

Impact of the MOPIC Program and Film and Multi-Media Production in Arizona - 2009



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I. EXECUTIVE SUMMARY

Amidst a deepening statewide budget crisis, many important decisions have to be made concerning how the State allocates scarce resources. In particular, one of those decisions centers around whether to continue the Arizona Motion Picture Production Tax Incentives Program (MOPIC). ESI was contracted by APA to review the Arizona Department of Commerce (ADOC) 2008 Annual Report on the MOPIC Program and provide an independent analysis on the merits of the program. It was concluded that many important issues were not included in the ADOC report and since it is the sole document available by which to judge the merits of the MOPIC program, further analysis was deemed necessary.

In reviewing the report, it was concluded that ADOC's methodology, while sound in its approach, was not adequate to comprehensively evaluate the MOPIC program. The ADOC report omits critical information and oftentimes presents information in a manner that could be easily misconstrued. Specifically, it was concluded that there are 5 major issues that jeopardize the integrity of the ADOC's analysis:

1. The ADOC's overemphasis on the Return on Investment (ROI) to the State's General Fund as the primary measure of program effectiveness.
2. The sparse discussion of wage and employment growth trends in film production in Arizona.
3. The omission of an estimate of self-employed persons in Arizona engaged in film production, which grossly underestimates the number of jobs and wages associated with the industry.
4. The omission of nonqualified Arizona expenditures from the economic impact analysis.
5. The omission of potential Commercial Advertising and Music Video (CAMV) expenditures and infrastructure expenditures from the economic impact analysis.

KEY REPORT FINDINGS

Major findings of this analysis are as follows:

Return on Investment Evaluation – The ADOC uses the net fiscal impact on the State's general fund as the primary metric when evaluating the merits of the MOPIC program. When originally conceived, the MOPIC program was intended as an incentive to attract new production activity to the state, create jobs in the industry, and build a critical mass of film production, which would eventually spur investment in a long-term film production asset, such as a studio, film school, or other similar facility. The program was structured to provide a *trade-off* between general fund dollars and jobs, wages, and output in the film production industry.

Importantly, the MOPIC program was *not* designed with the intention of providing a dollar for dollar return to the general fund. Consequently, we believe that state lawmakers and the general public are only hearing about the MOPIC impact and not the industry's entire impact to the state, and are likely misled by the ADOC annual report findings.

The metric employed to evaluate MOPIC should relate to the intent of the program, which is to build a self-sustaining critical mass of film production in the state, create jobs, and attract long-term assets in the industry. As such, one would expect any bottom-line measure to incorporate not only the cost side of the equation (i.e. net cost to the general fund), but also the benefit side as well (i.e. jobs created, industry output generated, new capital expenditures realized, etc).

Employment and Wage Growth – According to the Quarterly Covered Employment and Wage (QCEW) data, the film production industry has grown significantly since the inception of the MOPIC program. While mentioned in passing, industry employment and wage growth were essentially downplayed by the ADOC.

The total number of establishments in the film industry in Arizona has shown strong growth over the preceding two years, registering 12 percent and 11 percent growth in 2006 and 2007, respectively. The average annual pay of employees in the film production industry rose sharply in 2007, jumping from just over \$31,000 in 2006 to nearly \$40,000, representing a 28 percent increase in compensation. This growth brought wages back to levels comparable to what they were from 2001 to 2004, when wages hovered around \$38,000 per year. The total number of employees shrank by 15 percent in 2007 to 808, after registering year over year growth of 16 percent in 2006. In fact, from 2003 to 2006, the total number of employees grew by 16 percent per annum on average.

Self-Employment and CEW Data – THE ADOC uses Quarterly Covered Employment and Wage (QCEW) data to examine employment and wages in the film production industry in Arizona. A significant portion of film production related employment and wages are not included in the above data because of the following:

1. The employment data was reported under a related NAICS code which is outside of those examined in the 2008 MOPIC Annual Report (i.e. 51211, 51212, and 51219). This is likely a common occurrence, as many of the major support industries associated with film production fall outside of these specific NAICS codes, such as accounting services, media relations, catering, carpentry, animal handling, etc.
2. The QCEW data does not include independent contractors and self-employed persons, because they are not required to submit a quarterly unemployment report, which is where the job data is obtained.

While both issues significantly affect the representative value of the data, the latter issue is of greater concern due to the prevalence of employees in film production that are independent contractors and do not participate in Arizona’s statewide unemployment insurance program. The omissions which are embodied by the QCEW methodology no doubt contribute to a significant understatement of employment and wages earned in the film industry in Arizona. In a recent study by the Motion Picture Association of America (MPAA), it was estimated that approximately 25 percent of all employees in the film production industry are self-employed¹. ESI used this 25 percent assumption provided by the MPAA to estimate the number of employees that aren’t being counted in the QCEW data. The results of this inquiry are found below in Table 1.

**Table 1 - 2007 Arizona Film Production Wages
(NAICS 51211, 51212, 51219, Including Self-Employed)**

	ADOC	ESI*
Employment	809	2,229
Total Wages Earned	\$32,188,343	\$88,856,856

Source: U.S. Bureau of Labor Statistics, ADOC, ESI Corp

*Total wages earned based on \$39,864, the average annual pay found by using a weighted average for NAICS 51211, 51212, and 51219 in 2007

If we assume that the MPAA’s figure of 25 percent was applicable to Arizona in 2007, this would indicate that an estimated 1,420 jobs in the film production industry in Arizona were unaccounted for in the data,² which implies that 2,229 persons were employed in the film production industry in Arizona, rather than the previously purported 809 employees.

Inclusion of All Local Expenditures – The inputs the ADOC employs to determine local and state sales tax generation include only post approved “qualified” expenditures, which under-represents the economic impact to the state. If there is tax generation to the state resulting from the spending, and the production was approved for tax credits, then that should be the litmus test for including or excluding the expenditure. ESI estimated these local nonqualified expenditures to be approximately \$13 million- a significant sum, given the ADOC model was ran on a single figure of \$44.9 million.

Omitting Potential CAMV and Infrastructure Expenditures – There are two other additional components of the MOPIC program which were not included in the ADOC economic impact model: 1) Commercial Advertisement and Music Video expenditures and 2) film related infrastructure expenditures.

¹“Economic Impact of the Motion Picture & Television Industry on the United States,” April 2009, Motion Picture Association of America.

² It was assumed self-employed persons aren’t in the business of film exhibition (NAICS 51213).

