $150,000 for single returns and the marginal rate of 1.25 percent for the local tax. According to the Maryland Comptroller, by law, the nonresident tax rate analogous to local income tax rates must equal the lowest local income tax rate paid by Maryland residents, currently 1.25 percent.

Exhibit 4-7 summarizes the taxes listed in the prior exhibit as either State or local taxes. Based on average property tax rates among Maryland jurisdictions, it is assumed that 90 percent of property taxes accrue to local government. Hotel occupancy taxes are also local taxes. State taxes constitute 62 percent of the total.

Exhibit 4-7. State versus local fiscal impacts of film production, residuals, and investments (thousands)

Type of tax	*Value of impact*
Local taxes	$960
Income	$459
Property taxes	$391
Hotel	$110
State taxes	$1,633
Total	$2,593

Exhibit 4-8 presents a total picture of the fiscal impacts of a film incentive program funded at $4.5 million annually. Fiscal impacts shown in the exhibit include all related impacts (i.e. direct, indirect, and induced impacts). The exhibit also addresses the question of how much of the $4.5 million program cost would be covered by these revenues. As shown, state and local tax revenues total $2.6 million and cover 58 percent of the $4.5 million cost of the program. State tax revenues alone cover well over one-third of the value of the incentives.

Exhibit 4-8. Fiscal impacts for an incentive program funded at $4.5 million

Source of impacts	*Tax revenues*			*Share of film incentive cost of $4.5 million covered by tax revenues*		
	State	Local	Total	State	Local	Total
Film production and residuals	$1,633	$960	$2,593	36.3%	21.3%	57.6%

The loss to Maryland were there no film incentive program

Given the number of states that have incentive programs and the likelihood that many of these programs will continue for the foreseeable future, the most likely consequence of Maryland not having an incentive program is that film and television production activities that might be attracted to the state would go elsewhere. Thus, the loss to the state would likely include all the impacts noted above for a $4.5 million film incentive program. Maryland has lost a substantial volume of this kind of production activity to other states with larger incentive budgets in recent years. If no funds were available, this pattern would presumably continue.

The Maryland crew base would shrink. Some members of this workforce would relocate to areas where they would find work. Others with skills that apply to other facets of the economy (e.g., electricians, carpenters) would presumably seek work in those areas.

Prospective losses are not theoretical. Exhibit 4-9 lists projects that were considering Maryland before deciding to locate elsewhere. The total value of these projects exceeds $500 million.

Exhibit 4-9: Prospects opting to shoot elsewhere, 2004-2007

Production Name	*Estimated Budget (millions)*	*Filmed In*
"The Beast"- TV Series - A&E	$30	Illinois
"Shelter"-Universal	$25	Pennsylvania
"Ricky Gervais film"- Independent	$20	Massachusetts
"The Box"- Independent	$20	Massachusetts (2007)
"Lovely Bones" – DreamWorks	$65	Pennsylvania (2007)
"Adventureland" – Independent	$10	Pennsylvania (2007)
"Passengers" - Mandate Pictures	$25	Canada (2006)
"Hairspray" - New Line	$65	Canada (2006)
"P2" - Summit Entertainment	$5	Canada (2006)
"Benjamin Button" – Paramount	$150	Louisiana (2006)
"Alice Upside Down" Independent	$3	Missouri (2006)
"Man of the Year" – Universal	$20	Canada (2005)
"Annapolis" – Disney	$20	Pennsylvania (2004)
Total	$508	

Source: Maryland Department of Business & Economic Development

5. Film incentive programs

In a time of fiscal constraints and budget cuts, it is important to take a long-term view. Nevertheless, the economy already shows signs of improvement. With that in mind, it is useful to look at the experiences of other states, to see where these programs have been successful and where they have not succeeded with the idea of gathering lessons that Maryland may want to apply in the future or simply understanding the larger context in which Maryland's film incentive program operates.

In 2002, New Mexico initiated a program of tax incentives for film production that has been a boon to generating film production activity in the state as well as a model for other states interested in attracting film and television production projects. At last count, over 40 states and the District of Columbia offered tax-related incentives based on production expenditures. Another seven states provided wage-related incentives or exemptions from sales or lodging taxes. In Canada, 10 provinces and territories offer tax credit or other financial incentives.

These incentives can come in the form of cash rebates, credits, and grants; they are sometimes transferrable and may have carry forward periods. When offered in the U.S., credits and rebates range from a low of 5 percent in Texas to 40 percent or more in Michigan. Both the average and typical (i.e.; median) value of these credits is 22 percent. Almost half the states with incentive programs--20 states in all--have rates pegged at 25 percent or more of local production costs including nine states that have rates of 30 percent or more. Canadian incentives are even more generous than those in this country. Six of the provinces and territories offer incentives at rates above 30 percent with five above 40 percent. The average incentive program in Canada offers refundable tax credits at 34 percent of production costs. Five Canadian programs have no project caps and only one has an annual funding cap.[11]

With over 40 states offering incentives for film and television productions, the availability of incentives is now an inherent part of the industry and the default position for states that wish to encourage the development of the industry within their borders. Incentives are even available in California, still the dominant center of film and television production in this country and New York, the second most common location for such production and the original locus of American film production until Cecil B. De Mille filmed *The Squaw Man* in Hollywood in 1913.[12] In addition, both San Francisco and New York City have incentive programs that provide incentives in addition to those at the state level.

Competition among states has become intense. If states seek to attract, maintain, or sustain film and television production activities, they must offer incentives. In addition, production

[11] Data on U.S. and Canadian programs is from the various state, provincial, and territory film offices as reported in Economics Research Associates, "Pennsylvania's Film Production Tax Credit and Industry Analysis," May 2009.
[12] Ephraim Katz, *The Film Encyclopedia, 5th Edition*, Collins, 2005.

technology grows increasingly sophisticated, particularly computer-generated imagery, diminishing the value of specific locations. If a film based in Alaska can be produced in Massachusetts, then the need to be "on location" is substantially reduced.[13] Unrelenting pressures for cost controls have combined with globalization to generate unexpected results such as the use of Romania as the location for filming *Cold Mountain*.[14]

In short, encouraging film and video production projects has become a highly charged arena in which presently Maryland competes with every other state and likely foreign locations. In this arena, incentives work. There is ample evidence that production companies respond to incentives in general and are sensitive to changes in incentives among states. In other words, the establishment of an incentive program can be shown to increase production activities in states with such programs. Similarly, states that increase incentives can be shown to increase production activities or recapture activities lost to competitor states.

