6-30-2008

An Economic Impact and Rate of Return Analysis of the Film & Video Industry in Maine, 2008

Maine Department of Economic and Community Development

Maine Film Office

ECONorthwest

An Economic Impact and Rate of Return Analysis of the Film & Video Industry in Maine

An analysis for the Maine Film Office
by Robert Whelan and Alec Josephson

June 30, 2008

ECONorthwest
ECONOMICS • FINANCE • PLANNING

Phone • (503) 222-6060
FAX • (503) 222-1504
info@eugene.econw.com

Suite 1460
888 SW Fifth Avenue
Portland, Oregon 97204

I. SUMMARY OF FINDINGS

The Maine Film Office ("MFO") has primary responsibility for promoting, expanding, and improving the visual media production sector in Maine. The film office engaged ECONorthwest to conduct economic research on this sector in the state of Maine.

The visual media sector consists of businesses and individuals that are based in Maine, as well as out-of-state entities that come to Maine to film or photograph projects. They produce and distribute commercial visual images that are recorded on film, video, or digital media.

Among the types of businesses in this sector are movie production companies, film distributors, local film festivals, television broadcasters and producers, commercial photographers, cable television companies, and Internet broadcasters. Other businesses, which are not primarily in media production, but have employees or departments that do productions in-house, are also included in the media production sector, as defined in this analysis. Collectively, all of these entities and individuals may rely on the MFO for its assistance in doing work in Maine.

This report summarizes ECONorthwest's analysis of the visual media sector in Maine and is divided into the following sections:

- A description of the visual media sector, and its four major sub-sectors, in Maine.
- An overview of economic impact analysis.
- The results of an economic impact analysis of the visual media sector and its sub-sectors.
- A discussion of film incentive programs, including their history, characteristics, and variations across states and provinces. This is followed by an analysis of the impacts on Maine from out-of-state film productions and their full effects on state and local tax revenues. The section concludes with a review of other benefits that can be identified from film and video productions in a state.
- Recommendations for the Maine Film Office.

A. Major Findings

Data from the Maine Department of Labor was used in the measurement of the visual media sector and its component industries. Due to confidentiality concerns, components were assembled into four major sub-sectors, which include local film production, broadcasting, commercial photography, and out-of-state productions (movies and videos filmed, and photo shoots done, in Maine by crews based outside the state). An analysis of this and other data found:

- In 2005, the output of the domestic film and video production industry in Maine was about $25 million. Total payrolls were almost $7 million.
- The local television, cable, and Internet broadcasting industries were much larger. They employed 1,474 workers, had $66 million in payroll, and generated over $325 million in economic output.
- Total output in commercial photography was about $13 million in 2005; payroll was almost $4 million.
- Out-of-state film, video, and commercial photography projects spent about $7.3 million in Maine during the year. Maine wages from this activity were about $4 million.
- In aggregate, the <u>direct</u> economic output of the visual media sector was $371 million. Our economic impact modeling shows that this direct spending ultimately resulted in a <u>total</u> of $630 million in statewide output. The difference is due to subsequent spending by businesses and households. Similarly, the visual media sector <u>directly</u> employed 2,113 persons in 2005. After including subsequent spending, the number of jobs in the state due to visual media businesses grows to 4,941. For more information on direct and total impacts, please refer to Section III, "Overview of Economic Impact Analysis."
- Significant film incentives began about 20 years ago in British Columbia and are now offered in all Canadian provinces and 46 states. Massachusetts, Connecticut, Rhode Island, and New York have recently instituted very strong incentives.
- An analysis of tax effects finds that for every million dollars spent in Maine by out-of-state productions, about $150,000 in state and local government revenues would be generated.
- Besides measurable revenues, some other benefits accrue from out-of-state productions being done in Maine. These include greater business for the local media sector, workforce retention, opportunities for new businesses, and tourism development.
- Also a large proportion of the spending by out-of-state productions and their employees is directed towards a wide array of businesses from hotels and restaurants to the less obvious, such as antique shops, which are a source of local props, and local contractors who are needed for set construction.

- The report concludes that Maine should raise its incentives to become more competitive, but not match its greatest rivals except in the case of productions that yield the state strong marketing value as a tourism or business destination. There is abundant economic research that suggests that a production can dramatically benefit tourism for many years after its initial release, even in cases where such a production is only moderately successful.

The visual media sector is really composed of several distinct, albeit closely related, elements. In this section the sector is defined and measured.

Analyzing the visual media sector is challenging because its various elements do not fall comfortably into traditional industry definitions used by government or economists. Indeed, statistics on some of its elements, such as film festivals, are not routinely recorded.

Further complicating the analysis is that some of the necessary data is released after considerable time lags. For example, the incomes of self-employed freelancers that work *ad-hoc* on projects are not tracked by the Maine Department of Labor. This data comes from the Internal Revenue Service, but only after a lag of nearly three years. Thus, the most current year with complete industry data is 2005. That year is, therefore, the subject of the analysis. Fortunately, for the purposes of describing the sector, the MFO considered 2005 to be a typical year.

A. Sector Definitions

The visual media sector includes all groups, firms, and self-employed individuals based in Maine that engage in recording or distributing visual images for entertainment, news, advertising, and educational purposes in Maine, whether or not visual media is their primary business. The sector also includes movie and video motion picture spending, as well as commercial photography, done inside the state of Maine by non-resident firms and individuals.

Four sub-sectors. The visual media sector consists of 19 different types of businesses and industries affecting the economy. They were divided into the following four major sub-sectors:

1) Indigenous film & video production

2) Television, cable & Internet broadcasting and distribution

3) Indigenous commercial photography

4) Out-of-state film, video, and commercial photography production

Confidentiality. The analysis used data on 19 types of businesses and industries, but much of that data—such as payrolls and individual film production budgets—is subject to confidentiality agreements. To honor those agreements, ECONorthwest combined statistics on the 19 individual categories into four major visual media sub-sectors. The combined data is shown in this report.

Table 1 is a list of the four visual media sub-sectors analyzed for this report. Under each are the names and descriptions of their individual components. Many are "Maine employers," which are businesses that had paid employees in 2005 and reported their payrolls to the Maine Department of Labor. ECONorthwest went over the detailed lists from the Department of Labor to correct for some misclassified firms. Other components and sub-sectors in Table 1 are entitled "indigenous," "out-of-state," "self-employed," and "Inter-industry." Explanations of these terms follow the table.

Table 1: Components of the Visual Media Sector and Four Sub-Sectors in Maine

Sub-Sector/Components	Description
Indigenous Film & video production	
Film & video production companies	Maine employers whose main business is making films & videos
Film distribution companies	Maine employers that distribute films (there are two firms)
Film & video post production companies	Maine employers that do post-production work such as editing
Maine Film Festivals	Non-profits that hold film festivals in Maine
Spending by out-of-state film festival visitors	Film festival tourist spending in Maine outside of film festivals on the days they attend
Inter-industry film & video production	Maine employees that do some film & video work for internal needs, but are not in the film & video industry
Self-employed film & video	Freelancers and other self-employed Maine residents working in film & video production
Indigenous television, cable & Internet broadcasting and distribution	
Television broadcasting	Primarily Maine television stations
Cable & other subscription programming	Maine employers whose main business is producing cable television shows
Self-employed television & cable	Self-employed Maine residents working in television & cable production
Cable & satellite program distribution	Maine employers whose main business is providing cable & satellite TV to consumers
Self-employed cable distribution	Self-employed Maine residents that provide cable TV programming
Internet production & broadcasting	Maine employers whose primary business is Internet program production & distribution
Self-employed Internet broadcasting	Self-employed Maine residents that produce Internet programming
Indigenous commercial photography	
Commercial photography	Maine employers whose principal business is doing commercial photography
Inter-industry commercial photography	Maine employees that do commercial photography for internal needs, but are not in the photography industry
Self-employed commercial photography	Self-employed Maine residents whose main work is commercial photography
Out-of-state film, video, and commercial photography production	
Out-of-state film & video productions	The work of out-of-state firms in Maine filming movies or videos
Out-of-state commercial photography	The work of out-of-state firms in Maine conducting commercial photography

Source: ECONorthwest, May 2008.

"Indigenous" versus "out-of-state." Three of the sub-sectors contain only Maine-based businesses and are described as "indigenous" industries. The fourth consists of the spending by non-local film and video crews working in Maine. This component is described in this report as "out-of-state" production.

Self-employed. Five the 19 individual categories cover non-employer businesses that are not captured in the payroll data of the Maine Department of Labor. Collectively, they accounted for over $7.5 million in taxable revenues in 2005. In most cases, these businesses are simply self-employed "freelance" workers, both full- and part-time, who report their earnings to the Internal Revenue Service. However, some are firms with two or more working partners, but no workers for which payroll checks are issued. The film & video and commercial photography industries have large numbers of such businesses and they generate substantial revenues in Maine.