While projects participating in these areas of the MOPIC program have yet to complete the final audit process through the ADOC (i.e. reach post-approval), four firms were pre-approved for these tax credits and are nonetheless spending money in the State. The fact that ADOC recognizes a few of these projects as ongoing yet omits their potential impacts in their report findings is troubling. ESI estimated the potential value of post-approved CAMV spending to be approximately \$860,000, while potential infrastructure spending was estimated at just under \$80 million.

ALTERNATIVE MOPIC METHODOLOGY

Several modifications were made to the ADOC methodology and a separate impact analysis was conducted utilizing IMPLAN. Based on this analysis, the economic impacts showed that MOPIC-participants supported over 2,000 jobs throughout the state and contributed over \$82 million per year in total compensation. MOPIC-participating firms were responsible for approximately \$246 million in total industry output in Arizona in 2008. The operations of MOPIC-participants generated \$7.8 million in revenue to the State’s General Fund. On a net basis, the MOPIC program cost to Arizona’s General Fund is estimated at just under \$840,000. Results of this analysis are shown below in Table 2, which compares the results to those of the ADOC analysis.

Table 2 - Comparing Economic Impacts, ADOC vs. ESI		
Total Economic Impact	ADOC	ESI
Industry Output	\$ 85,850,911	\$ 246,220,871
Employment	730	2,049
State/Local Taxes Generated	\$ 2,317,566	\$ 7,804,310
Total Arizona Tax Incentives Post-Approved	\$ 8,641,589	\$ 8,641,589
Net Benefit (Cost) to the General Fund	\$ (6,324,023)	\$ (837,279)

Source: Minnesota IMPLAN Group, ESI Corp.

BEYOND MOPIC – THE FULL MEASURE OF FILM PRODUCTION, DISTRIBUTION AND EXHIBITION IN ARIZONA

In order to appreciate the real impact that the film and multi-media production industry has on Arizona’s economy, ESI conducted an impact analysis of the film industry in its totality (not just the value of MOPIC applicants), analyzed the jobs and average wages associated with the industry, researched the number of enrollments and degrees conferred within applicable curriculum, and assessed the multiplier effect that the Motion Picture and Video Industry has on Arizona’s economy, compared to other key industries in Arizona. Our key findings include the following:

- The economic impact analysis concluded that in 2007 the film production, distribution and exhibition business generated \$594 million in direct output, which contributed an additional \$557 million in industry output in other related industries in the State and created 5,343 direct jobs. Thus, the total industry output supported by film in Arizona in 2007 was over \$1.1 billion.
- The jobs associated with the multi-media production business are career paying jobs that require a certificate or Bachelor's degree or a combination of the two. The annual average wage of those occupations associated with film production and distribution is \$52,659 which is a full 34 percent higher than the statewide annual average wage of \$39,280.
- Enrollment in film related academic programs in Maricopa County alone showed an increase of 12 percent since 2006, while degrees awarded grew by 52 percent from 2006-07 to 2007-08³.
- The multiplier effect of this industry in Arizona is also very impressive. Out of 440 industries modeled within IMPLAN, the Motion Picture and Video Industry ranked 33rd with a multiplier of 3.2. This means that for every \$1.00 change in final demand in the Motion Picture and Video Industries, another \$2.21 of indirect and induced value added is generated in other industries in Arizona's economy.

RECOMMENDATIONS

At the end of this report are a series of recommendations relating the administration of the MOPIC program and the evaluation method utilized by ADOC to measure the economic impacts associated with this industry. These recommendations are fully discussed in Chapter 6.

1. Require independent annual audits from an outside agency or other third party.
2. Include nonqualified local expenditures, CAMV spending, and infrastructure expenditures in the economic impact model.
3. Estimate self employed and include them in the analysis of film production employment.
4. Allow sufficient time before judging the long-term value of the MOPIC Program.
5. Adopt a policy that allows for the inclusion of out-of-state actor salaries as qualified expenditures.
6. Formalize a series of metrics to evaluate the MOPIC program.

II. BACKGROUND

³ At the time this report was written, Scottsdale Community College did not yet have degrees awarded data for the 2008-09 academic year.

INTRODUCTION

The Arizona Production Association (APA) contracted with ESI Corp to review the 2008 MOPIC Annual Report published by the Arizona Department of Commerce (ADOC) analyzing the Arizona Motion Picture Production Tax Incentives Program (MOPIC). The APA hired ESI to conduct an independent analysis of the ADOC report findings, providing recommendations where appropriate. This report summarizes the results of ESI's analysis.

The objectives of this analysis are to:

1. Assist the APA in formulating a rebuttal to the findings presented in the DOC's 2008 MOPIC Annual Report,
2. Offer an alternative methodology and analysis in evaluating the Return on Investment (ROI) of the MOPIC program, and
3. Analyze and discuss the full impact that the film production, distribution and exhibition business has on Arizona's economy.

The APA feels the ADOC report unfairly mischaracterizes the contributions and magnitude of film production in the State of Arizona. Through commissioning ESI's third-party analysis of the report, the APA aims to shed light on the film production industry's local economic contributions, as well as address the 2008 MOPIC Annual Report's implication that the incentive program, overall, is a burden on the local economy.

The legislation that created the MOPIC incentive program was enacted in 2005 and became effective on January 1st, 2006. Since then, there have been several program changes that took place during the 2007 legislative session, although the overarching program goals remain unchanged: to encourage additional film production in the State of Arizona- to aid the industry in reaching a self-sustaining critical mass of production that will spur the development of long-term film-related assets in the State.

STATEWIDE BUDGET SHORTFALL

Arizona, like many states amidst the current economic slowdown, is facing an imposing statewide budget deficit. As such, there is tremendous pressure to cut public services and programs in an attempt to bridge the looming budget shortfall. In identifying potential areas to cut in state programs, there has been substantial discussion regarding the elimination of Arizona's MOPIC program. Elimination of the entire MOPIC program would be a significant loss for film production in Arizona. Despite the critical nature of this issue, there has thus far been a general lack of publicly available information on the subject. As such, the ADOC's 2008 MOPIC Annual Report has been the sole document with which to judge the costs and benefits of the incentive program. After reviewing the MOPIC report, ESI feels

there could have been more done to provide a thorough and transparent analysis to state lawmakers. It is ESI's goal to provide the APA, as well as the general public, with a more thorough report on which to judge the merits of the MOPIC program and discuss the overall impact that this industry has on the state's economy.

The balance of this report is divided into four chapters which provide a fairly comprehensive analysis and discussion regarding the film industry in Arizona.

Chapter 3 – ADOC MOPIC Annual Report: This chapter lays out the ADOC methodology utilized and discusses its weaknesses.