<u>The effectiveness of incentives</u>

There is compelling evidence that incentives are successful in attracting film and television production activities. New Mexico, an early advocate of incentives, has been the location for over 115 major film productions since 2002 when its incentive program was first introduced.[15] In the nine months following Michigan's creation of one of the most generous incentive programs in the country, film productions spent $70 million in the state creating an estimated 1,102 full-time equivalent jobs with income of almost $54 million. A study by Michigan State University projected substantial growth in the industry in the next several years, supporting almost 3,000 full-time equivalent jobs by 2012 with associated total income of $190 million.[16] Other states report similar industry responses to incentives.

Another perspective on the effectiveness of incentives can be seen in the experiences of the two states most closely associated with the film industry. Since state incentive programs were established California has seen its share of features shot in the state decline from 66 percent in 2003 to 31 percent in 2008. In February 2009, despite facing a budget deficit larger than most state's total budgets, California's governor signed legislation that created the state's first tax credits for film and television productions.[17] In New York, an estimated $750 million in production activity was lost the year after Connecticut and Massachusetts established more

[13] Mary Ann O'Hair, Personal communications with Sage Research Associate, Joshua Lowery. August 28, 2009
[14] Ian Fisher, "Bucharest Journal: On Dracula's Terrain, an Infusion of New Blood," *New York Times*, July 22, 2003.
[15] Ernst & Young, "Economic and Fiscal Impacts of the New Mexico Film Production Tax Credit," January 2009.
[16] Stephen R. Miller and Abdul Abdulkadri, "The Economic Impact of Michigan's Motion Picture Production Industry and the Michigan Motion Picture Production Credit," Center for Economic Analysis, Michigan State University, February 6, 2009.
[17] California Film Commission.

generous incentive programs. New York subsequently increased it incentive from 10 percent to 30 percent and recaptured lost production activities.[18]

In addition to these overall effects of incentive programs, there is anecdotal evidence that the industry pays particular attention to incentives when making decisions about individual projects. Costs are considered the most important issue for a given production and the availability of incentives can trump a lack of infrastructure. There is an apparent willingness on the part of industry to work the incentive programs from state to state if it is to their advantage.[19] The production of *Annapolis* that was set to begin in Maryland's capital city moved to Pennsylvania because of the incentives available there.

<u>What incentives can accomplish</u>

In the past several years, a number of states have conducted studies of the impacts of their film and television incentive programs. The best of these studies, which have been conducted by outside consultants, state agencies, and academic organizations, have compared the costs of programs to associated economic and fiscal impacts. As noted in these studies, film incentive programs can have impacts in three principal areas although other impacts are possible.

Production impacts. The most direct and obvious impacts are those associated with the production activities attracted by the incentives. Productions hire many, sometimes hundreds, of local residents as actors and members of the production crew, goods and services are purchased from local vendors. As with direct hires, the number of local vendors used by productions can run into the hundreds for goods and services ranging from tutors for child actors to lumber for sets. Non-local production personnel generate volumes of business for the hospitality industry--hotels, restaurants, and the like. This hiring and purchasing creates and supports jobs, income, and sales by local businesses, generating a range of state and local tax revenues.

Infrastructure impacts. If the volume of production activity reaches a significant level, investment in local infrastructure for production or post-production activities may occur. Sound stages, editing facilities and other structures have been built in various states as their production activities reach a critical mass. These investments can range from the relatively modest $1.25 million additional investment in an existing facility in North Carolina in 2007 to the $115 million spent on construction and equipment purchases in New Mexico in 2007.[20]

In the short-run, these investments tend to generate construction jobs and other economic and fiscal impacts. In the longer run, the expansion of a state's production infrastructure allows a

[18] Ernst & Young, "Estimated Impacts of the New York State Film Credit," February 2009.
[19] Mary Ann Hughes, vice president of Production Planning, Disney, personal communications with Sage Research Associate, Joshua Lowery. August 28, 2009
[20] Ernst & Young, "Economic and Fiscal Impacts of the North Carolina Film Credit Program," June 2009. Ernst & Young, "Economic and Fiscal Impacts of the New Mexico Film Production Tax Credit," January 2009.

wider range of film-related activities to occur within its borders, extending the multiplier effect of the original production activity.

In addition to direct entertainment production payrolls and expenditures, the motion picture and television industry actively invests in infrastructure and facilities that have a positive effect on community development and local real estate markets. A report issued in April 2009 by the Motion Picture Association of America listed the following examples of such capital projects.[21]

- The multi-million dollar film and TV studio, Tyler Perry Studios, opened in Atlanta, Georgia in October 2008. The 30-acre studio features over 200,000 square feet of studio and office space, including five soundstages.

- The $45 million Celtic Media Centre, being constructed on a 20-acre lot in Baton Rouge, Louisiana, includes 11,000 square feet of stage space, 6,000 square feet of office space, and 4,000 square feet of post-production space. Raleigh Studios Baton Rouge, housed in the Celtic Media Centre, is also constructing a new studio.

- Construction on Norristown Studios at Logan Square in Norristown, Pennsylvania is expected to be completed in 2009. The 280,000 square-foot production facility will have eight sound stages, post-production facilities, and 180,000 square feet of support space, including a vocational school to be used by local universities.

- Spiderwood Studios, being constructed on 200 acres in Bastrop, Texas, to include facilities for set and prop design and construction, sound stage, production offices, and back lot, was close to finishing the first phase of construction in December 2008.

- EUE/Screen Gems Studios in Wilmington, North Carolina broke ground on a new 37,500 square-foot sound stage (Stage 10) on its 50-acre studio lot in September 2008. Stage 10 will feature a 60-foot-by-60-foot indoor water tank.

- Nu Image/Millennium Films broke ground on a new studio in Shreveport, Louisiana in April 2008. The Millennium-Ledbetter Film Studio, which will be built on 6.7 acres and will eventually expand to 20 acres, will accommodate up to six productions and employ up to 500 production personnel.

- The G-Star School of the Arts for Motion Pictures and Broadcasting in West Palm Beach, Florida, which has a motion picture studio on campus where over 20 feature films have been produced, is building an $8 million sound stage to be completed in Fall 2009.