Inter-industry. Businesses outside of the visual media sector sometimes do their own film and video production and commercial photography. Examples of this "inter-industry" activity are advertising firms that produce commercials, a school that makes a documentary, or a retailer doing its own commercial photography for a catalog. U.S. Department of Labor data on occupations is used to estimate inter-industry activity. For example, a worker in the retail industry whose occupation is "photographer" would be put into this category. About $6.8 million in visual media output in Maine during 2005 came from inter-industry activities.

Film festivals. At the request of the MFO, the analysis includes film festivals and their out-of-state visitors in the film & video production sub-sector. These two components are relatively small (less than a half million dollars in 2005). They capture the spending activities of nonprofit film festivals in Maine during 2005 as well as the spending in Maine by out-of-state visitors on the days they attended the festivals.

What businesses and activities are excluded? Several types of businesses were excluded from the analysis because their impacts on the local economy or their relevance to the MFO were questionable. For example, because they are not directly part of the film and video production process, movie theaters were excluded. Similarly, DVD and video rental stores were not counted.

The analysis intentionally excluded the wages and benefits (other than *per diems*) paid to major actors, supporting cast members, and producers of out-of-state productions filmed in Maine on the presumption that their earnings would be spent elsewhere. So, too, was any other spending by out-of-state crews that likely occurred outside of Maine.

All sub-sectors include some Maine-based freelancers and businesses that spend money out of state in the course of their work. This spending is implicitly accounted for by the economic model and excluded from the determination of the sector's economic impacts on Maine.

How is employment counted? Employment at Maine firms with payroll is counted as the number of workers receiving paychecks in the average month regardless of whether they were full or part-time. Self-employment is counted as the number of people who had reported non-wage labor income in the sector during 2005, even if it was for a short-lived project or minor secondary work. Because of this difference, the average income per worker is usually much less for self-employed than for payroll employees.

Summary. The definition of the visual media sector for this report captures the output and labor of entities that engaged in commercial photography or film and video production, post-production, distribution, or broadcasting (by television, cable or Internet), as their primary business. While movie theaters were excluded from the analysis, film festivals and the spending by non-residents that visited Maine because of them, were counted.

The output, employment, and spending by the following types of entities were all considered in this economic impact analysis:

- Companies and nonprofits with paid employees and establishments in Maine.
- Residents of Maine who did work on film and video productions as self-employed persons or as owners and partners of non-employee businesses.
- Employees engaged in film, video, or commercial photography production, but who worked for companies whose principal businesses were in other industries, such as advertising, manufacturing, or education.
- Out-of-state production companies or crews that spent money in Maine filming or taking commercial photographs without forming permanent establishments in the state.
- The revenues of film festivals in Maine and the additional spending in the state by tourists on the days that they attended the festivals.

B. Measuring the Visual Media Sector

Measuring the size of the visual media sector required assembling and crosschecking data from several sources. In some cases, adjustments and estimates had to be made. The results yielded estimates of 2005 employment, output (revenues), wages, and self-employment income.

The data estimates were placed into one of 19 business or industry categories, and then later used as inputs into a model of Maine's economy. The model determined the total economic impacts these industries had on the state in 2005. The estimates and results are summarized according to the four sub-sectors.

Data sources. The two principal sources for this analysis were the ES 202 database from the Maine Department of Labor and the out-of-state production logs of the MFO. Several others were used as well. All are summarized below:

- Maine Department of Labor ES 202 database for 2005 contains the payroll employment and wages of firms in Maine that identify themselves as being in one of the sub-sectors shown on Table 1 or a company in the independent performer industry. The latter was included because, from past experience, ECONorthwest has learned that businesses in the film and video industry sometimes misclassify themselves in this industry.

- Maine Film Office 2005 log of out-of-state productions, which shows the name of the production and, for nearly all, the dollars spent in Maine.
- Maine Film Office directory of film and video professionals and firms.
- Detailed expenditure records of the production “Empire Falls,” which was filmed in Maine in 2003. The expenditure profile of this production was used as a template for other out-of-state based production companies filming in Maine.
- Direct calls to Maine film festivals.
- Tourism spending data from the Maine Office of Tourism.
- U.S. Census/Internal Revenue Service non-employer business statistics.
- 2002 U.S. Economic Census data were used to estimate the relationship between economic output and employment for various business categories.
- U.S. Bureau of Labor Statistics (“BLS”) occupational employment statistics, which were used to estimate inter-industry film, video, and commercial photography activity in Maine during 2005.
- Dun & Bradstreet business/credit reports were used to find and appropriately classify firms in sub-sectors that were not found in other sources.

C. Data Adjustments and Estimates

Compared to past research by ECONorthwest for state film offices, relatively few adjustments and estimates had to be made for this analysis. Most could be traced back to the Maine Department of Labor ES 202 database.

The ES 202 database relies on firms self-reporting their industry codes. This results in some misclassifications. In this analysis, the names and addresses of businesses were compared to their industry codes and checked against other sources, including Dun & Bradstreet, the MFO directory, and individual company websites to correct any misclassifications that would affect the impact study.

There were only three misclassified firms. Two were small and moved to their correct industries. One was large and had to be moved out of film and video production industry and into the cable distribution industry.

Four small film and video production companies were missing from the ES 202. They were found in the MFO directory. Their employment and revenues were determined through Dun & Bradstreet, and inserted into the analysis.

The analysis made estimates of in state spending by two minor out-of-state productions filmed in Maine in 2005, as this information was not reported to the MFO. One large commercial photography entry in the out-of-state production log of the MFO was identified as being an inter-industry activity of a Maine company, and this was removed from the calculation of out-of-state commercial photography spending.

Finally, the analysis includes an estimate of $750,000 in spending on commercial photography shoots by out-of-state crews that was not reported to the MFO. This estimate was based upon averages, as a percentage of in-state commercial photography, seen in other states.

D. Size Analysis of the Visual Media Sector

As noted earlier, due to the small number of companies in the sector and the requirements under the terms of confidentiality agreements, only summary data can be provided in this report. Nonetheless, the analysis is able to reveal basic measures of the size of the four sub-sectors, including total output, employment, and self-employment.

Indigenous film & video. The indigenous film & video sub-sector produces motion pictures, television commercials, animation, instructional videos, and documentaries on film or video. Much of this sub-sector consists of establishments and freelancing individuals who reside in Maine. Some businesses in this sector engage in postproduction work, such as editing and voice-overs, and the distribution of films to theaters. Also included here is the output of inter-industry film & video work, as well as the expenditures of Maine film festivals and the tourism spending that they attract to the state.

The analysis finds that the total economic output by the indigenous film & video sub-sector in Maine approached $24.7 million in 2005. Firms and freelancers in the industry accounted for about 85 percent of this output while the remainder was attributable to inter-industry and film festival activities. Businesses with paid employees had an annual average of 175 workers that earned nearly $6.8 million in wages and other cash benefits. As shown in Table 2, there were 102 freelancers in this sub-sector that reported income.

Table 2: Dimensions of the Indigenous Film & Video Sub-Sector in Maine, 2005

Measure	in 2005
Total sub-sector output	$24,686,247
Employees (annual average)	175
Employee payroll	$6,751,451
Self-employed persons	102
Self-employed income	$3,784,796

Source: ECONorthwest, May 2008.

Indigenous television, cable, & Internet broadcasting and distribution. This sub-sector consists mostly of businesses with paid employees, some of which are relatively large. They encompass firms and individuals that make and distribute or broadcast programming for viewing on televisions or computers.

Because of the size of major broadcasters and cable companies, this sub-sector is the largest of the four analyzed for this report. Collectively, in 2005, the firms and self-employed workers in this sub-sector were directly responsible for $325.7 million in economic output within Maine. The businesses employed 1,380 persons and paid nearly $66.0 million in wages. There were 94 self-employed people working in the sub-sector—nearly half of whom produced programming for distribution over the Internet.

Table 3: Dimensions of the Television, Cable & Internet Broadcasting & Distribution Sub-Sector in Maine, 2005

Measure	in 2005
Total sub-sector output	$325,711,870
Employees (annual average)	1,380
Employee payroll	$65,964,537
Self-employed persons	94
Self-employed income	$2,789,132

Source: ECONorthwest, May 2008.

Indigenous commercial photography. The commercial photography sub-sector consists of those primarily engaged in providing photography services, primarily for advertising agencies, publishers, retail catalog companies, and other businesses. It is distinct from portrait photography. This sub-sector covers all businesses in the industry that have establishments in Maine, self-employed Maine residents that claim income in commercial photography, and workers for local businesses not in this sub-sector that do commercial photography for their employers.

Total output for this sub-sector in 2005 was nearly $13.5 million and about half of this came from workers that were not employed by commercial photography companies. About 108 people worked as employees in the sub-sector, while 135 Maine residents earned at least some self-employment income during the year as commercial photographers.