Chapter 4 – Alternative MOPIC Methodology: Within this chapter, ESI modifies the methodology utilized by ADOC to evaluate MOPIC and conducts an alternative impact analysis.

Chapter 5 – Arizona Film and Multi-Media Production: An expanded discussion of the film industry is covered within this chapter, which goes beyond the impact of the MOPIC program, and evaluates and discusses the entire film production, distribution and exhibition industry.

Chapter 6 – Recommendations: This chapter provides a series of recommendations to improve the MOPIC program.

III. ADOC MOPIC ANNUAL REPORT

On an annual basis, the Arizona Department of Commerce prepares a report on the MOPIC program detailing the number of applications received, the value of pre and post-approved tax credits approved, and the economic impact that this program has on the state's general fund. The methodology of the analysis, while sound in its approach, is not adequate enough to comprehensively evaluate the program.

A thorough examination of the 2008 MOPIC Annual Report produced by the ADOC was conducted to gain a firm grasp on the methodology and assumptions employed. What follows is a brief synopsis of the content presented in ADOC's report, including the methodology developed and the metrics utilized in evaluating program effectiveness.

Beyond the detailed background information included in their report, the ADOC essentially examines three sets of metrics in evaluating the effectiveness of the MOPIC program in Arizona.

- *Program utilization data* – this data is managed internally by the ADOC and is gathered from applicants at the pre-approval and post-approval stages. This category could be broken into two facets: application activity and applicant spending. Specific metrics included in this category include total number of applicants, number of applicants approved, estimated spending by pre-approved applicants, total post-approved applicant spending, total post-approved applicant spending in Arizona, and percentage of total spending in Arizona.
- *Employment and wage data* – this data comes from the U.S. Bureau of Labor Statistics' Quarterly Census of Employment and Wages (QCEW) program and was used to identify trends in specific NAICS codes which correspond to film production. Metrics included in this category include the number of persons employed in the film industry in Arizona, the number of film production firms located in Arizona, and the average annual compensation for employees working in film production in Arizona. At the time this report was written, the most current data available was 2007.
- *Economic and fiscal impact data* – this data was generated by use of the IMPLAN regional multiplier model, and measures the direct, indirect, and induced employment, wages, industry output, and state and local taxes attributed to 2008 MOPIC-approved spending in Arizona. ADOC selected IMPLAN sector 418 (Motion Picture and Video Industries) within a 2006 State of Arizona IMPLAN data file to estimate economic impacts. ADOC did not

modify the IMPLAN data prior to running the model, and allocated the entire amount of post-approved spending in Arizona (\$44,900,039) to said sector⁴.

ADOC uses a mixture of program utilization data and economic impact results to arrive at what could be considered the overarching conclusion of the report: the net impact of the MOPIC program on the State's general fund. This figure is arrived at through subtracting the estimated state and local taxes generated from the IMPLAN model from the value of post-approved tax incentives distributed.

For a variety of reasons, the information presented by the ADOC was insufficient to accurately measure the impact of the MOPIC program. After reviewing the ADOC study, ESI compiled a short list of items that warrant discussion regarding the methodology and presentation ADOC employed.

ADOC'S METHODOLOGY

The ADOC report was generally sound in the methods they employed, however, several issues warrant discussion. These issues are briefly summarized below:

- Return on Investment Evaluation
- Employment and Wage Growth
- Self-Employment and CEW Data
- Inclusion of All Local Expenditures
- Omitting Potential CAMV and Infrastructure Expenditures

Return on Investment (ROI) Evaluation

The ADOC examines the net fiscal impact on the State's general fund when evaluating the merits of the MOPIC program. When originally conceived, and as previously mentioned, the MOPIC program was intended as an incentive to attract new production activity to the state, create jobs in the industry, and build a critical mass of film production, which would eventually spur investment in a long-term film production asset, such as a studio, film school, or other similar facility. In essence, the MOPIC program was structured to provide a *trade-off* between general fund dollars and jobs, wages, and output in the film production industry. Importantly, the MOPIC program was not designed with the intention of providing a dollar for dollar return to the general fund. Evaluating it as such, especially in the program's relatively early stage, is short-sighted, and absent in the conversation is the discussion of the economic benefits realized in the form of added jobs, capital expenditures, film-based tourism revenue, etc. Consequently, we believe that state lawmakers and the general public are not hearing about the industry's real impact to the state and are likely misled by the ADOC annual report findings.

⁴ Jessica Smothermon, Arizona Department of Commerce. Interview April 15, 2009.

The metric employed to evaluate MOPIC should relate to the intent of the program, which is to build a self-sustaining critical mass of film production in the state, create jobs, and attract long-term assets in the industry. As such, one would expect any bottom-line measure to incorporate not only the cost side of the equation (i.e. net cost to the general fund), but also the benefit side as well (i.e. jobs created, industry output generated, new capital expenditures realized, etc).

It should also be noted that examining the effectiveness of incentive programs by their impact on the general fund is something exclusive to the MOPIC program. No other incentive programs administered by the ADOC are evaluated in this manner. For example, the Enterprise Zone program, which also requires an annual report, in no way attempts to come to some sort of inclusive bottom-line figure measuring the cost to the general fund. Framing the evaluation of the MOPIC program in terms of its ability to generate additional general fund dollars begs the question of what the ROI of other statewide incentive programs administered by ADOC might look like. Is a positive general fund impact prerequisite to program continuation? Will we evaluate the continuation of other statewide incentive programs in the same light? Do we expect incentive programs to pay for themselves in terms of tax revenue, and if so, is this a realistic expectation?

The fixation on general fund impacts is not confined to the State of Arizona. In fact, in a review of five other annual reports on statewide film production incentive programs in other states (New York, Connecticut, Louisiana, New Mexico, and Michigan) we found that four out of five studies attempt to come to a single ROI figure as well, each with widely varied results and methodologies. In general, the only way a tax credit program could effectively show a positive direct net impact on that states' general fund is through estimating impacts beyond those generated by "qualified" production expenditures.