Tourism impacts. In a celebrity-oriented culture, it is not surprising that locations associated with popular films and television shows experience surges of interest from tourists. Iowa's experience with *Field of Dreams* and *The Bridges of Madison County*, both of which created a remarkable and sustained interest in what had previously been a non-existent tourist destination

[21] *Op. cit*., Motion Picture Association of America.

and a very modest destination, respectively, represent frequently cited examples. This phenomenon, however, extends to many other states and many productions. In Maryland, *The Blair Witch Project*, a 1999 indie film, spawned a wave of tourists and after 10 years still generates enough interest to sustain dozens of web sites, tours of Burkittsville, and other tourist-oriented businesses. John Waters and Barry Levinson have made very different types of films that have had the effect of raising the visibility of Baltimore for the millions who have seen these films. The 2005 film *Wedding Crashers* generated a surge of interest in the Inn at Perry Cabin as a destination wedding venue; interest that was still apparent years after the film's release. Talbot County estimated that *Wedding Crashers* and *Failure to Launch*, the latter filmed in Oxford, created an estimated $7.5 million in economic impact for the county.

Although less obvious than impacts tied directly to production activities, tourism impacts can result and have resulted from film and television production. Academics have examined these effects at least since the 1990s with early research documenting increased and sustained interest in specific locations used in iconic films.[22] Interest in the ties between tourism and film and television is international as tourism officials have capitalized on films and television to generate interest in locations as disparate as the mountains of New Zealand (*The Lord of the Rings*), Yorkshire, England (*All Creatures Great and Small*), and the Burgundy region of France (*Chocolat*). While academics indicate need for more research, they have found substantial support for the power of film and television to support the creation or re-creation of brands for destinations.[23] Academic research has indicated that film-induced tourism is a growing segment of the overall tourist market.[24]

Other impacts. Successful television shows and films can generate a stream of income for those with significant participation in the productions. This residual income is derived, for example, when films are shown on television or released on DVDs or when television shows go into syndication. In 2004, residual income for Screen Actors Guild (SAG) members in Washington-Baltimore Branch totaled approximately $4.5 million and in 2006 was approximately $3.5 million. According to a SAG official, this income was overwhelming earned by Maryland members given the nature of the film and television work done in that period in the areas covered by the branch (i.e. the District of Columbia, Maryland, Virginia, and West Virginia).[25]

Film and television productions that are drawn to states by incentives are also a vital source of income to a diverse set of workers known as the crew base. These workers provide the very

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[22] Roger Riley, Dwayne Baker, and Carlton S. Van Doren, "Movie induced tourism," *Annals of Tourism Research*, Volume 25, Number 4, 1998.
[23] Noelle O'Connor, Sheila Flanagan, and David Gilbert, "The Integration of Film-induced Tourism and Destination Branding in Yorkshire, UK," *International Journal of Tourism Research*, 10, 2008.
[24] S. Hudson and J.R.B. Ritchie, "Promoting Destination via Film Tourism: An Empirical Identification of Supporting Marketing Initiatives," *Journal of Travel Research*, 44 (May) 2006.
[25] Jane Love, Assistant Executive Director, Washington-Baltimore Branch, Screen Actors Guild, personal communication with John Duberg, Sage Policy Group, October 13, 2009.

wide range of services that may be required by a given production--including, but not limited to construction, props, set dressing, wardrobe, grips, electric, special effects, and sound. As is true in any business requiring a highly skilled and complex workforce, the local availability of a crew base is a major factor contributing to the attractiveness of any prospective location for a film or television production.

According to the business agent for the International Alliance of Theatrical Stage Employees (IATSE), the union crew base in Maryland numbers approximately 700 workers. These workers derive their income from several sources: 30 to 40 percent is from contracts with the types of film and television productions eligible for incentives; another 30 to 40 percent is from similar types of work in Maryland (e.g., commercials, corporate video productions) not eligible for incentives, and remaining income from other work. This last category may include other entertainment venues (e.g., the Baltimore Symphony, Arena Stage, the Hippodrome) or similar work for other types of clients (e.g., catering services to corporate clients). The crew base will also work on projects outside of Maryland if that work is available. An estimated 20 percent to 25 percent of Maryland's crew base is either working out of the state (e.g., a crew of 25 was working in Massachusetts in October 2009) or is in the process of relocating to other areas where work is more plentiful. The availability of work in other states coupled with the relative scarcity of work in Maryland in recent years has created a precarious situation where the Maryland crew base is considered endangered.[26] Thus, one impact of incentive programs can be sustaining a crew base that in turn becomes a reason for choosing one prospective location over another.

Evaluations of existing programs

A handful of states have recently evaluated their programs using outside consultants, academics, and state agencies to conduct these studies. Many of these studies looked at experiences for fiscal year 2007 or another single year, but some have a longer-term perspective.

Although there are only a few evaluations that look at both the costs and benefits of incentive programs, the evaluations indicate that a few programs have been able to generate benefits that cover most or all program costs while others have not.

Even those evaluations that have looked at both costs and benefits have not consistently addressed the same issues. While most evaluations have measured program costs in a consistent manner, some studies have looked at only the benefits (measured in tax revenue generated) directly associated with film or video production activities. Others have included benefits associated with infrastructure investment and/or tourism activities linked to film and video productions. In at least one case, Louisiana, the omission of infrastructure-related benefits can

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[26] Rosemarie Levy, business agent, Mid-Atlantic Studio Mechanics & Broadcast Technicians, International Alliance of Theatrical Stage Employees, Moving Picture Technicians, Artists and Allied Crafts, personal communication with John Duberg, Sage Policy Group, October 13, 2009.

be explained by the fact that the state has a separate incentive program for infrastructure investment. Comparing evaluations across states is, therefore, something of an apples and oranges problem. Not surprisingly, those evaluations that looked at a broader range of activities (i.e. production, infrastructure investment, tourism) tended to find more benefits than those that only examined the impacts of production activities.

Some states have been able to demonstrate that their programs "pay for themselves" in the sense that state taxes generated as a result of the incentive program have essentially equaled or exceeded the cost of the incentives themselves. New Mexico, New York, and North Carolina fall into this category.