Table 4: Dimensions of the Indigenous Commercial Photography Sub-Sector in Maine, 2005

Measure	in 2005
Total sub-sector output	$13,486,578
Employees (annual average)	108
Employee payroll	$3,874,217
Self-employed persons	135
Self-employed income	$3,631,040

Source: ECONorthwest, May 2008.

Out-of-state productions. The MFO considers 2005 to be an average year for out-of-state production work. A number of small film, television, and commercial productions were conducted during 2005, but no feature film or large budget productions. Still, a noteworthy amount was spent.

As shown in Table 5, out-of-state production expenditures in Maine were about $7.3 million in 2005. It went towards paying wages, and on purchases within Maine for goods and services. Unlike the indigenous sub-sectors, out-of-state productions spend little or none at all on fixed capital.

Table 5: Dimensions of Film, Video, and Commercial Photography Projects Conducted by Out-of-State Entities in Maine, 2005

Measure	in 2005
Total spending in Maine (output)	$7,267,000
Local employees (annual average)	123
Local compensation	$4,289,612

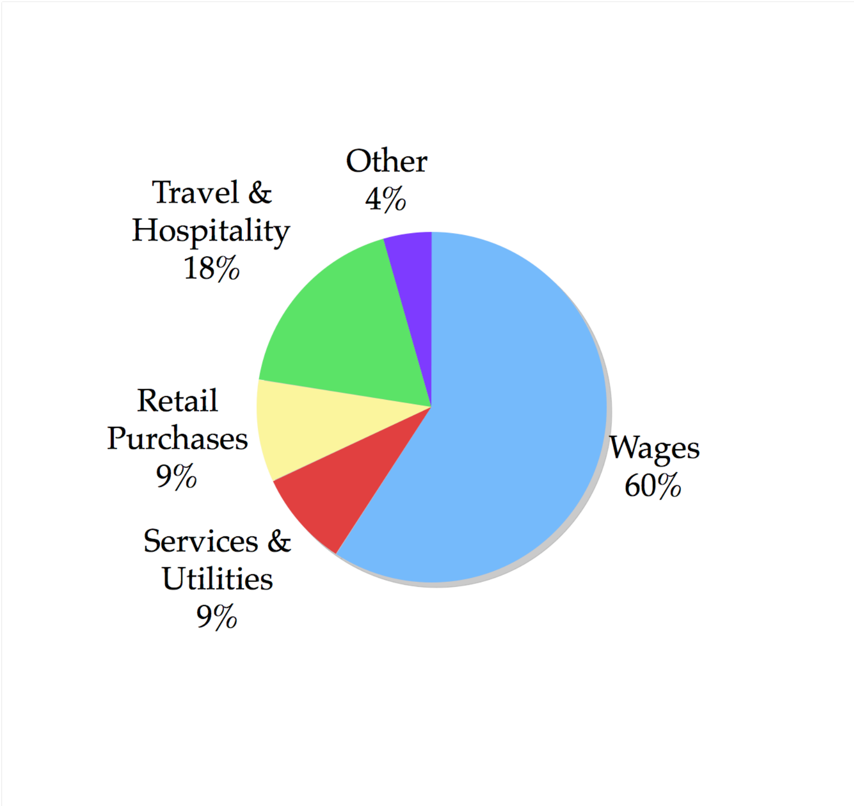
Source: ECONorthwest, May 2008.

The out-of-state sub-sector compensated local workers an estimated $4.3 million. Although probably several hundred jobs were created by these productions, the employment—typical of the industry—was project-based and generally lasted days to several weeks. Most individuals held multiple jobs throughout 2005 and some probably worked on more than one out-of-state production. When expressed as annualized average employment, this sub-sector accounted for the equivalent of about 123 year-round full and part-time jobs.

The data in Table 5 combines film with commercial photography. Spending by major film productions, however, is skewed towards local labor. This is evident when examining the spending profile of *Empire Falls*, which was filmed in Maine in 2003. With total production costs of $28.5 million, *Empire Falls* was a major project. Spending in Maine accounted for nearly half of the total cost.

Figure 1 shows the breakdown of the spending in Maine by this major film production. Typical of large productions reviewed by ECONorthwest for other states, almost 60 percent of the local spending went to pay for local hires. Travel and hospitality (hotels, car rentals, restaurants, and the like) accounted for 18 percent of all the spending. However, not included in this category was airfare to and from Maine, as such expenditures have little or no direct impacts on the state economy. Services and utilities were nine percent of the total spending, as were retail purchases by the film company and through the spending of employee *per diem* allowances.

Figure 1: Major Film (*Empire Falls*) Production Spending on Local Labor, Goods, and Services, Percent of Total In-State Spending



Source: ECONorthwest analysis of Empire Falls *spending in Maine, May 2008.*

For the purposes of estimating total impacts, the analysis considers the direct output (value of production) of out-of-state productions to be the sum of the wages they paid for work done in Maine and the purchases they made in Maine for goods and services. These are known as "below the line" production costs. In contrast, "above the line" expenses are those committed before production begins, such as writing, producer and director salaries, and production fees. Often the salaries of leading actors are counted as above the line, which they were in the analysis here for Empire Falls.

By counting just the below the line expenses the analysis gives a more accurate assessment of the value of output affecting Maine from the out-of-state sub-sector. Above-the-line expenses and salaries probably go back to the productions' home states.

As noted in the next section, the output of indigenous sub-sectors studied for this report followed the traditional measure of output used in economic impact studies.

III. Overview of Economic Impact Analysis

Economic impact analysis is a way of measuring how an industry or group of industries, such as the visual media sector, affects a state economy. It is done through the use of computer models that are designed to trace the flow of dollars between businesses, consumers, and employees.

A. Methodology

Spending and employment by an industry will often generate economic impacts elsewhere in the economy. Economists measure these downstream effects in terms of output, wages, jobs, and other types of impacts. A method called "input-output" modeling was developed to assess these impacts.[1]

An input-output model is a mathematical representation of an economy. It shows how different parts of an economy are linked to one another. Information about linkages comes from various sources including U.S. Census reports on population and businesses.

The most widely used input-output tool is IMPLAN, which is an acronym for "IMPact analysis for PLANning."[2] In simple terms, the IMPLAN model works by tracing how money made in one sector of an economy is spent and re-spent downstream throughout the rest of the economy. This process of spending and re-spending is often referred to as the multiplier effect.

Impacts do not continue to cycle indefinitely through an economy. They gradually diminish as money leaks of out of the system of spending and earnings. This happens as Maine residents and businesses purchase goods and services made elsewhere, save some of their money, and pay taxes. The IMPLAN accounts for these leakages.

For this analysis, an IMPLAN model was built for the economy of the state of Maine in 2005. The model was then run for each of the four sub-sectors to measure their total impacts on the state. A fifth model run was made to help assess the returns to state and local governments from productions filmed in Maine by out-of-state companies.

---

[1] Wassily Leontief first put input-output analysis to practical use in the late 1930's. While at Harvard, Leontief used his input-output system to construct an empirical model of the United States economy. This research gave rise to his 1941 classic, "Structure of American Industry, 1919-1929." For his research, Leontief was awarded the Nobel Prize in Economics in 1973.

[2] IMPLAN was initially developed by the U.S. Department of Agriculture in cooperation with the FEMA and the Bureau of Land Management to assist federal agencies in their land and resource management planning. Since 1993, the Minnesota Implan Group, Inc. has been maintaining IMPLAN and updating the data used in the models.

B. Types of Impacts

There are several measures of economic activity produced by economic impact models. Output, jobs, wages, proprietor income, and other income are the most relevant.

Output is the broadest measure of economic activity. It is the total value of production. For most sectors of the economy, output is approximately the same as sales or revenues (there are inventory adjustments that account for slight differences). For industries that buy goods to later resell them, such as stores, gas stations, and wholesalers, output is the approximate difference between sales and the cost of goods sold.

Jobs are counted in economic impact studies as the number of full and part-time positions held on an annualized basis. This includes both paid wage earners and the self-employed.

Wages are the earnings of paid employees. It includes benefits such as employer-paid health insurance, life insurance, and retirement account contributions. Wages do not include self-employment earnings.

Proprietor income equals the amounts earned for work not covered by employer payrolls. It includes the earnings of the self-employed, small non-employer business partnerships, and some farmers. In Maine, proprietor income was 11.3 percent of all worker earnings in 2005.[3]

Earnings per job equals wages and proprietor income divided by the number of jobs of both the self-employed and wage earners.

Other income includes money made from sources other than work such as rents, dividends, and royalties.

Multiplier, as defined in this report, is a ratio of total impact to direct. Multipliers are used to conveniently explain how much of an effect an industry has throughout the state relative to the industry's size. One industry will have several different multipliers, for example one multiplier for jobs and another for output.