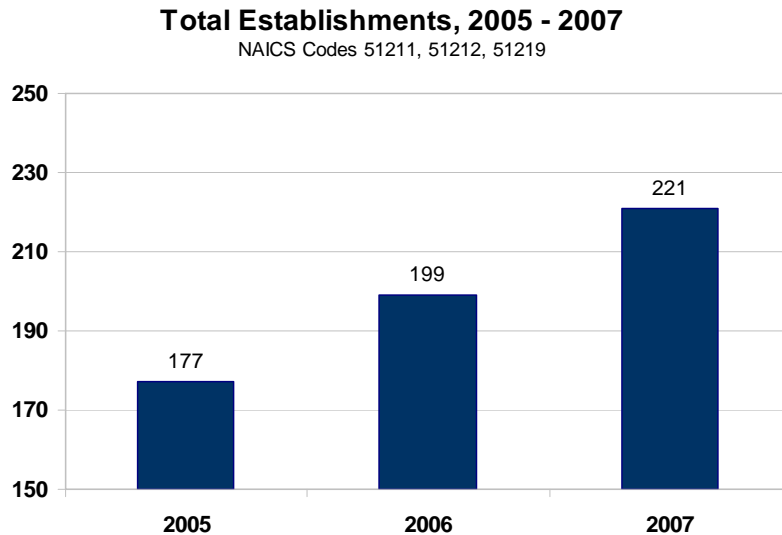
The cohort of studies reviewed reveals the great lengths to which firms and organizations will go to meet the criteria of a positive impact on the general fund, if that is the standard to which these programs are being held. Limiting these five state programs to consider only impacts generated from qualified production spending would result in a net loss to each of their general funds. This fact demonstrates the nature of these programs, which are often trade-offs between general fund revenue and economic benefits in the form of added jobs, capital expenditures, and potential film-based tourism revenue.

Employment and Wage Growth

A review of recent growth in the film production industry in Arizona shows that this industry has grown since the inception of the MOPIC program. Although it is difficult to attribute an explicit amount of this growth to the existence of the MOPIC program, especially in light of the short time it has been in effect, the data nonetheless show a strong correlation between the enactment of the incentive program and rising film production activity in the state. While this information was

included in the ADOC report, it was not given enough importance in testifying to the effectiveness of the MOPIC program in attracting film production to the State.

The growth of the film production industry in Arizona is evident by looking at the increase in the number of establishments and wages from 2005 to 2007⁵. The total number of establishments in the film industry in Arizona has grown consistently over the preceding two years, registering 12 percent and 11 percent growth in 2006 and 2007, respectively. Prior to 2006, from 2001-2005, the average number of establishments in the state hovered between 169 and 178 firms.



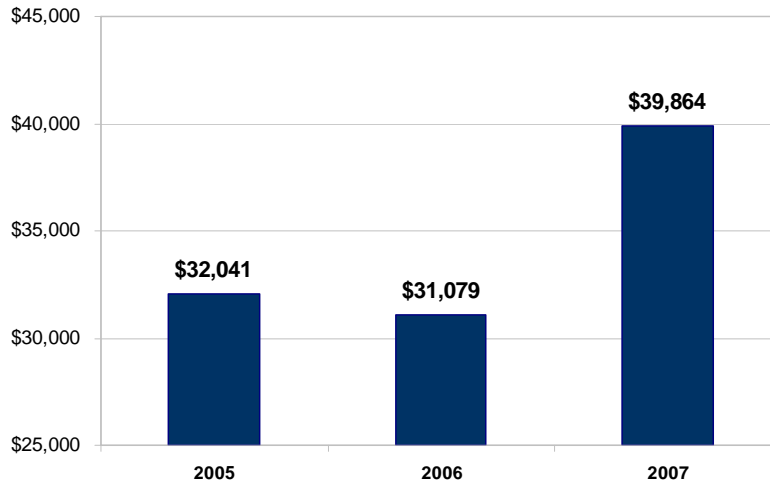
Source: U.S Bureau of Labor Statistics, 2007 QCEW Data

The average annual pay of employees in the film production industry rose sharply in 2007, jumping from just over \$31,000 in 2006 to nearly \$40,000, representing a 28 percent increase in compensation. This growth brought wages back to levels comparable to what they were from 2001 to 2004, when wages held around \$38,000 per year.

⁵ At the time this report was written, 2007 was the most current data available.

Average Annual Pay, 2005 - 2007

NAICS Codes 51211, 51212, 51219

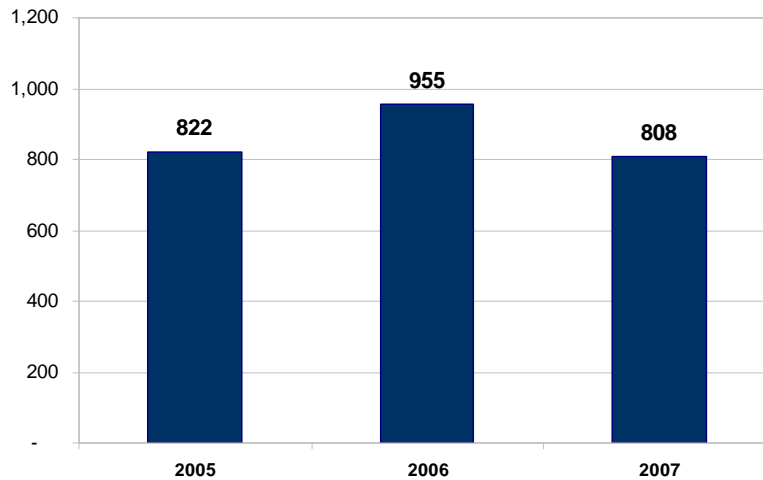


Source: U.S Bureau of Labor Statistics, 2007 QCEW Data

The total number of employees shrank by 15 percent in 2007 to 808, after registering year over year growth of 16 percent in 2006. In fact, from 2003 to 2006, the total number of employees grew by 16 percent per annum on average.

Total Employees, 2005 - 2007

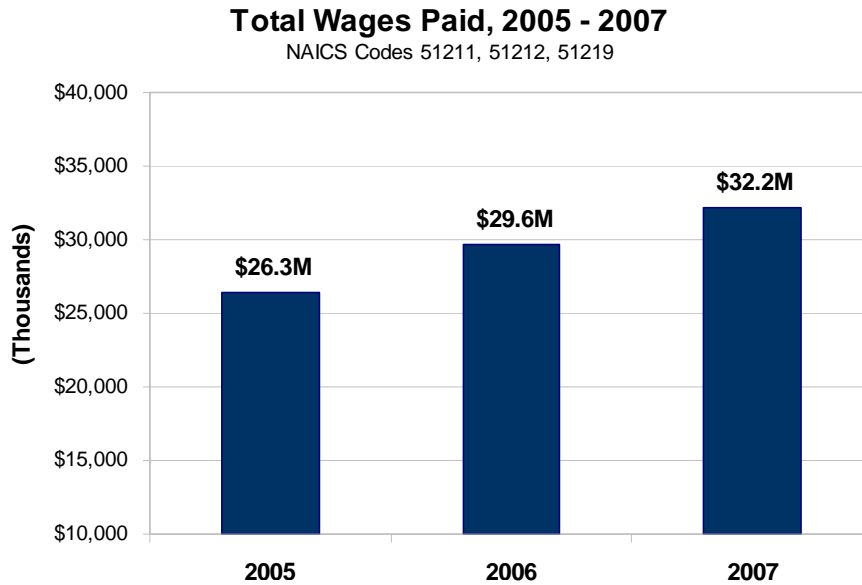
NAICS Codes 51211, 51212, 51219



Source: U.S Bureau of Labor Statistics, 2007 QCEW Data

The total wages paid to employees of the film industry in Arizona showed strong growth in 2006 and 2007, expanding at 12 percent and 9 percent, respectively. The

\$32.2 million paid to employees in the film industry in 2007 represents the largest annual sum over the timeframe 2001-2007.