- New Mexico is one of the first states to create an incentives program and has presumably benefited from its early adopter status. In 2007, film productions spent $252 million in the state with $198 million qualifying for incentives, which cost the State $47 million. That same year, the film industry invested $115 million in infrastructure (facilities and equipment). According to a survey of the state's tourists, 5.5 percent of overall tourism spending ($161 million) was directly related to film productions and locations in the state. These activities gave rise to $44 million in tax revenue ($22.6 million from film production activities, $5.6 million from infrastructure investment, $15.9 million from tourism spending). An additional $26.4 million was generated in local taxes;
- New York has recently increased its credit to 30 percent to respond to increased competition from nearby states. An analysis of the 30 percent credit applied to 2007 production activities in the state indicated that a total of $209 million in State tax revenues were generated while the incentives provided by the program cost the State $184 million. Although the analysis indicated that the incentive program was encouraging additional investment in production and post-production facilities, State tax revenue were based only on production activities. The extensive network of such facilities, however, results in a greater multiplier effect in New York as a substantial share of the related goods and services required to finish film and television productions are available in the state. New York City also provides film incentives, which cost $31 million in 2007 and resulted in City tax revenues of $195 million. The analysis did not consider any benefits from tourism related to film and television production activities, but noted the Mayor of New York's belief in the importance of this industry to the city's tourism.
- North Carolina created a 15 percent film credit in 2006 and the program was evaluated in 2007. In that year, incentive-related spending in the state totaled $228 million with $154 million qualifying for credits. The discounted value of the resulting incentives, paid out over several years, was $22 million. Film production (particularly *Nights in Rodanthe*) generated an estimated $20 million in tourism spending. In addition, the industry invested $1.3 million in facilities and other infrastructure. As a result, tax receipts for the

State totaled $21.5 million ($18.8 million from production activities, $2.7 million from tourism).

The results for these programs are summarized in Exhibit 5-1. The exhibit illustrates the proposition that film incentive programs can "pay for themselves".

Exhibit 5-1. Film incentive programs in New York, North Carolina, and New Mexico (millions)

Factor	*New York*	*North Carolina*	*New Mexico*
Cost of state incentives	$184.4	$22.0	$47.1
Cost of local (NYC) incentives	$30.7	N.A.	N.A.
State fiscal impacts	$208.7	$21.5	$44.1
Local fiscal impacts	$195.3	$7.1	$26.4
Reported ROI for state impacts	**110%**	**98%**	**94%**
Reported ROI for state and local impacts	**190%**	**130%**	**150%**

Other states have generated production activity, but have much lower returns on the investments in incentives as documented in various reports (see References at the end of this report for a listing of reports on state incentive programs).

- Louisiana, like New Mexico, was an early adopter of film incentive programs. Until its recent announcement of increasing its credit rate to 30 percent, the State maintained a 25 percent credit rate. Importantly there have been no caps on credits for individual projects or the program as a whole. In terms of attracting productions the program has been quite successful. Through 2008 the incentive program had brought 185 projects to the state. In 2007, in-state expenditures for projects were an estimated $429 million. This activity has reportedly drawn businesses to Louisiana and sparked the creation of other businesses, all of which have improved the state's infrastructure that supports film and television production. Following the increased activity from the film and television industry, Louisiana expanded its incentive program to cover the sound recording and digital media industries. Louisiana has a separate program providing tax incentives for film/television and music infrastructure;
- In Pennsylvania, 25 percent tax credits are available with caps of $15 million per project and $42 million in annual spending in FY10 (cut from $75 million). In FY11, this cap will increase to $60 million;
- Since late 2005, Massachusetts has offered credits and production activities have accordingly increased dramatically over the next three years. These credits are transferrable and 90 percent of the $166 million in credits issued in 2006 through 2008 were sold to third parties.

The results for these programs are shown in Exhibit 5-2. For Louisiana, the data reflect totals for the years 2005 through 2007. Fiscal impacts for Louisiana are solely based on production incentives and activities and do not include any fiscal impacts from infrastructure investment or related tourism. The State's separate infrastructure incentives program also results in ROI ratios that are quite low. For Pennsylvania, the fiscal impacts combine State and local effects; these effects do not consider any infrastructure investments or the impacts of tourism. The Massachusetts data cover the years 2006 through 2008 and do not consider any infrastructure investments or the impacts of tourism.

Exhibit 5-2. Film incentive programs In Louisiana, Pennsylvania, and Massachusetts (millions)

Factor	*Louisiana*	*Pennsylvania*	*Massachusetts*
Cost of state incentives	$269.0	$58.2	$166.3
State fiscal impacts	$34.2	$17.9	$26.0
Local fiscal impacts	$18.1		N.A.
Reported ROI for state impacts	**13%**	N.A.	**16%**
Reported ROI for state and local impacts	**19%**	**31%**	N.A.

Although not detailed above, an analysis of state film incentive programs by the Department of Legislative Services found similar ROI ratios for programs in Connecticut and Michigan.[27] Both states are generally considered to have aggressive and generous programs with rates of tax credit ranging from 30 percent (Connecticut) to 40 percent or more (Michigan). Not surprisingly, these states have attracted substantial interest and production activity, but also, as noted below, second thoughts by elected leaders.

Trends

Film incentives are in a state of flux. The combination of highly intense competition for film and television projects and the battering of state government budgets during the economic downturn have produced a range of responses that are contradictory and point to little or no consistency in trends.

A number of states have cut back or have considered cutting back on these programs. Still other states have chosen to establish or expand programs in recent months. A number of these actions or proposed/considered actions are noted in Exhibit 5-3.

Exhibit 5-3. Recent film incentive actions and proposed/considered actions by states

State	*Action*
Iowa	Suspended its program after reports of irregularities and poor recordkeeping
Wisconsin	Legislature capped program at $3 million annually after which the governor lowered the cap to $500,000
Michigan	Governor has proposed cutting back on the credit program, but has taken no action to date.

[27] Robert J. Rehrmann, "Fiscal and policy note. Income tax - film production activity credit," Department of Legislative Services, Maryland General Assembly, 2009 Session.