C. Three Stages of Impacts

Impacts are felt at various stages or steps away from the sector being studied. There are three of these. Input-output models report the direct impacts of the initial sector (for example, commercial photography), those the sector indirectly affects through spending on goods and services in other industries elsewhere in Maine, and, finally, impacts that are induced by changes in the number of jobs, wages, self-employment, and other income that could be traced back to the initial industry.

[3] From the U.S. Bureau of Economic Analysis website http://ww.bea.gov/regional accessed on June 4, 2008.

A **direct impact** is something that generally happens at the location of the sector being studied. In this analysis, direct impacts include the output and employment of the indigenous sub-sectors. However, for out-of-state productions and film festival tourism the direct impacts are limited to the value of their spending in Maine whether it is on local purchases or local hiring.

The second stage covers **indirect impacts**, which are the effects on industries that supply the initial sub-sectors with goods and services. For example, when a television station in Bangor hires a local contractor to install new lighting, the amount paid is an indirect output. Furthermore, when that contractor, in turn, buys supplies from a store in Portland, that purchase also contributes to the total indirect output of the state, as does the extra work done by the contractor and store clerk. Indirect impacts can go back many steps from the originating direct source, albeit their size diminishes considerably as they do.

The third stage counts the **induced impacts** from higher incomes of workers and businesses that result from the initial sub-sectors. In the previous example of a television station in Bangor hiring a lighting contractor, the extra wages of the installer and store clerk, along with the additional profits of their employers, cause incomes in Maine to rise. When this money is spent in Maine, it stimulates downstream impacts on the economy. These are income-induced impacts and they are often quite large.

D. Basic Assumptions

For the purposes of clarity, analysis, and presentation, the following basic assumptions were made for the economic impact study described in this report:

- The analysis measures the historical economic impacts of the visual media sector in calendar year 2005.

- The historical analysis reveals the gross impacts of sub-sectors. These are all of the impacts on Maine's economy that can be traced back to the initial sub-sectors in 2005 regardless of what spending would have occurred had the sub-sectors not existed. In other words, all impacts linked to the sub-sectors are reported without netting out substitution effects. For example, one could argue that but for the ability to buy and download a movie through their cable television service, a family may have eaten out at night and, therefore, some of the gain in output attributed to cable television in Maine came at the expense of foregone restaurant sales instead.

- For the out-of-state sub-sector, because of how they are accounted for in this analysis, the net and gross impacts are about the same. This is because had out-of-state film crews not come to Maine, little or no other indigenous economic activity would have occurred to substitute for the loss. Effectively the in state spending by out-of-state productions is nearly entirely net additive to the state economy.

IV. ECONOMIC IMPACTS OF THE VISUAL MEDIA SECTOR IN 2005

In this section, the results of the IMPLAN modeling of total economic impacts from the four sub-sectors in 2005 are presented. Impacts for the entire visual media sector are also reported.

A. Impacts of Indigenous Film & Video Production

The indigenous film and video production sub-sector has a direct impact of $24.6 million on economic output in 2005. Through downstream spending, film and video production stimulated about $10.3 million in indirect output in Maine. The sub-sector's effect on incomes further induced another $9.6 million in output. Thus, in 2005, indigenous film & video production resulted in nearly $44.5 million in total economic output for the state, which equates to a multiplier effect of 1.81 (a $1.81 in total output for every dollar in output made directly by the industry).

The total impacts of the industry also include $13.4 million in wages, $2.5 million in proprietor income, and $3.6 million in other income. An annualized total of 520 full and part-time jobs could be traced back to the sub-sector with an average compensation of $30,601 a year.

Table 6: The Economic Impacts of the Indigenous Film & Video Sub-Sector on Maine, 2005

Type of Impact	Direct	Indirect	Induced	Total	Multiplier
Output	$24,630,500	$10,293,200	$9,575,200	$44,498,900	1.81
Wages	$6,788,800	$2,780,800	$3,838,900	$13,408,500	1.98
Proprietors' Income	$1,678,700	$469,500	$356,000	$2,504,200	1.49
Other Income	$1,527,300	$927,600	$1,157,400	$3,612,300	2.37
Earnings per Job	$29,503	$29,819	$33,830	$30,601	-
Jobs (full- and part-time)	287	109	124	520	1.81

Source: ECONorthwest, June 2008.

B. Impacts of Indigenous Television, Cable & Internet Broadcasting and Distribution

The sub-sector encompassing the broadcasting and distribution of television, cable, and Internet programming industries was the largest of the four sub-sectors studied for this report. It also had the highest wage rates.

In 2005, over $546.3 million in statewide economic output could be traced back to broadcasting and distribution. Total wages in Maine tied to this sub-sector were nearly $126 million. That, combined with self-employment earnings, yielded an average annual compensation of $35,697. There were 1,474 directly employed by the sub-sector, but the industries supported a total of 3,849 jobs statewide.

Table 7: The Economic Impacts of the Indigenous Television, Cable & Internet Broadcasting & Distribution Sub-Sector on Maine, 2005

Type of Impact	Direct	Indirect	Induced	Total	Multiplier
Output	$325,711,900	$122,964,800	$97,663,600	$546,340,300	1.68
Wages	$65,964,500	$24,604,900	$35,389,100	$125,958,500	1.91
Proprietors' Income	$1,798,100	$6,563,600	$3,076,900	$11,438,600	6.36
Other Income	$25,421,100	$9,559,000	$10,185,400	$45,165,500	1.78
Earnings per Job	$45,972	$24,875	$34,283	$35,697	-
Jobs (full- and part-time)	1,474	1,253	1,122	3,849	2.61

Source: ECONorthwest, June 2008.

C. Impacts of Indigenous Commercial Photography

Commercial photography was the smallest of the three indigenous sub-sectors analyzed. It was responsible for $13.5 million in direct output and $22.6 million in total economic output in Maine. In total, 351 jobs could be traced back to this sub-sector in 2005 with an average annual compensation of $28,494.

Table 8: The Economic Impacts of the Indigenous Commercial Photography Sub-Sector on Maine, 2005

Type of Impact	Direct	Indirect	Induced	Total	Multiplier
Output	$13,486,600	$3,119,100	$5,994,400	$22,600,100	1.68
Wages	$3,874,200	$796,000	$2,350,300	$7,020,500	1.81
Proprietors' Income	$2,603,300	$151,800	$225,900	$2,981,000	1.15
Other Income	$1,627,600	$539,000	$727,200	$2,893,800	1.78
Earnings per Job	$26,656	$30,574	$33,457	$28,494	-
Jobs (full- and part-time)	243	31	77	351	1.44

Source: ECONorthwest, June 2008.

D. Impacts of Out-of-State Film, Video, & Commercial Photography

The direct output from out-of-state productions in Maine was under $7.3 million in 2005. However, the downstream effects were substantial and, thus, the state enjoyed $16.4 million in incremental economic output that supported the full-year equivalent of 221 jobs averaging $34,264 in labor earnings each. For every dollar in direct output, this sub-sector generated $2.26 dollars in economic output throughout the state.

Its impact on jobs was also substantial. In part because such productions are labor intensive, a total of 221 jobs resulted statewide in 2005 compared to the 109 direct jobs in out of state productions.

Table 9: The Economic Impacts of Film, Video, and Commercial Photography Projects Conducted by Out-of-State Entities in Maine, 2005

Type of Impact	Direct	Indirect	Induced	Total	Multiplier
Output	$7,267,000	$3,798,600	$5,352,500	$16,418,100	2.26
Wages	$4,289,600	$1,074,400	$1,877,200	$7,241,200	1.69
Proprietors' Income	$0	$128,800	$202,300	$331,100	-
Other Income	$0	$608,100	$631,500	$1,239,600	-
Earnings per Job	$39,354	$25,600	$31,992	$34,264	-
Jobs (full- and part-time)	109	47	65	221	2.03

Source: ECONorthwest, June 2008.

E. Summary of the Total Impacts of the Visual Media Sector

In total, nearly $630 million in economic output during 2005 could be traced back to the visual media sector. The sector paid $80.9 million in direct wages and, through indirect and induced activity, resulted in additional wage income that brought the total wage impact to over $153.6 million. That, in combination with $17.2 million in self-employment earnings, resulted in the equivalent of 4,941 year-round jobs with average earnings of $34,585 each.

Table 10: Summary of the Economic Impacts of the Visual Media Sector in Maine, 2005

Type of Impact	Direct	Indirect	Induced	Total	Multiplier
Output	$371,096,000	$140,175,700	$118,585,700	$629,857,400	1.70
Wages	$80,917,100	$29,256,100	$43,455,500	$153,628,700	1.90
Proprietors' Income	$6,080,100	$7,313,700	$3,861,100	$17,254,900	2.84
Other Income	$28,576,000	$11,633,700	$12,701,500	$52,911,200	1.85
Earnings per Job	$41,172	$25,396	$34,090	$34,585	#N/A
Jobs (full- and part-time)	2,113	1,440	1,388	4,941	2.34

Source: ECONorthwest, June 2008.