Source: U.S Bureau of Labor Statistics, 2007 QCEW Data

As evidenced by the above tables, there has been significant growth in the film industry in recent years. Much of this growth was realized in 2007. Importantly, however, the QCEW data published by the U.S. Bureau of Labor Statistics (BLS) only captures a limited view of the total industry employment and wages.

Self-Employment and CEW Data

There are two major issues which significantly affect the completeness of the QCEW data. A significant portion of film production related employment and wages are not included in the above data because of the following:

1. The employment data was reported under a related NAICS code which is outside of those examined in the 2008 MOPIC Annual Report (i.e. 51211, 51212, and 51219). This is likely a common occurrence, as many of the major support industries associated with film production fall outside of these specific NAICS codes, such as accounting services, actors, media relations, catering, carpentry, animal handling, etc.
2. The QCEW data does not include independent contractors and self-employed persons, because they are not required to submit a quarterly unemployment report, which is where the job data is obtained.

While both issues significantly affect the representative value of the data, the latter issue is of greater concern due to the prevalence of employees in film production that

do not participate in Arizona’s statewide unemployment insurance program. The omissions which are embodied by the QCEW methodology no doubt contribute to a significant understatement of employment and wages earned in the film industry in Arizona. In a recent study by the Motion Picture Association of America (MPAA), it was estimated that approximately 25 percent of all employees in the film production industry are self-employed⁶. This implies that the methodology employed by the QCEW program contributes to a *significant* understatement of employment and wages earned in the film industry in Arizona. If we assume that the MPAA’s figure of 25 percent was applicable to Arizona in 2007, this would indicate that an estimated 1,420 jobs in the film production industry in Arizona were unaccounted for in the data,⁷ which implies that 2,229 persons were employed in the film production industry in Arizona, rather than the previously purported 809 employees. These estimates are derived as follows:

Table 3 - 2007 Arizona Film Production Employment		
Estimating Self-Employed Persons in NAICS 5121	DOC	ESI
NAICS 5121 Including Self Employed Persons (4,261 ÷ .75)	N/A	5,681
Less Official NAICS 5121 Employment	N/A	4,261
Estimated Self-Employed Persons Unaccounted for (NAICS 5121)	N/A	1,420
Adjusting NAICS 5121 to Reflect Solely Film Production	DOC	ESI
Total Motion Picture and Video Industries Employment (NAICS 5121)	4,261	5,681
Less NAICS 51213 (Film Exhibition) Employment	-3,452	-3,452
Total Arizona Film Production Employment ¹	809	2,229

¹Includes NAICS 51211, 51212, 51219

Source: U.S. Bureau of Labor Statistics, ADOC, MPAA, ESI Corp

By including the estimated self-employed people to the base of 809 jobs, there are 2,229 jobs attributed to the film industry (NAICS 5121) in Arizona with annual wages greater than \$88 million. This figure is nearly \$57 million more in wages than ADOC calculated in their 2008 Annual Report⁸. For this analysis, it was assumed that self employed persons earned the same annual wage as those officially captured in the QCEW data (\$39,864). Actual wages of self-employed persons within this industry may or may not be much greater.

⁶“Economic Impact of the Motion Picture & Television Industry on the United States,” April 2009, Motion Picture Association of America.

⁷ It was assumed self-employed persons aren’t in the business of film exhibition (NAICS 51213).

⁸ “Motion Picture Production Tax Incentives Program, Annual Report Calendar Year 2008,” Figure 12, page 16.

**Table 4 - 2007 Arizona Film Production Wages
(NAICS 51211, 51212, 51219, Including Self-Employed)**

	ADOC	ESI*
Employment	809	2,229
Total Wages Earned	\$32,188,343	\$88,856,856

Source: U.S. Bureau of Labor Statistics, ADOC, ESI Corp

*Total wages earned based on \$39,864, the average annual pay found by using a weighted average for NAICS 51211, 51212, and 51219 in 2007

Inclusion of All Local Expenditures

The inputs the ADOC employs to determine local and state sales tax generation include only post approved “qualified” expenditures, which under-represents the economic impact to the state. The rationale as to what spending can be included or excluded seems rather arbitrary. If there is tax generation to the state resulting from the spending, and the production was approved for tax credits, then that should be the litmus test for including or excluding the expenditure. In our interviews with other state film offices, we found that three states (New York, Connecticut, and New Mexico) include all tax generating spending in their impact analysis. To reflect the true impact to the state’s economy, a separate analysis utilizing the IMPLAN model was run incorporating *all* local expenditures by MOPIC-participating production companies. The results are presented in Chapter 4, Alternative Methodology.

Omitting Potential CAMV and Infrastructure Expenditures

There are two other additional components of the MOPIC program which were not considered when evaluating the economic impacts of the incentive program: 1) Commercial Advertisement and Music Video expenditures and 2) film related infrastructure expenditures. In estimating the economic impacts of MOPIC participating film production in Arizona, the ADOC based their impacts solely on post-approved film production spending. This is likely due to two reasons:

1. Unavailability of post-approved data for other components of the program.
2. Program stipulations (i.e. certification periods) have disallowed participants from reaching the post-approval stage as of yet.

While projects participating in these facets of the MOPIC program have yet to complete the final audit process through the ADOC (i.e. post-approval), four firms were pre-approved for these tax credits and are nonetheless spending money in the State. The fact that ADOC recognizes a few of these projects as ongoing yet omits their potential impacts in their report findings is troubling. The potential impacts could and should be estimated in a reasonable manner and included in the report findings.

Given the above stated issues, an alternative methodology was devised which addresses these concerns and is discussed in Chapter 4. The addition of a few critical components, alongside some general reorganization of model results, yielded a much more comprehensive and *comprehensible* set of findings.