Exhibit 5-3. Recent film incentive actions and proposed/considered actions by states (continued)

State	Action
Connecticut	Following criticism that the program was not paying for itself, the legislature and governor have debated or called for an annual cap on expenditures but have yet to make program changes.
Massachusetts	Commissioner of Revenue estimated that only 16 percent of subsidized wages were earned by state residents and that most tax credits were sold to third parties. To date no program changes have been reported.
Ohio	In July 2009, established its first film tax incentive program, which provides credits equal to 25 percent of non-wage and nonresident wage production expenditures in the state and 35 percent of Ohio resident wage production expenditures. A wide range of activities are eligible for these incentives including films, documentaries, interactive Web sites, videogames, any format of digital media, and many other activities
Texas	Claiming that the state had lost 7,000 crew positions and $500 million in production spending to nearby states with more competitive film incentives, substantially increased its incentive program in April 2009. The expanded program has a wide range of credit rates for incentives, but can offer rates approaching 30 percent for the productions spending over $5 million in certain areas of the state
Louisiana	Despite already being one of the most generous states, recently increased its incentive to 30 percent for in-state expenditures for film productions and also offers an added 5 percent labor tax credit on the payroll of Louisiana residents
North Carolina	Recently announced that its film tax credit would increase to 25 percent as of January 1, 2010
California	In February 2009, the governor signed legislation creating tax credits for film and television productions. Incentives are 20 to 25 percent of qualified expenditures. The program was funded at an annual cap of $100 million from fiscal year 2009/2010 through fiscal year 2013/2014

Although a few states are clearly reducing the scope of their incentive programs, others are expanding either the available benefits or creating new programs altogether. Given the sensitivity of film and television production companies to the availability of incentives, the net effect of these opposing tendencies appears to be that incentives are still a deal maker/breaker for many productions. For example, two productions with an estimated total in-state expenditure of $41 million that recently considered Maryland chose to work in Georgia because of the availability of incentives in Georgia that were not available in Maryland. Based on similar projects in Maryland, and noted below, these two productions were estimated to have been able to provide employment to several hundred members of the state's crew base and to have been able to generate business for hundreds of Maryland vendors The television series wanted a 5-year commitment from Maryland at $6 million to $8 million annually despite the fact that the series itself had no guarantee of lasting that long.[28]

Incentive programs have tended to grow more generous over time, often making it more difficult for fiscal impacts to keep pace with outlays for incentives. North Carolina has recently announced an increase its incentive program to meet competition from other states, but an analysis of the state's program projects lower returns on investment for a more generous program.[29]

Longer-term programs appear to develop critical mass for the industry in associated states, which in turn increases relative benefits. Louisiana, New Mexico, and to a lesser extent North Carolina have relatively long histories of production activity and have experienced significant investment in production facilities. These facilities enhance each state's capabilities and attractiveness while also increasing fiscal and economic impacts by creating more opportunities to capture the business created by production activities (for example, post-production editing). Indeed, the infrastructure projects noted above in Georgia, Louisiana, Pennsylvania, Texas and North Carolina stand to have just this type of impact on those state's economies.

Longer-term involvement in production activities also increases the likelihood that film and television induced tourism will create benefits. A survey of tourists visiting New Mexico has found that a small, but measurable, portion of tourism activity (just over 5 percent) is directly linked to recent film productions (e.g., *No Country for Old Men, 3:10 to Yuma, Wild Hogs*).

Section review

Film incentive programs are of relatively recent origin, but have quickly gained favor as the overwhelming majority of states offer tax credits or rebates, typically at rates of 20 percent or more of the value of in-state expenditures. Recently, some states have reconsidered these programs and have reduced, sometimes drastically, the funding available for incentive programs. On balance, however, there appears to be a large pool of incentive programs available to support virtually any kind of film or television production.

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[28] Jack Gerbes, Maryland Film Office, personal communication with Josh Lowery, Sage Policy Group, October 16, 2009. More specific data on the two productions follows.

Network Television Series	Feature Film
Shoot days: 88	Shoot Days: 45
Estimated spend: $26 million	Estimated spend: $15 million
Estimated rebate: $6.5 million	Estimated rebate: $3.75 million
Maryland crew of similar size series: 364	Maryland crew of similar size film: 259
Maryland vendors of similar size series: 672	Maryland vendors of similar size film: 379

[29] Ernst & Young, "Economic and Fiscal Impacts of the North Carolina Film Credit Program," June 2009

These programs are consistently able to attract production activities as companies seek the best financial deals possible. As production moves to where the incentives are, the crew base follows. Initially, crew base members may relocate temporarily for a given production. If a continuing stream of productions is centered in a given state, there is a greater likelihood that the crew base will relocate permanently.

6. Ties to Maryland colleges, universities

There are at least 30 colleges, universities, and other post-secondary institutions in the state that offer programs related to film and video production. In addition, over two-dozen Maryland secondary schools offer programs related to radio and television, media production and technology, and other media coursework. A list of all these institutions is in the Appendix to this report.

The courses and programs range widely from those with clear ties to the types of film and television productions that the MFO seeks to attract to Maryland to more academically oriented programs in film studies. A few programs are geared towards computer and video games or the casino/gaming industry.

While there are no comprehensive data on the number of graduates who have focused their studies in these programs, the presence of over 50 secondary and post-secondary institutions that can offer their students offerings that are oriented towards films and television suggests that there may be hundreds of graduates each year. As noted, earlier in this report, just over 9,000 are employed in the film, television, and cable industry in Maryland.

Not surprisingly, the Bureau of Labor Statistics in its description of the job outlook for Television, Video, and Motion Picture Camera Operators and Editors, has found

> [k]een competition for jobs is expected due to the large number of people who wish to enter the broadcasting and motion picture industries, where many camera operators and editors are employed. Those with the most experience and the most advanced computer skills will have the best job opportunities.[30]

As noted above, the types of projects that the MFO draws to the state tend to use a large number of vendors and tend to hire hundreds of members of the local crew base. These productions represent a substantial opportunity for the graduates of Maryland's school to work in the industry. Not only do these productions provide employment opportunities for recent grads, they provide internship, mentoring, workshop and networking opportunities for current students. In addition, these productions also hire a large number of local actors and extras. Over the past several years, the typical film or television project in Maryland hired over 600 local actors and (mostly) extras.[31]

Thus imported productions create opportunities for graduating students that probably exceed the opportunities created by the indigenous film and television industry in Maryland. As described

[30] *Op. cit., Occupational Outlook Handbook, 2008-09 Edition.*

[31] Data on 22 projects supported by the MFO since fiscal 2002 indicate that the median number of local actors and extras hired by the production was over 660 individuals. These same data indicated that the median number of local hires for the crew was 195.

above, the indigenous film and television production industry in the state includes about 5,200 workers. If the expansion of the industry in Maryland is similar to that of the nation as a whole, it is likely that new opportunities will be limited, perhaps a 1 percent annual growth in total jobs (about 50 jobs per year), plus turnover in the current workforce. Although imported film and television productions tend by their very nature to be short lived, the large number of local hires that typifies the industry can create many more opportunities for work for new graduates than the indigenous industry will ever be likely to create. In the absence of these opportunities it is likely that graduates will move to where the jobs are likely to be - California, New York, or other states with robust film incentive programs.