Total Impacts by industry are shown on Table 11. Clearly the industry sector most affected by visual media is “information,” which is defined by the federal government as including, among other things, companies engaged in the production, broadcasting, and distribution of entertainment and news programming.[4] Total output in the information industry due to the visual media sector was $429.6 million. However, another $200.0 million in additional economic output was generated due to visual media and is scattered across many other sectors.

---

[4] Note that commercial photography is classified under “professional and technical services” while film festivals are considered part of the “arts, entertainment, and recreation” industry.

Table 11: Total Impacts in Maine by Industry Attributable to the Visual Media Sector in 2005

Industry Sector	Output	Wages	Proprietors' Income	Other Income	Jobs (full- and part-time)
Agriculture, forestry, fishing and hunting	$918,500	$90,500	$77,000	$142,200	11
Mining	143,600	-	3,600	4,600	0
Utilities	3,302,000	467,700	181,300	1,365,600	7
Construction	2,202,300	486,700	211,700	24,200	20
Manufacturing	13,067,700	2,118,400	145,300	917,700	47
Wholesale trade	6,071,000	1,961,800	101,100	805,200	38
Transportation and warehousing	5,695,200	2,102,400	179,400	462,600	60
Retail trade	17,332,200	5,790,300	473,300	1,789,100	250
Information (includes film, TV, cable & Internet)	429,591,300	91,909,800	4,789,900	30,182,300	2,250
Finance and insurance	14,132,600	3,605,600	292,000	2,578,400	71
Real estate and rentals and leasing	15,821,600	1,233,600	1,112,400	5,252,200	109
Professional and technical services	29,523,100	7,983,600	3,785,000	2,956,900	371
Management of companies and enterprises	1,756,200	686,200	(10,600)	180,700	9
Administrative and waste services	3,947,700	1,431,500	268,000	331,100	78
Educational services	3,617,500	1,672,500	77,400	87,100	63
Health care and social services	22,303,700	9,506,300	952,700	1,395,500	246
Arts, entertainment, and recreation	20,228,800	2,669,600	4,005,300	1,299,000	653
Accommodations and food services	11,266,700	3,291,400	144,200	1,166,000	194
Other services	7,595,700	2,096,900	465,900	434,300	134
Public administration	21,340,400	14,523,900	-	1,537,000	331
Total Impact on State Economy	$629,857,400	$153,628,700	$17,254,900	$52,911,200	4,941

Source: ECONorthwest, June 2008.

Reflecting the wide distribution of impacts across the state's economy, an annual equivalent of 4,941 jobs are traced back to the visual media sector. Many of these jobs are several steps removed and are the result of spending that originally started with jobs or business incomes earned in the visual media sector.

V. INCENTIVES & TAX BENEFITS OF OUT-OF-STATE PRODUCTIONS

All but four states offer incentives to film producers. All Canadian provinces offer incentives. This section describes how incentive programs have evolved and provides some current examples. It concludes with an estimate of how much state and local government revenue is generated in Maine for every million dollars of out-of-state film and video production spending. Such revenue is one of the offsets that can be considered when developing an effective incentive program.

A. Overview of Film Incentives

Incentives are economic benefits used to lure visual media productions to a state, province, or city. Historically, incentives had been modest and limited to having centralized offices where prospective producers could get information and guidance selecting locations, finding local workers, and obtaining permits. Effectively, incentive programs were concerted marketing and assistance efforts. However, in 1987, British Columbia began offering monetary benefits in the forms of equity investments. In 1998, this was expanded to production tax credits and, within two years, local employment in the film and video production industry nearly doubled to 10,900. Others followed, and currently about 40 states offer monetary incentives.

Why states offer incentives. By their very nature, states have unique filming locations to offer production crews. There is value in having productions done in a state because they produce jobs, tax revenues, economic development, and publicity. These benefits accrue generally to a state. Therefore, state governments, and not private entities, have economic reasons to promote their states as filming locations. Private entities doing the same would have no way of assuring that they would capture a return for their efforts. In this way, the film and video industry shares similarities to tourism. The best suited institution to promote a state as a location for tourism or filming is the state itself.

Incentives are quickly reflected in production activity because the film and video industry is less reliant on infrastructure than most other sectors of the economy. Productions can move in and out of a state on short notice. For example, ABC announced in May 2008 that it was moving production of the third season of its hit television series *Ugly Betty* from Los Angeles to New York City because of the very generous incentives introduced by New York earlier in the year. Another illustration of how quickly incentives work—even for a location that lacked a large talent pool and studio infrastructure—is in Louisiana, where filming in their state increased five-fold in one year after instituting a generous incentives package in 2002.

States such as Louisiana, Massachusetts, Michigan, and New Mexico, which historically have had minor indigenous film and video industries, saw the success of British Columbia and copied its model that compel developers to build sound stages and other physical infrastructure in the belief that this would offer stability if their financial incentives were to diminish. The evidence is unclear how effective this strategy is. For example, the rise in the Canadian dollar has been widely blamed for the 23 percent drop in 2007 on productions in British Columbia—a province that has built up the third largest film and television infrastructure in the North American market (after California and New York).

Even more important than infrastructure is skilled labor, because one of the greatest variable costs for out-of-state productions is transporting, housing, and paying the expenses for workers and cast members that must be brought in from other states. For the production of *Empire Falls,* we estimate that such expenses were about 30 percent of the total spending done in the state of Maine. For this reason, filming locations in places where there are large, skilled labor pools can be more cost effective even though rates on hotel rooms might be considerably more than they are in Maine.

Large skilled labor pools are a major reason why New York and California held 76 percent of the film and video production industry's employment in 2006 even though they had only minimally effective incentives. They have high market shares because of the comparative advantage the industry holds over other sectors of their economies and, this in large part, was facilitated by the high concentration of creative, intellectual, and financial talent residing in Los Angeles and New York City. Rising costs relative to new competing locations that offer generous monetary incentives, however, have been taking a toll.

Good incentives rapidly translate into productions moving into states and this does create jobs. More importantly, it helps foster a critical mass of work necessary to support growth in the indigenous sector and its related industries, such as marketing, advertising, tourism, and Internet retailing. Incentives, however, can be too generous and outweigh their economic benefits.

Competition in incentives. There is growing competition between states and provinces for productions. The upswing, which has become more acute in the last five years, has lead to what some are calling an arms race. New York State, as noted, upped the ante this year. Meanwhile political and budgetary hurdles have kept initiatives in California from progressing.

The most common monetary incentive used is the tax credit. These are politically more palatable than outright cash refunds, albeit less effective because they are more cumbersome for film and television companies to use. Since the profits of production companies are often too low to take full advantage of tax credits, most states make the credits transferable or refundable.

Louisiana offers transferable credits. Productions can use them against their state tax liability and sell the remainder (usually the great majority) to other state taxpayers. Since film companies are not adept at selling credits, they usually go through a broker that takes a fee. Buyers of the credits pay less than face value. Thus, overall, film companies recover only about 80 percent of face value.

More valuable are refundable tax credits. In Massachusetts, tax credits are refundable at 90 percent of their face value. This means that any unused tax credits can be given back to the state in exchange for cash at 90 cents on the dollar. Other states, like New York, give fully refundable tax credits (100 percent of face value). These are effectively rebates and are the most preferred incentive offered.

Most states offer reductions on sales, use, and lodging taxes. Some exempt them altogether, as Maine does for some productions with its sales tax. Also common are reduced or exempt location fees.

Nearly all incentives cover below-the-line expenses (mostly what is spent on location, such as non-star cast members, technical crews, lodging, and basic goods and services). Since such expenses are often a half or less of the total production expense for a major film, a 30 percent refundable tax credit actually saves film companies about 15 percent in total.

Above-the-line costs, which include the writers, leading actors, producers, directors, and other major contributors, are usually not covered by incentives. This, too, is slowly changing, as some states, like Massachusetts, give credits for actors paid over a million dollars. British Columbia now gives credits for above-the-line expenses incurred for local talent.

B. Employment in Film & Video Production by State

According to the BLS there were more than 190,000 employees working in the motion picture and video production industry in 2006 (the most recent year for which there is complete data). California and New York accounted for nearly 76 percent of that employment, and no other state had more than a 2.4 percent share of the national employment in the industry.

The BLS gets its information from the ES 202 database that (as noted on page 8) contains some misclassified businesses in Maine. Correcting this lowers the actual employment in the industry significantly. With this adjustment, Maine's ranking in the industry was 40th nationwide in 2006.

The shares of 2006 industry employment in individual states and territories, shown in Table 12, reflect the levels of activity of the indigenous film and video production industry for companies with employees. States with generous incentive programs, such as Massachusetts, Louisiana, and New Mexico, garner large numbers of out-of-state productions whose employment is not fully reflected in the BLS data by state.