IV. ALTERNATIVE MOPIC METHODOLOGY

To provide a thorough assessment of the MOPIC program, an alternative analysis was conducted utilizing the same IMPLAN software as was used by ADOC. The modifications to the methodology and inputs include the following:

- Utilize the 2007 data set for the State of Arizona (ADOC used 2006 data).
- Include non-qualified expenditures for local goods and services.
- Include an estimate of pre-approved spending for Commercial Advertising and Music Video (CAMV) production as well as film-related infrastructure projects.

The inclusion of these three above elements is requisite to presenting a thorough analysis of the economic and fiscal impacts of Arizona's MOPIC program. What follows is a brief description of the methods employed in with these additional components.

NON-ELIGIBLE ARIZONA FILM PRODUCTION EXPENDITURES

ADOC based their economic impacts on one single figure: \$44.9 million in post-approved film production spending in Arizona. They used this figure as the sole input when running the IMPLAN model, thus all of the economic impacts, including the estimate for state and local tax revenue realized, are based on this figure. While using only the post-approved eligible film production spending in the State is convenient, it excludes many expenditures which were 1) local, 2) had definite fiscal and economic impacts, and 3) were realized within the context of a MOPIC-approved project. Excluding expenditures because they were not eligible for a tax credit doesn't mean that direct tax revenues weren't generated to the local and state governments. Frankly, there is no sound rationale for *not* including these expenditures in the regional multiplier model.

To estimate non-qualified local film production expenditures, budgets from MOPIC-participating productions in 2008 were provided to ESI from the APA to analyze. Based on this analysis it was concluded that for every \$1 in post-approved local spending, firms spent an additional \$0.29 in local non-qualified production expenditures. This assumption was applied to the \$44.9 million to calculate non-qualified expenditures of \$13 million. This figure was used as input to the IMPLAN model in addition to the ADOC post-approved local spending figure of \$44.9 million.

ESTIMATED CAMV EXPENDITURES

The second component omitted from the ADOC report is estimated CAMV expenditures. In ADOC's report, they present a figure for pre-approved estimated local production expenditures; however, no attempt is made to estimate what is

actually being spent in the local economy. ESI attempted to estimate the amount of post-approved expenditures that would be realized from pre-approved CAMV expenditures.

Given the similarities between film production and production for commercial advertising and music videos, an assumption was made that the current ratio between pre-approved and post-approved expenditures would carry over to production in commercial advertising and music videos. That is, the same percentage of pre-approved local expenditures would qualify for post-approval. This percentage, according to ADOC's 2008 annual report, was approximately 49.2 percent, which was applied to the \$1,755,920 in pre-approved Arizona CAMV spending. The results yielded an estimated \$863,926, which was combined with the post-approved spending figure of \$44.9 million, and was used as input to the IMPLAN model.

ESTIMATED FILM-RELATED INFRASTRUCTURE EXPENDITURES

The third additional component included in the regional multiplier model was estimated film-related infrastructure expenditures. Again, as is the case with CAMV expenditures, no pre-approved applicants have yet reached the post-approval stage. This does not imply, however, that construction hasn't taken place, and that economic impacts have not been realized. ADOC's 2008 annual report presents a pre-approval figure for infrastructure expenditures (100 percent of which are local). Again, no attempt is made to estimate the potential impact of these projects, nor any pertinent discussion offered. Because the construction of sound stage and other film-related infrastructure is not at all akin to producing film or commercial advertisements, a different method of estimating infrastructure post-approvals was explored.

For this analysis, an assumption was made that one of the four projects pre-approved would ultimately make it to the post-approval stage. Using this assumption, and assuming that this one approved project would account for one quarter of all pre-approved expenditures, this suggests that \$79,390,411 will be post-approved by the ADOC. This figure was also used as input in addition to the ADOC post-approved local spending figure of \$44.9 million. Notably, film-related infrastructure was classified in IMPLAN sector 36 (Construction of Other Nonresidential Structures), whereas all other expenditures discussed in this report were classified under IMPLAN sector 346 (Motion Picture and Video Industries).

MODEL OUTPUT

Basing the economic and fiscal impacts of the MOPIC program on a combination of 1) post-approved local film expenditures, 2) non-qualified local film production expenditures, 3) estimated CAMV spending, and 4) estimated film-related infrastructure spending provides a more comprehensive look into the costs and benefits of the program. Total combined spending of these activities equaled \$138.1 million. Table 5 summarizes the inputs on which the regional multiplier model was based.

Table 5 - Inputs to the Alternative Methodology

Category	Amount
Post-Approved AZ Film Production Expenditures	\$ 44,900,039
Non-Eligible AZ Film Production Expenditures	\$ 13,021,011
Potential CAMV Expenditures	\$ 863,926
Potential Film-Related Infrastructure Expenditures	\$ 79,390,411
Total Spending Analyzed in IMPLAN	\$ 138,175,387

Source: ADOC, ESI Corp.

The alternative methodology produces a comprehensive look at the economic impacts of the MOPIC program and is illustrated in Table 6. As is clear, the economic impacts of the MOPIC program are much more robust through the inclusion of these additional, yet appropriate, expenditures. MOPIC-participating firms paid out over \$43 million in labor income in CY2008. Total wages paid which are attributable to the MOPIC program measure over \$82 million. Corresponding with these wages is an economic impact of 2,049 jobs supported, of which 1,161 are directly in the film and video production and construction industries in Arizona. Direct industry output in construction and film/video production industries was just under \$140 million, while total industry output was estimated at \$246 million.

Table 6 - MOPIC Economic Impacts

Economic Impact	Direct	Total
Labor Income	\$ 43,589,201	\$ 82,252,028
Employment	1,161	2,049
Industry Output	\$138,175,374	\$ 246,220,871
State/Local Taxes Generated		\$ 7,804,310
Total Arizona Tax Incentives Post-Approved		\$ 8,641,589
Net Benefit (Cost) to the General Fund		\$ (837,279)

Note: Total column includes direct, indirect and induced impacts

Source: Minnesota IMPLAN Group, ESI Corp.

This alternative methodology also produces a significantly different assessment of the net impact on Arizona's General Fund. The \$138 million in expenditures, on which model results are based, produced an estimated \$7.8 million in General Fund revenues. Considering the \$8.6 million in MOPIC incentives that were awarded in CY2008, this implies a net cost to the General Fund of approximately \$840,000, versus ADOC's estimate of \$6.3 million. Additionally, 2,049 jobs are being supported by MOPIC-participating projects versus the 730 total jobs calculated by ADOC.