Methods for determining impacts

The economic activity created by film and television productions generates a multiplier effect that extends throughout the economy of the State of Maryland and expands the benefits created directly by the production. In the language of economics, these additional economic activities are termed the indirect and induced effects of the jobs, income, and sales generated by the film and television production activities. The jobs created by a film production, for example, are considered a direct effect. Indirect effects occur when the film production purchases goods and services from firms in Maryland. The production purchases everything from light bulbs to security services from local vendors. In turn, these suppliers will buy office supplies and accounting services among many other items from other local firms. In its totality this succession of purchases by suppliers and suppliers of suppliers creates the indirect effect.

The wages received by those employed by the productions and of the succession of suppliers that is linked to production activities create induced effects. These wages are spent in Maryland for a very broad range of consumer purchases from housing and groceries to entertainment and birthday gifts. The economic activity associated with these purchases is the induced effect.

These direct, indirect, and induced effects can be measured along three dimensions: employment (measured in full-time and part-time jobs), income (measured in dollars), and business sales of goods and services (measured in dollars). These effects are estimated using proprietary software and a computer model created for this analysis.[32]

<u>IMPLAN</u>

IMPLAN is an economic impact assessment software system. The system was originally developed and is now maintained by the Minnesota IMPLAN Group (MIG). It combines a set of extensive databases concerning economic factors, multipliers and demographic statistics with a highly refined and detailed system of modeling software. IMPLAN allows the user to develop local-level input-output models that can estimate the economic impact of new firms moving into an area as well as the impacts of professional sports teams, recreation and tourism, and residential development. The model accomplishes this by identifying direct impacts by sector, then developing a set of indirect and induced impacts by sector through the use of industry-specific multipliers, local purchase coefficients, income-to-output ratios, and other factors and relationships.

There are two major components to IMPLAN: data files and software. An impact analysis using IMPLAN starts by identifying expenditures in terms of the sectoring scheme for the model. Each spending category becomes a "group" of "events" in IMPLAN, where each event specifies the

[32] The analysis is based on software and data created by the Minnesota IMPLAN Group, Inc. IMPLAN has become the industry standard for the kind of input-output analysis conducted for this project.

portion of activity allocated to a specific IMPLAN sector. Groups of events can then be used to run impact analysis individually or can be combined into a project consisting of several groups. Once the direct economic impacts have been identified, IMPLAN can calculate the indirect and induced impacts based on a set of multipliers and additional factors.

Economic benefits principally take the form of new employment opportunities, associated income and augmented business sales. These economic benefits include both direct benefits, which are closely associated with the activities that take place at XXXXX, and secondary benefits that are associated with foreseeable and calculable multiplier effects.

Secondary benefits can be segmented into two types of impacts, indirect and induced. Indirect benefits are related to the business-to-business transactions that take place due to increased demand for goods and services that accompany augmented investment and business operations. Impacted businesses sell everything from office furniture and copiers to computer and graphic design services. Induced benefits are created when workers directly or indirectly supported by increased economic activity spend their earnings in the local economy. Indirect and induced benefits together comprise total multiplier effects.

The hallmark of IMPLAN is the specificity of its economic datasets. The database includes information for five-hundred-and-twenty-eight different industries (generally at the three or four digit Standard Industrial Classification level), and twenty-one different economic variables. Along with these data files, national input-output structural matrices detail the interrelationships between and among these sectors. The database also contains a full schedule of Social Accounting Matrix (SAM) data. All of this data is available at the national, state, and county level.

Another strength of the IMPLAN system is its flexibility. It allows the user to augment any of the data or algorithmic relationships within each model in order to more precisely account for regional relationships. This includes inputting different output-to-income ratios for a given industry, different wage rates, and different multipliers where appropriate. IMPLAN also provides the user with a choice of trade-flow assumptions, including the modification of regional purchase coefficients, which determine the mix of goods and services purchased locally with each dollar in each sector. Moreover, the system also allows the user to create custom impact analyses by entering changes in final demand. This flexibility is a critically important feature in terms of the Sage proposed approach. Sage is uniquely qualified to develop data and factors tailored to this project, and, where appropriate, overwrite the default data contained in the IMPLAN database.

A final advantage of IMPLAN is its credibility and acceptance within the profession. There are over five hundred active users of IMPLAN databases and software within the federal and state governments, universities, and among private sector consultants. The following list provides a sampling of IMPLAN users.

Glossary

Economic impacts. As noted above, economic impacts are typically measured in terms of employment or jobs, of the income associated with those jobs, and of the sales enjoyed by businesses.

Establishments. According to the Bureau of the Census, an establishment is a single physical location at which business is conducted or where services or industrial operations are performed.

Fiscal impacts. These impacts can include taxes, fees, and other revenue that is collected by governments at all levels. While the potential range of taxes, fees, and revenues is very wide, most impacts are measured in terms of major sources of government revenue, for example, personal and corporate income taxes, property taxes, and sales and use taxes.

Imported film and television industry. This refers to production activities that are focused on a single film or television show or series. Typically, the key workers (e.g., the director) are not based in Maryland and have control over where production activities occur. These activities are essentially imported into Maryland from elsewhere and cease after the particular project is completed. For films the duration of activities in Maryland may be as little as a few days while a television series may be on location for many months a year and may return for several years if the series proves successful.

Income. As used in this report, income impacts refer to wages, salaries, and other employee compensation and proprietors' income. The latter is income earned by those who are self-employed, a category of workers important to film and television production.

Indigenous film and television industry. This refers to film and television production activities that are permanently based in Maryland. Local programming by local television stations would fall under this category as would the production of many or most commercials for Maryland companies.

Jobs. Employment impacts are measured in terms of a mix of full-time and part-time jobs lasting for a one-year period. Jobs connected to the types of film and television projects that the Maryland Film Office attracts are typically limited to the length of time the production activities endure in the state. For a member of the crew base, employment is often a series of such time-limited jobs.

Sales, business sales. As used in this report, business sales impacts refer to the revenues received by businesses from the sale of goods and services. Tax revenue received by government is specifically identified as tax revenue or fiscal impacts.