Table 12: Film & Video Production Employment by State, 2006 US BLS Data

State/Territory	Employees	% of US
Alabama	268	0.1%
Alaska*	25	0.0%
Arizona	914	0.5%
Arkansas	280	0.1%
California	113,465	59.6%
Colorado	1,294	0.7%
Connecticut	501	0.3%
Delaware	55	0.0%
District of Columbia	781	0.4%
Florida	4,462	2.3%
Georgia	1,834	1.0%
Hawaii	968	0.5%
Idaho	72	0.0%
Illinois	2,594	1.4%
Indiana	595	0.3%
Iowa	281	0.1%
Kansas	172	0.1%
Kentucky	225	0.1%
Louisiana	1,875	1.0%
Maine**	149	0.1%
Maryland	1,636	0.9%
Massachusetts	1,295	0.7%
Michigan	1,361	0.7%
Minnesota	1,068	0.6%
Mississippi	74	0.0%
Missouri	785	0.4%
Montana	122	0.1%
Nebraska*	45	0.0%
Nevada	904	0.5%
New Hampshire	134	0.1%
New Jersey	2,852	1.5%
New Mexico	1,826	1.0%
New York	31,121	16.4%
North Carolina	632	0.3%
North Dakota	36	0.0%
Ohio	887	0.5%
Oklahoma	202	0.1%
Oregon	1,713	0.9%
Pennsylvania	1,957	1.0%
Puerto Rico	162	0.1%
Rhode Island	328	0.2%
South Carolina	391	0.2%
South Dakota*	30	0.0%
Tennessee	1,289	0.7%
Texas	2,982	1.6%
Utah	1,817	1.0%
Vermont	79	0.0%
Virginia	1,466	0.8%
Virgin Islands*	10	0.0%
Washington	1,484	0.8%
West Virginia*	50	0.0%
Wisconsin	718	0.4%
Wyoming*	24	0.0%
United States	190,290	100.0%

** ECO estimate*
*** Corrected for BLS misclassifications*
Source: U.S. Bureau of Labor Statistics covered employment.

C. Summary of Some State and Provincial Incentive Programs

Alabama. Starting in 2001, the Alabama film office operated an incentives program called "Film Production Exemptions." It expired at the end of the fiscal year ending September 30, 2006. It is one of only four states that currently do not offer incentives.

Seeing that filmmaking in nearby Louisiana was growing rapidly, bills were introduced in February 2008 by the Alabama State Legislature to reinstate incentives. The proposed incentives apply to projects that spend $500,000 to $10 million in the state. It would provide state funding for up to 35 percent of payroll to Alabama residents and 25 percent on many in-state production expenses. Furthermore, many sales, use, and lodging taxes would be exempted. To qualify, the production company must submit a Film Certification Tax Exemption Form to the Alabama Film Office

Arizona. The Arizona Department of Revenue offers production companies a 50 percent reimbursement of transaction privilege (sales) and use taxes during production of a motion picture, television/video and commercial advertising productions filmed in Arizona. The program caps cumulative tax credits issued to production companies on an annual basis, as well as limits credits to individual companies to $5 million. Cumulative credit caps for each year are as follows: in 2006 credits could not exceed $30 million, $40 million in 2007, $50 million in 2008, $60 million in 2009 and $70 million each year thereafter. Any film or television production company spending $1 million in Arizona—or $250,000 in the case of commercial advertising production—is eligible for the refund. Certain minimum spending thresholds apply before a production company can receive a refund.

Arizona has a second incentive program titled the "Film Industry Vehicle Tax Fees" which exempts production vehicles from the Use Fuel Tax through the Department of Transportation. Production vehicles en route to a filming location must notify the Arizona Department of Transportation's Motor Vehicle Division to receive the exemption upon entry into the state.

Arkansas. The Arkansas Department of Economic Development Motion Picture Incentive Program gives a refund of state sales and use taxes paid on qualified expenditures incurred in conjunction with a film production project. To qualify, production companies must spend more than $500,000 within six months, or $1 million within 12 months toward the making of a feature film, television movie, music video, documentary, episodic television show or commercial advertisement.

California. The California Film Commission offers free permitting and has, by the very nature of the state's economy, the deepest set of resources to support film productions. However, they offer little else. As a result, film productions have been lost to other states and Canada. Since 1997, the number of film days in Los Angeles is down 40 percent. Television has become the mainstay of the industry, but now incentive programs in New York and elsewhere have begun to take a toll. While the Governor wants incentives instituted, legislators outside of the Los Angeles area have been unsympathetic.

Connecticut. A production expenses credit covers thirty percent of production expenditures (including wages). These credits are transferable and can be carried forward three years; there is no annual state limit. However, eligible productions must have at least $50,000 in Connecticut production expenses in 12 consecutive months. In July 2006, credits ranging from ten to twenty percent for infrastructure projects were instituted and have since led to over thirty applications.

Hawaii. Hawaii's Department of Taxation oversees a film incentive program, called the "Film and Digital Media Income Tax Credit," which offers a refundable income tax credit based on a production company's expenditures in the state. The tax credit is 15 percent on the island of Oahu and 20 percent on neighboring islands. Production costs must exceed $200,000 and be subject to the Hawaii general excise tax. Stipulations apply requiring the production to make a reasonable effort to hire local talent and crews, in addition to showing that they have financially supported the local film, television and digital media industries. Producers must register with the Hawaii Film Office to receive the tax credit.

Illinois. Illinois' film incentive programs are administered through the Department of Commerce and Economic Opportunity ("DCEO") and the Illinois Finance Authority ("IFA"). The DCEO program, called the "Illinois Film Production Services Tax Credit," gives a 20 percent refund on Illinois production spending and a 20 percent credit on Illinois salaries (up to $100,000 per worker). The program has minimum expenditure requirements on Illinois production—$50,000 and $100,000 for films 29 minutes or less and 30 minutes or more, respectively. The tax credit is valid for five years and can be transferred once to another individual. Production companies must make a good-faith effort to hire minorities as demonstrate by a diversity plan. An additional 15 percent credit is available for labor expenditures for residents who live in areas of high poverty or high unemployment.

The Motion Picture Financing Initiative is offered by the IFA. In partnership with banks, this program provides low-cost financing to Illinois companies involved in the production of motion pictures, industrial films and commercials, as well as construction of motion picture production facilities. To be eligible, projects must be produced and/or post-produced in Illinois, and producers need to demonstrate jobs created and retained as well as document the "multiplier" effects of the film project.

Louisiana. The Louisiana Department of Economic Development offers a package of incentives to encourage filming and investment in Louisiana film infrastructure. The Department has three tax credits/exclusions called (1) the Film and Video Investor Tax Credit, (2) the Film and Video Employment/Labor Tax Credit and (3) the Film and Video Sales and Use Tax Exclusion.

The Film and Video Investor Tax Credit gives a tax credit to corporations and individuals who invest in Louisiana films, videos, television programs and commercials. Ten percent of the investment is credited back for investments from $300,000 to $8,000,000, and 15 percent for an investment of more than $8,000,000. The intent of the credit is not only to encourage production filming in Louisiana, but also to build and promote the motion picture industry on a long-term basis through private investment.

The Film and Video Employment/Labor Tax Credit refunds 10 percent of the total aggregate payroll (through filing of income taxes) for residents employed in connection with a production when costs exceed $300,000, but are less than $1 million. The refund is equal to 20 percent when costs are greater than $1 million. The credit can be applied to any income tax or corporation franchise tax liability applicable to the motion picture production company.

The Film and Video Sales and Use Tax Exclusion is granted to production companies with reported expenditures of $250,000 or more made from a checking account in a Louisiana financial institution in connection with filming of one or more nationally distributed motion pictures, videos, television series or commercials.

Brick and mortar investments, such as building a sound stage in Louisiana, are eligible for tax credits up to 40 percent.

The state's tax credit program relies on a private investment system. Because investors in films in Louisiana often do not earn enough money in the state to take full advantage of the tax credits, they are allowed to sell the credits to individuals or entities that can use them.

Considered very generous, the Louisiana incentives attracted many productions to the state. Since the programs started in 2002, the productions rose 50-fold. Initially, this overwhelmed the small indigenous film sector and, thus, many production companies had great difficulties finding local skilled workers and support firms. Infrastructure incentives stimulated the construction of several facilities, significantly increasing the indigenous industry's capacity to the point where the state is considering allowing some of the tax credits to sunset. The incentives also resulted in other issues, as the FBI is currently investigating claims of corruption in the administration of the credit programs.