As pointed out earlier in the report, when originally conceived the MOPIC program was intended as an incentive to attract new production activity to the state, create jobs in the industry, and build a critical mass of film production, which would eventually spur investment in a long-term film production asset, such as a studio, film school, or other similar facility. In essence, the MOPIC program was structured to provide a *trade-off* between general fund dollars and jobs, wages, and output in the film production industry. Importantly, the MOPIC program was not designed with the intention of providing a dollar for dollar return to the general fund.

Appendix B provides detailed exhibits illustrating the calculations of the economic impacts.

V. ARIZONA FILM AND MULTI-MEDIA PRODUCTION

Arizona has a long and varied history of film production in the State. From the iconic images of Monument Valley as pictured in the old westerns, to more contemporary “classics” such as *Bill and Ted’s Excellent Adventure*, *Major League*, and *Tombstone*, Arizona possess a wealth of unique locations for film production.

Much of this suitability is due to two factors: the unique desert landscapes which cannot be replicated elsewhere, and the highly diverse nature of Arizona topography. From the wooded cinder cones of the San Francisco Peaks, to the rusty monolithic rock formations of the Navajo Nation, to the Saguaro-studded basins and ranges to the South, Arizona is truly a gem when it comes to environmental diversity. This diversity makes shooting film in Arizona more efficient in some regards. Where else in the country can a production crew shoot both a snowy winter scene and an apparently blazing hot desert scene in a two-day span, with an hour or so drive in between?

Arizona has been successful in attracting not only feature film production, but has been the backdrop to numerous commercials and documentaries, which have been seen around the world.

To provide some additional insights into the contribution that this industry, as a whole, has in Arizona, ESI has prepared some additional pertinent information, including:

1. Calculating the total economic impact of the entire film industry in Arizona to gauge its importance to the state’s economy.
2. Analyzing the types of jobs associated with the different phases of film production and their respective average wages.
3. Comparing the multiplier effect of the film industry to other industries in Arizona.
4. Discussing the prospects for Arizona to accrue capital gains taxes from the trading of income tax credits.
5. Considering the income tax contributions from out-of-state actors who pay Arizona income tax.
6. Analyzing the increased educational infrastructure that has developed as a result of the MOPIC program (i.e. enrollment levels in film production programs and the creation of those programs).

ECONOMIC IMPACT OF ALL FILM PRODUCTION IN ARIZONA (PRODUCTION, DISTRIBUTION AND EXHIBITION)

The MOPIC program is just one piece of the overall film activity in Arizona. In order to gauge the total value that the entire film industry brings to Arizona, ESI conducted an economic impact analysis of the film industry in its entirety (NAICS 5121). This analysis was again performed utilizing IMPLAN and included production, distribution and exhibition activities in the State of Arizona (not just the value of MOPIC activity). The impact analysis concluded that in 2007 the film production, distribution and exhibition business generated \$594 million in direct output, which contributed an additional \$557 million in industry output in other related industries in the State and created 5,343 direct jobs. When including the indirect and induced impacts, the total value added to the State's economy was \$1.1 billion, 9,905 total jobs and \$33.6 million in state and local taxes paid, as noted in Table 7.

**Table 7 - Economic Impact of All Film Production in Arizona, 2007
(NAICS 5121)**

Economic Impact	Direct		Total
Total Value Added	\$ 134,587,667	\$	431,793,825
Labor Income	\$ 99,114,106	\$	282,803,938
Employee Compensation	\$ 94,375,696	\$	251,102,938
Proprietary Income	\$ 4,738,410	\$	31,701,000
Other Property Income	\$ 31,745,066	\$	123,002,234
Indirect Business Taxes	\$ 3,728,495	\$	25,987,653
Employment	5,343		9,905
Output	\$ 594,076,544	\$	1,151,804,229
State/Local Taxes Generated		\$	33,614,676

Note: Total column includes direct, indirect and induced impacts

Source: Minnesota IMPLAN Group, ESI Corp

As Table 7 illustrates, the entire film production, distribution and exhibition industry supports a total of just over 9,900 jobs in the State. These approximately 9,900 jobs generate an estimated \$283 million in annual compensation, \$251 million of which accrues to non-proprietary employees⁹.

⁹ Non-proprietary employees are those which do not have any ownership stake in the business that employs them.

OCCUPATIONS AND AVERAGE WAGES IN ARIZONA'S FILM INDUSTRY

The Motion Picture Association of America classifies motion picture development into five different phases: 1) development, 2) pre-production, 3) production, 4) post-production, and 5) distribution. Utilizing data from the Bureau of Labor Statistics' Occupational Employment Statistics (OES) program, average compensation levels for Arizona were calculated to shed some light on the multitude of career jobs within this industry. There exists a preconceived notion that the types of jobs being created by the MOPIC program are temporary and low-paying. As Exhibit 1 demonstrates, this is hardly the case in terms of compensation.

Exhibit 1 shows the five phases in the chronological order of film progression. Next to each of the phases is the average annual compensation in Arizona for those occupations. According to an OES estimate, the average annual wage in Arizona for all occupations in 2008 was \$39,280, compared to the average annual wage of all occupations within the film industry of \$52,659.

When comparing the average annual wages earned by the different phases of filming activities, it is apparent that film production and related activities generate reasonably high-paying career jobs. Jobs in the development side of the business earn on average over \$56,000 per year, while preproduction occupation earn over \$49,000 on average. Occupations associated with production activities typically earn just under \$45,000 per annum, while occupation in distribution side of the business earn over \$73,00 per year on average. The lowest paying cohort of occupation resided in the postproduction phase, which on average earns slightly more than the statewide average.

Exhibit 1 - Film Occupations and Corresponding Average Annual Arizona Wages, 2008