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Appendix

Incentive Programs

Exhibit A-1. Incentive Programs in United States and Canada

State	*Type of Incentive*	*Benefit*	*Cap/Project (mil.)*	*Total Cap (mil.)*
Alabama	Refundable income tax credit	25% of qualified spending (excluding payroll to residents) and 35% of all payroll to residents	N/A	7.5
Alaska	Transferable tax credit	30% of qualifying production local spending	N/A	100
Arizona	Transferable income tax credit	30% of qualifying production local spending	8	60
Arkansas	Rebate	15% of qualifying local spending	N/A	N/A
California	Non-transferable income tax credit	20% to 25% of qualifying local spending	N/A	100
Colorado	Cash rebate	10% of qualifying local spending	N/A	3
Connecticut	Transferable production expense credit	30% of production expenses with phase out of those incurred outside the state and used within; 10% to 20% of qualifying infrastructure investments; 30% of qualifying digital animation production costs		
District of Columbia	Rebate	The lesser of 10% of qualified spending, or 100% of the sales and use taxes paid to DC on qualified expenses	N/A	1.6
Florida	Cash rebate	15% of qualifying local spending		10.8
Georgia	Transferable tax credit	20% of the "base investment" in the state, plus 10% if the qualified production activities include a "qualified Georgia promotion"	N/A	N/A
Hawaii	Refundable income tax credit	20% of qualifying spending; 15% if at Honolulu County	8	N/A
Idaho	Rebate	20% of qualified production's expenses	0.5	N/A
Illinois	Transferable tax credit	30% of qualifying local spending	N/A	N/A
Indiana	Refundable tax credit	Up to 15% of qualified production expenditures	N/A	5
Iowa	Transferable tax credit	25% of qualified spending, and 25% of investment in registered projects; income exclusion for "domestic vendors	1	N/A
Kentucky				
Louisiana	Partially refundable, transferable tax credits	30% of qualifying local spending including the payroll for residents and non-residents, and 10% of resident payroll if less than or equal to $1 mil.	N/A	N/A
Maine	Wage rebate (and non-refundable tax credit for investment in certified media productions	10% on non-residents; 12% on residents	N/A	N/A
Maryland	Cash rebate	25% of qualifying local spending	N/A	1
Massachusetts	Partially refundable, transferable tax credit	25% of payroll in the state (excluding persons paid $1 mil. Or more)	N/A	N/A

State	*Type of Incentive*	*Benefit*	*Cap/Project (mil.)*	*Total Cap (mil.)*
Michigan	Refundable and transferable business tax credit; non-refundable, transferable infrastructure investment tax credit	42% of qualifying direct production spending in "core communities" or 40% of direct production spending in other locations; 30% of qualified personnel spending; 25% infrastructure investment tax credit		20
Minnesota	Cash rebate	15% to 20% of qualifying local spending	N/A	1.25
Mississippi	Cash rebate	20% of qualifying local spending; 20% of payroll paid to non-residents and 25% of payroll paid to residents	8	20
Missouri	Transferable tax credit	35% of qualifying local spending (excluding compensation to persons earning $1 mil. or more	N/A	4.5
Montana	Refundable tax credit	14% of residents' wages; 9% of qualifying local spending	N/A	N/A
Nebraska				
New Jersey	Transferable tax credit	20% of qualifying local spending and qualified digital media production spending		10
New Mexico	Refundable tax credit	25% of qualifying local spending	5	N/A
New York	Refundable tax credit	30% of qualifying production local spending	N/A	75
North Carolina	Refundable tax credit	15% of qualifying local spending	7.5	N/A
Ohio	Refundable tax credit	25% to 35% of qualifying local spending	5	10 - 20
Oklahoma	Cash rebate	5% to 15% of qualifying local spending	N/A	5
Oregon	Cash rebate	Up to 16.2% of wages paid; 20% of qualifying local goods/services	N/A	5
Pennsylvania	Transferable tax credit	25% of qualifying local spending	15	42
Puerto Rico	Transferable tax credit	40% of qualifying local spending; for infrastructure projects, the lesser of 40% of the cash investment or 20% of the budget		15
Rhode Island	Transferable tax credit	25% of qualifying spending	N/A	15
South Carolina	Cash rebate	20% of all wages; 30% of qualifying local spending	N/A	10
Tennessee	Grant and refundable credit	13% to 17% of qualifying local spending; 15% refund for qualifying local headquarters	N/A	12
Texas	Grant	5% to 15% of qualifying local spending or 8-25% of wages paid to Texas residents	N/A	N/A
Utah	Refundable tax credit and cash rebate	20% of qualifying local spending	0.5	10
Virginia	Cash rebate	Discretionary cash rebate	N/A	0.2
Washington	Cash rebate	30% of qualifying local spending	N/A	3.5
West Virginia	Transferable tax credit	27% of qualifying local spending and an additional 4% if 10% or more residents employed full time, for a maximum of 31%	N/A	10
Wisconsin	Refundable production expenditure credit and non-refundable resident employee payroll credit	25% of qualifying local spending (excluding the two highest paid employees' wages)	N/A	N/A
Wyoming	Cash rebate	12-15% of qualifying local spending	N/A	2
Canada	Refundable tax credit	16% of qualifying Canadian labor expenditures	N/A	N/A

State	*Type of Incentive*	*Benefit*	*Cap/Project (mil.)*	*Total Cap (mil.)*
Alberta	Cash Grant	14-23% of qualifying Alberta spending	C$1.5	C$34
British Columbia	Refundable tax credit	25% of qualifying Brit. Columb. Labor expenditures	N/A	N/A
Manitoba	Refundable tax credit	45% of qualifying Man. Labor expenditures	N/A	N/A
New Brunswick	Refundable tax credit	40% of New Brun. labor expenditures		N/A
Newfoundland and Labrador	Refundable tax credit	40% of qualifying Newf.-Lab. Labor expenditures		
Nova Scotia	Refundable tax credit	50% of qualifying Nova Sc. Labor expenditures		N/A
Ontario	Refundable tax credit	25% of qualifying Ontario labor expenditures	N/A	N/A
Quebec	Refundable tax credit	25% of qualifying Quebec labor expenditures	N/A	N/A
Saskatchewan	Refundable tax credit	45% of qualifying SasK. Labor expenditures		N/A
Yukon	Labor, travel, and training rebates	35% of qualifying Yukon labor expenditures		N/A
*N/A refers to Not Applicable				