Massachusetts. The production expenses credit covers 25 percent of production expenses including salaries; it requires that "at least 50 percent of total production expenses or filming days be state-based." Credits are awarded to productions that spend at least $50,000 in the state over a twelve-month period. Payroll credits can only be used on wages paid to residents and does not include salaries in excess of $1 million. The credits are transferable and can be refunded for 90 percent of their value back to the state. In addition, on May 21, 2008, a vote was held on an expansion bill that would give film companies a 20 percent tax credit to build studios in Massachusetts.

Mississippi. Like Alabama, Mississippi has instituted strong incentives hoping to pick off some productions from Louisiana. The Mississippi Motion Picture Incentive Program for projects of at least $20,000 of "base investment" began May 12, 2008. It covers 25 percent of payroll paid to residents (20 percent for non-residents), and 20 percent of other Mississippi production expenses. Also, for film productions, sales taxes are exempted or significantly reduced (0 to 1.5 percent rather than 7 percent).

Missouri. In Missouri, production companies can receive tax credits totaling up to 50 percent of their Missouri expenditures, which can then be applied on their state income taxes or sold to others that can apply them to their state income taxes. The amount of credits for any one project may not exceed $500,000 and the total amount of tax credits available through the program is $1 million per year for all producers. The credits can be carried forward for five additional tax periods. Production companies must spend at least $300,000 in Missouri. Credits can be reserved through a pre-application process ahead of production.

Montana. The Big Sky on the Big Screen Act gives a twelve percent rebate on hired Montana labor and an eight percent rebate based on qualified expenditures. The labor rebate is limited to no more than $50,000 per hired Montana resident. Montana does not have a sales tax.

New Brunswick. According to the Canada Business – New Brunswick website, *"In order to encourage the training and hiring of New Brunswick film personnel, the Province is providing a film tax credit equal to a maximum of 40 percent of eligible salaries paid to New Brunswick residents. Wages in excess of 50 percent of the total costs of production are not eligible for consideration."* In addition, New Brunswick supports other programs, including a no-interest "Development Loan Program" and direct equity investments by the Province in some projects

New Mexico. In 2002, New Mexico became only the second state to offer tax incentives. They did so very aggressively. Film, video, and commercial production went from $1.5 million in 2001 to $476 million in 2008. A huge $75 million set of sound stages and support facilities called Albuquerque Studios was built with government help. Currently it is the combination of incentives, comparatively low costs, and the depth of local facilities and skilled labor, which has been developed over the last eight years, that have made the effort to build a film and television industry in New Mexico so successful.

New Mexico has three incentive programs, two offered by the Economic Development Department and the other by the New Mexico Film Office.

A 25 percent tax rebate is offered by the state for all direct production expenditures, which includes labor. There are no minimum expenditure or cap amounts. An unusually wide array of productions qualifies. The rebate can be used for feature films, television, regional and national commercials, documentaries, video games, and post-production work.

Via the Film Investment Loan Program producers can receive loans from the Economic Development Department with backend participation. A minimum budget of $2 million is required to participate in the loan program. Production companies can also receive non-taxable transaction certificates ("NTTC") so that they avoid paying state sales tax, but the NTTC program cannot be used in conjunction with the 25 percent tax rebate.

Finally, a 50 percent reimbursement of wages is available for on-the-job training of New Mexico residents in advanced, below-the-line positions.

New York. This state for years suffered from losses from the entertainment industry moving out because of the inherently high cost of filming and producing in New York City. In 2004, tax incentives were instituted. Business improved, but some of it was later lost to Connecticut and Massachusetts when they topped what New York was offering. Earlier this year the Governor of New York signed into law more lucrative incentives and demand for production facilities has skyrocketed, especially for television shows.

New York State offers a fully refundable 30 percent tax credit for below-the-line expenses on productions where at least 75 percent of the stage work is done in the state and where spending is at least $3 million (less stringent limits apply to commercials). New York City offers a five percent tax credit and a one percent marketing credit that can be used for outdoor advertising, which the city sells on bus stops and the like. Furthermore, the state classifies film and television production as manufacturing (although the federal government does not) and, thus, productions avoid most sales and use taxes.

Credits from the State of New York are limited to $60 million a year (in 2008). The City of New York has a $30 million annual limit. The credits of issued on a first come, first served basis.

Nova Scotia. In Nova Scotia film companies can earn credit equal to the lesser of 35 percent of eligible Nova Scotia labor expenditures or 17.5 percent of total expenditures made in the province. There are additional credits available, as shown on Table 13. The production must be taxable, Canadian, and a "permanent establishment in Nova Scotia." At least 25 percent of salaries must be paid to Nova Scotia residents. The film cannot be reality television, pornography, advertising or in a number of other categories.

Table 13: Tax Credit Incentives to Film Productions in Nova Scotia

Type	Labor	Total
Base tax credit rate	35.0%	17.5%
Regional bonus*	5.0%	2.5%
Frequent filmer credit**	5.0%	2.5%
Total potential credits	45.0%	22.5%

** For films outside Halifax area.*
*** For companies producing at least three films in 24 months.*
Sources: Nova Scotia Department of Finance.

Oklahoma. The state of Oklahoma was the first to offer major tax incentives for film productions and, unlike most other programs, it extends its incentives for theater productions. The Oklahoma Film and Music Office, through the Oklahoma Film Enhancement Rebate Act, gives a 15 percent point-of-sale tax rebate for expenditures made in the state for film, television and theatre production. The minimum production budget must be $500,000 of which $300,000 must be spent in Oklahoma. Expenditures for production costs can include national advertising, wages and wardrobe, facilities and related services.

Oregon. Oregon has two incentive programs offered through the Oregon Film and Video Office: the Oregon Production Investment Fund and the Greenlight Oregon Labor Rebate. These two programs give cash rebates on Oregon products and labor purchased during filming. The cash rebates give productions more choices about what they can do with the rebates, as opposed to tax credits, which can only be used for specific purposes.

A 20 percent cash rebate is offered to qualifying producers for their purchases of goods and services from Oregon businesses. A 10 percent cash rebate is also available for compensation paid to Oregon workers. To qualify, producers or production companies must spend at least $750,000 in the state.

Production companies are also eligible to receive an additional 6.2 percent cash rebate on Oregon wages through the Greenlight Oregon Labor Rebate. The two labor rebates (Greenlight and Oregon Production Investment Fund) can be combined for a 16.2 percent rebate on Oregon worker wages.

Québec. The Québec Film and Television Council provides a 25 percent tax credit for labor expenditures without limitation, but only for workers that are either Québec residents or that work for Québec companies. Eligible producers must have offices in the province and deal primarily with film and television productions. Films that qualify must be budgeted at over C$1 million. Québec also offers a 20 percent tax credit for labor engaged in digital animation and special effects and a 10.2 percent credit for animation expenses. Production budgets must be at least C$1 million. Higher credits are available for productions done outside the Montreal area.

Rhode Island. The state has a motion picture production credit that covers 25 percent of certified production costs, whether the production's tax bill would run to that much or not. If the production has tax credits left over, it can sell them to other entities or use them in future years – the credits are transferable, and can be carried forward up to three years. Although there are no maximum limits on how much the tax credits can add up to for any one production or for all productions in the state combined, there are minimum requirements. To qualify, projects must film 51 percent of their production at a primary state location and have a production budget of at least $300,000.

Vermont. The film production incentive program is supposed to reimburse ten percent of local expenses for productions spending over a million, but the legislature has not provided a funding source for the program. The best it offers now is an exemption from sales and use taxes for goods and services used directly in filmmaking.

D. Returns to Maine from $1 Million in Film Production Spending

When an out-of-state crew comes to Maine and spends money filming a production, local labor is hired, cars are rented, hotel rooms filled, and money is spent at local stores and restaurants. All of this activity stimulates the economy because the origin of those dollars comes from outside of Maine and would not have been spent in the state had the production not come to the state. Furthermore, as described in the economic impact analysis, the stimulative effects carry through the state's economy causing further employment and spending gains.

All of this activity creates taxable transactions and other government revenues, such as tolls, licenses, permits, and fines. It also increases household wealth within the state, which indirectly raises property values and, thus, local property taxes.

To estimate the tax effects, the analysis sorted through approximately 44,000 lines of spending entries from the film *Empire Falls,* which had a spending profile typical of other out-of-state productions studied by ECONorthwest in the past.

IMPLAN was then used to assess the degrees to which employment, wages, output, and other income in 508 industry sectors making up the Maine economy would be affected per million dollars of out-of-state production spending. For example, the annualized equivalent of 31 jobs is created. This sector-level data was then used to calculate tax and other government revenues.

The IMPLAN model measures the multiplier effects stemming from changes in spending by out of state productions in Maine. For example, the output multiplier is 2.26. Thus, for every dollar in out of state spending in film and video production, another $1.26 in output is generated in other sectors in of the state economy. In another example, the income multiplier is 2.16 and this shows that every dollar in out of state spending is associated with $1.16 in income for workers and business owners in other sectors of the Maine economy. These multipliers are two different measures of the total impacts from a change in out-of-state film production spending.

Through all this, tax and other government revenues are generated. Using IMPLAN results, the analysis was able to ascertain the changes in state and local taxes, fees, and other revenues, which would result. It was determined that one million in out-of-state production spending yields $107,589 in state government revenues and $39,595 in local government revenues for a combined total of $147,184. The results are shown in Table 14.

Table 14: State & Local Government Revenues Generated for Every One Million Dollars Spent on Out-of-State Film Productions in Maine

Type of State/Local Revenue	$ per Million
Personal & corporate income taxes	$50,866
Sales, use & service provider taxes	38,776
Alcohol & tobacco taxes & fees	2,950
Workers comp., insurance taxes & fees	1,381
Healthcare taxes & fees	1,415
Other business licensing & fees	1,131
Other business taxes	180
Taxes of real estate transactions, utilities	2,189
Taxes & fees on fuels, road use, vehicles	5,692
Misc. personal licenses, fees, fines, etc.	906
State gaming revenues	2,103
Total State government revenue	$107,589
Local taxes, fees, licenses & other	39,595
Total State & Local Government Revenue	$147,184

Sources: ECONorthwest IMPLAN analysis using actual spending data from "Empire Falls."

The bulk of the increase arises from income, sales, and property taxes, albeit many less significant revenue sources would also benefit. This does not take into account savings the state government might enjoy from having 31 more jobs, which may reduce social welfare and unemployment costs nor the benefits of retaining working age residents in the state. It also does not account for some incremental costs because of higher demand for government services resulting from the increased economic activity.

While attributed government revenue is one measure to be used in assessing what could be done to encourage film and video productions to film in a state, such productions have other economic effects that need to be considered.

E. Other Economic Benefits Derived from Out-of-State Production Spending

Although one can estimate the government revenues stimulated by film productions, there are other benefits that can accrue to a state. They are not readily quantifiable using economic impact models, but are nonetheless important when considering appropriate incentives.

Foster growth in locally owned film & video companies and workforce. Historically, Maine has had a small, but viable indigenous film industry—an indication that film & video production had a comparative advantage. The Maine Film Office indicates that Maine's relative advantages include landscape, easy access from major cities, lower costs for accommodations and a good reputation for service.

The emergence of aggressive film incentives by Massachusetts, where film productions jumped from $6 million to $545 million in two years, and in other nearby states have erased Maine's advantages. This market distortion is endangering the indigenous film and video industry, which depends partly on a flow of business from outside the state. By having more attractive incentives, Maine would be better able to foster growth of its domestic film and video industry. However, unlike states that lack any inherent advantages in film and video, Maine has a more sustainable basis from which to grow its domestic sector.

Provide in-state jobs for locally educated students. Maine educates students in high school and college in skills for film, video, and other careers that tie directly to the visual media sector. By the very nature of career differences within populations, the state will always have a certain proportion of children that grow up with an intense interest in the sector. If the state lacks a sufficient base of firms in the sector, graduates will migrate out of Maine leaving the state effectively having paid for the educations of workers whose careers will be in Massachusetts, New York, and other states. Retaining film and video production in Maine helps the state attain better job diversity and reduces the loss of skilled workers to other places.

Economic development of tangential businesses. In a related benefit, many of the skills using in the visual media sector are transferable to other sectors. By retaining skilled workers, it allows other, tangentially related sectors to develop by providing a pool of trained and interested employees. Examples include computer animation, website development, music, advertising, and marketing. Transferable skills are particularly important in a state like Maine where other characteristics, such as being a desirable place to raise families, lead to a naturally high immobility rate.[5]

Stimulate tourism. Film tourism is growing, facilitated by the wide availability and repeated viewing opportunities for movies and television shows. Internet sites such as IMDB.com and DVDs with "behind the scenes" features particularly foster viewer knowledge of filming locations. Film tourism is the economic phenomenon of tourism visits stimulated by a destination being featured on television, film, DVD, or the Internet.

Researchers have measured the value of film tourism and, in particular, its ability to generate incremental tourism years after a film is first released. Devils Tower National Monument in Wyoming still gets visitors because of the movie *Close Encounters of the Third Kind*[6]. For example, 17 years after the release of *Field of Dreams*, 65,000 tourists a year visit the cornfield in Iowa where it was set. A recent study found that the number of visitors is approximately 54 percent higher four years after a location is featured in a successful film.

There are many examples of the value of film tourism. A surge in tourism to New Zealand followed the *Lord of the Rings* trilogy. Visits to some Santa Barbara County wineries, which were the setting for the movie *Sideways*, saw a 300 percent increase a year later[7].

Research has found that cognitive and affective (*i.e.*, emotional) images in visual media statistically predict the tourism destinations people choose. The benefits of this consumer behavior would be of great importance to a desirable vacation destination, such as Maine. Effectively, having a Maine location identified and featured in a production acts as a form of product placement. It can be a highly effective means of indirect long-term marketing for the state as a place to visit, live, and locate a business.

---

[5] Immobility is the tendency of a population to remain in state. Maine ranks above average in this measure.

[6] "Hudson, Simon, and J. R. Brent Richie. Film Tourism and Destination Marketing: The Case of Captain Corelli's Mandolin." Journal of Vacation Marketing. Vol.12 No.3, p.256 (July 2006).

[7] Yoshino, Kimi. "From Film to Destination Spot." Los Angeles Times. June 5, 2006.

This analysis found that Maine has advantages as a location for film and video productions, as well as commercial photography shoots. These advantages were evident in the past before the state had to compete against generous incentives offered by nearby states. Out-of-state productions came to Maine fairly regularly. It is a clear indication that Maine has some inherent competitive advantages as an attractive site for productions. This advantage may be worth about 5 percent, so with incentives in neighboring states as high as 36 percent, Maine has simply become uncompetitive.

The analysis also finds that out-of-state productions stimulate measurable state and local tax revenues equal to about 15 percent of the local expenditures of those productions. Additional tax benefits may arise through local industry development and tourism, which are not captured by an economic impact model. We believe that a similar tax impact (15 percent) would be found for Massachusetts, Connecticut, Rhode Island, and New York, which offer film incentives that are about twice as high.

To stay competitive, Maine needs higher incentives. This would ensure a flow of productions to the state necessary to maintain and ultimately enhance the skill diversity of its workforce and domestic industry. Still, it is probably unrealistic for Maine to match the incentives of nearby competing states. Indeed, given the modest capacity of the domestic industry at this time, matching the incentives now offered in New York City and Boston would be ill advised. It would perhaps be better to follow the Oregon model of offering moderately competitive, but not over-the-top, incentives that are enough to attract a handful of productions necessary to stimulate and support the indigenous visual media sector.

In addition, we strongly suggest that Maine institute a mechanism in its incentive package, unlike most other states, that specifically rewards film, video, Internet media, commercial, and television productions for positively featuring and identifying Maine or destinations in Maine in their productions. States derive no film tourism value giving incentives to filmmakers that portray other states, as Louisiana did with the filming of *The Mist*, which was set in a fictional Maine town. Wyoming and Georgia are two states that recently instituted such incentives.

Wyoming's incentive package is structured to promote film tourism, with an up to three percent bump added onto its 12 percent base incentive depending on if and to what extent a film features Wyoming. A film must set its storyline in Wyoming in order to receive the full 15 percent benefit. However, this three percent extra incentive may not be enough to motivate producers when compared with generous incentives with fewer strings attached in other states.

Georgia offers production companies an incentive of up to ten percent if films, television shows, or movie trailers embed a "qualified Georgia promotion" into their finished products.

In conclusion, in comparison to other New England states, Maine should consider a competitive, but lower overall incentive rate of perhaps 20 percent. This incentive would be offset by the 15 percent increase in state and local government revenues plus a value of five percent that could be attributable to workforce and economic development (a cost equivalent to approximately $1,613 per annual job).[8] However, higher incentives, such as an additional ten percent, should be awarded to productions that clearly feature and identify images or locations in Maine that are apt to evoke positive emotions and cognitive responses in viewers, thus yielding higher tourism and economic development in future years.

If tax credits are used, they should be fully refundable so to maximize their value and impact. However, the total amount of credits available in any one year should be capped to a level that, if fully used, would bring in enough out-of-state productions for Maine to comfortably host and benefit from. Doing so would avoid the problem seen in other states where so many productions are drawn in by an incentive that local resources are overwhelmed, leaving the out-of-state companies having to import labor and services.

---

[8] An out-of-state production yields 31 jobs per million dollars spent, thus seven percent in incentives equals $1,613 per job.

For more information regarding this analysis, please contact:

Robert Whelan or Alec Josephson
ECONorthwest
888 SW Fifth Ave., Suite 1460
Portland, Oregon 97204
(503) 222-6060

This report was prepared for:

Greg Gadberry
Maine Film Office
59 State House Station
Augusta, Maine 04333
(207) 624-9827