Maryland School Programs

Towson University: Mission Statement for Electronic Media and Film

- To develop the dreams and open the minds of students preparing them for a creative life in the film and electronic media arts.
- Careers in Major:
  - EMF major provides specific training for careers in Film, Television/Video, Broadcast Journalism, Audio/Radio, and Corporate Communications.
  - Graduates are employed in many areas of media such as:
    - scriptwriter, television series Homicide
    - director of photography, Blair Witch Project
    - news director, WBAL radio;
    - television documentary producer
    - web page designer, National Public Radio
    - film and television editor
    - feature film set dresser
    - director, MicroCineFest film festival

McDaniel College- Film & Video Studies Minor

- "The only hardware that doesn't become obsolete every six months: The human brain and the human heart."
- Filmmaking apprenticeship: spend a semester writing and directing 30+ minute digital video featurettes (fiction or documentary) during their senior capstone experience.
  - Screened at VideoPalooza festival.
- School transformed Biology computer lab into a fully functioning TV studio that is features on-air areas, a control room, edit and production suites, and specialty edit suite where film apprentices will work on their senior capstone projects.

Maryland Colleges and Universities with Programs related to Film and the Arts

- Anne Arundel Community College- Film Studies
- Bowie State University- Communications Media
- Broadcasting Institute of Maryland
- Cecil College- Visual Communications
- College of Notre Dame- Communication Arts
- College of Southern Maryland- Theatre, Communications
- Columbia Union College- Communications (broadcasting, graphic art, media studies)
- Coppin State University- Entertainment Management (Motion Picture, Television & Video Entertainment, Music Entertainment, Casino & Gaming Entertainment)
- Frostburg State- Film Study, Theatre, Art & Design
- Goucher College- Communication's, Media Studies
- Harford Community College- Fine Art, Visual Communications, Theatre
- Hood College- Communication Arts
- Howard Community College- Film Studies, Theatre, Gaming and Simulation Design, Mass Media Design, Production
- John's Hopkins University- Film & Media Studies
- Loyola- Communications (digital media)
- Maryland Institute College of Art- Video
- McDaniel College- Film & Video Studies
- Montgomery College- Fine & Digital Arts (School of Art and Design)
- Morgan State University- Screenwriting, Communications
- Mount St. Mary's University- Visual & Performing Arts
- Prince George's Community College- Communication, Theatre
- Salisbury University- Communication Arts, Theatre
- St. Mary's College of Maryland- Film & Media Studies, Theatre
- Stevenson University- Film & Video, Theatre
- Towson University- Media & Film
- University of Baltimore- Simulation/Digital Entertainment
- University of Maryland Baltimore County- Visual Arts, Animation
- University of Maryland College Park- Theatre
- University of Maryland Eastern Shore- Visual & Performing Arts
- Washington College- Drama (acting, production, directing)

Digital Entertainment and Emerging Media Secondary School Programs

Interactive Media Production

1. Digital Harbor High School- Baltimore City
2. Edmonson/Westside High Side- Baltimore City
3. Frederick Douglass Senior High- Baltimore City
4. Northwestern High- Baltimore City
5. Easton Senior High- Talbot County
6. St. Michaels Middle/High School- Talbot County

Intermedia

1. Carver Center for Arts & Technology- Baltimore County
2. Catonsville Senior High- Baltimore County
3. Dundalk Senior High- Baltimore County
4. Franklin Senior High- Baltimore County
5. Parkville Senior High- Baltimore County

Media Production Technology

1. Edmonson/Westside High School- Baltimore City
2. Digital Harbor High School- Baltimore City
3. Frederick Douglas Senior High- Baltimore City
4. North Caroline Senior High School- Caroline County
5. St. Mary's County Technical Center- St. Mary's County

Radio and Television Broadcasting

1. Center for Career and Technical Education- Allegany County
2. Career and Technology Center- Frederick County
3. Kent County Senior High School- Kent County
4. Senica Valley High- Montgomery County
5. Richard Montgomery Senior High- Montgomery County
6. Rockville Senior High- Montgomery County
7. James Hugert Blake High School- Montgomery County
8. Sherwood Senior High School- Montgomery County
9. Colonel Zadok Magruder Senior High- Montgomery County
10. Gaithersburg Senior High- Montgomery County
11. Northwood Senior High- Montgomery County
12. Queen Anne's County Senior High- Queen Anne's County
13. Kent Island High School- Queen Anne's County

Crew Lists

Film and television productions use a wide variety of workers when on location. The following lists of crew members from recent Maryland productions illustrate this point.

Exhibit A-2. The Washingtonienne Crew List

Type of Crew Member	*From MD*	*Total*
Director	0	1
Writers	0	2
Writers' Assistant	1	2
Executive Producers	0	6
Co-executive Producer	1	1
Producers' Assistant	1	3
Production Office	7	8
Accounting	2	5
AD's/Set PA's	9	9
Art Department	3	3
Camera	5	10
Casting	4	13
Catering	0	4
Construction	11	11
Costumes	7	9
Craft Service	3	3
Dialect Coach	0	1
Electrical	16	22
Film Electronics	2	3
Grip	8	11
Hair	3	4
Locations	10	11
Makeup	3	4
Medic	1	1
Music	0	1
Props	3	4
Scenic	8	9
Script Supervisor	1	1
Set Decorating	7	9
Set PA	6	6
Sound	2	3
Special Effects	2	3
Transportation	25	29
Video Assist	2	2
TOTAL	**153**	**214**

Exhibit A-3. The Wire Season 5 Crew List

Type of Crew Member	*From MD*	*Total*
Production/Assistants	7	9
Writing Department	4	8
Production Office	6	8
Accounting	4	6
AD's/Set PA's	8	10
Art Department	3	3
Camera	5	11
Casting	5	7
Catering	0	4
Clearances	0	1
Construction	8	8
Craft Service	2	2
Dialecting/Acting Coach	1	1
Electric	9	10
Film Electronics	3	4
Grip	9	10
Hair	2	3
Locations	6	6
Makeup	4	4
Medic	1	1
Props	3	4
Scenic	5	5
Script Supervisor	1	3
Set Dressing	9	10
Special Effects	1	3
Sound	2	3
Stunts	0	1
Teacher	0	1
Technical Advisor	1	1
Transportation	21	23
Video Assist	3	3
Wardrobe	8	9
Second Unit	17	21
TOTAL	**158**	**203**