Development					
Agents	Consultants	Line Producers	Publicists	\$56,318	
Assistants to the Producers	Executive Producers	Personal Assistants	Screenwriters		
Business Managers	Lawyers	Producers	Studio Executives		
Preproduction					
Art Department Assistants	Construction Electricians	Directors' Assistants	Props Builders	\$49,324	
Art Department Coordinators	Construction First Aid	Directors of Photography	Props Masters		
Art Directors	Construction Foremen	Financial Executives	Set Designers		
Artists	Construction Grips	Illustrators	Set Decorators		
Assistant Directors	Construction Workers	Location Assistants	Set Dressers		
Carpenters	Costume Designers	Location Managers	Set Staff Assistants		
Casting Directors	Costume Supervisors	Paint Foremen	Storyboard Artists		
Choreographers	Costumers	Production Assistants	Stunt Coordinators		
Concept Artists	Dialogue Coaches	Production Designers	Tailors/Seamstresses		
Construction Coordinators	Directors	Production Managers	Wardrobe		
Production					
Accounting Clerks	Drivers	On-set Dressers	Special Effects Coordinators		\$44,359
Actors	Electricians	Payroll Accountants	Special Effects Supervisors		
Animal Handlers	Extras	Picture Editors	Special Effects Technicians		
Assistant Accountants	Extras Casting Coordinators	Production Accountants	Standby Painters		
Assistant Directors	First Aid Workers	Production Coordinators	Stills Photographers		
Boom Operators	Gaffers (lighting)	Production Sound Mixers	Stunt Performers		
Camera Loaders	Grips (set operations)	Script Supervisors	Swing Gang Workers		
Camera Operators	Hair Stylists	Set Strike Workers	Teachers/Welfare Workers		
Caterers	Makeup Artists	Sound Editors	Technical Advisors		
Cinematographers	Office Coordinators	Sound Technicians	Transportation Coordinators		
Postproduction					
Audio Recording Engineers	Editing Room Assistants	Musicians	Special Effects Technicians	\$39,747	
Composers	Film and Video Editors	Projectionists			
Dubbing Editors	Lab Technicians	Sound Designers			
Distribution					
Accountants	Financial Managers	Marketers	Publicists	\$73,550	
Advertising Executives	Licensing Executives	Partnership Developers	Sales Staff		
Distribution Executives					

Source: MPAA, US Bureau of Labor Statistics, ESI Corp

COMPARISON OF MULTIPLIER EFFECTS

Another important point that is worthy of discussion is the multiplier effect that the film industry has on the Arizona economy. By comparing the multiplier effects of various industries in a region, one starts to gain an understanding of which industries create the most value in an economy, given a standard input (in this case, a change in demand for final goods). A comparison of the Motion Picture and Video industry to top ranking and other industries in Arizona was conducted. Table 8 displays the total value added multipliers for selected industries, including the Motion Picture and Video industry. These results show that the multiplier for Motion Picture and Video Industries is 3.2, which can be interpreted to say that for every \$1.00 change in final demand in the Motion Picture and Video Industries, another \$2.21 of indirect and induced value added is generated in Arizona's economy.

By comparing the Motion Picture and Video Industry to other industries in Arizona, it is clear that this industry generates a high value added per dollar of final demand change; its total value added multiplier ranks 33rd out of a total of 440 industries modeled within IMPLAN. The related sound recording industry ranked 6th with a total value added multiplier of 4.3.

Table 8 - Total Value Added Multipliers, Arizona 2007

	Sector #	Industry Name	Multiplier	Rank
Top Ranking Industries	430	State and local government passenger transit	7.499562	1
	68	Seasoning and dressing manufacturing	6.104655	2
	277	Light truck and utility vehicle manufacturing	5.645340	3
	45	Soybean and other oilseed processing	5.617077	4
	59	Animal (except poultry) slaughtering- rendering	5.046360	5
	240	Audio and video equipment manufacturing	4.898912	6
	43	Flour milling and malt manufacturing	4.710400	7
	347	Sound recording industries	4.340612	8
	57	Dry- condensed- and evaporated dairy product	4.222933	9
	359	Funds- trusts- and other financial vehicles	4.200122	10
Film in Arizona	346	Motion picture and video industries	3.208272	33
Other Key Industries	20	Extraction of oil and natural gas	2.690924	62
	287	Guided missile and space vehicle mfg	2.349242	104
	352	Data processing- hosting- web portals	2.166108	145
	357	Insurance carriers	2.145439	152
	249	Search- detection- and navigation instruments	2.096532	158
	37	Construction of new residential structures	2.041591	180
	243	Semiconductor and related manufacturing	1.988334	195
	36	Construction of new nonresidential structures	1.879647	237
	351	Telecommunications	1.606253	340

Source: Minnesota IMPLAN Group, Type SAM multipliers, ESI Corp

CAPITAL GAINS TAXES FROM THE TRADING OF INCOME TAX CREDITS

Another significant fiscal impact accruing to the State's General Fund as a result of MOPIC activities is capital gains taxes paid by the sale and transfer of MOPIC income tax credits. While this would be difficult to estimate, an illustration of how this would work follows. This illustration provides an example of transferring \$10 million in tax credits:

- First a qualifying production company secures \$10 million in income tax credits from the State.
- Second, the production company sells the tax credits to a broker for \$8.5 million.
- Third, the broker then sells the tax credit to an Arizona taxpayer for \$9 million.
- Fourth, the broker must pay a capital gains tax on the net profit of \$500,000.

- Last, the tax saved by the Arizona tax payer of \$1 million is a taxable gain.

Using this example, if you assume the highest Arizona tax rate of 4.45 percent, the amount of tax generated in this transaction would be \$68,100 on the combined profit and tax savings of \$1.5 million. Thus, any capital gains tax revenue generated by the transfer of MOPIC income tax credits would *directly* affect the ADOC's return to the general fund figure estimate. While there have no doubt been capital gains taxes which have accrued to the State of Arizona due to the transfer of these credits, quantifying this impact without specific data is impossible.

INCOME TAX CONTRIBUTIONS FROM OUT-OF-STATE ACTORS

Another fiscal impact to the State of Arizona that was not discussed by ADOC includes the wages paid and income tax collected from out of state actors. According to the Arizona Department of Revenue's (ADOR) instructions for Arizona Form 140NR:

You are subject to Arizona income tax on all income derived from Arizona sources. If you are in this state for a temporary or transitory purpose or did not live in Arizona but received income from sources within Arizona during 2008, you are subject to Arizona tax. Income from Arizona sources includes wages, rental income, business income, the sale of Arizona real estate, interest and dividends having a taxable or business situs in this state, or any other income from an Arizona source.

Actors are typically classified as self-employed for tax purposes, and as such, pay income taxes to states where that specific income was earned. This implies that there have likely been nonresident actors and actresses employed on the sets of MOPIC-participating productions in Arizona, and thus have made contributions to Arizona's state coffers in the form of income tax payments. Income tax contributions from out-of-state actors on MOPIC-participating productions in Arizona would directly affect impact the MOPIC program's net effect on the State's general fund.

Even crudely estimating these contributions is difficult at best. To produce an accurate estimate of these contributions as attributed to the existence of the MOPIC program, one would need detailed payroll data for all participating productions, including the amount paid to each individual actor, whether each actor's state of residence is Arizona or not, and the specific income bracket each actor falls under. ESI did not attempt to quantify this fiscal impact; however, when assessing the ROI of the MOPIC program it is important to view results with this issue in mind.

GROWTH IN EDUCATIONAL INFRASTRUCTURE

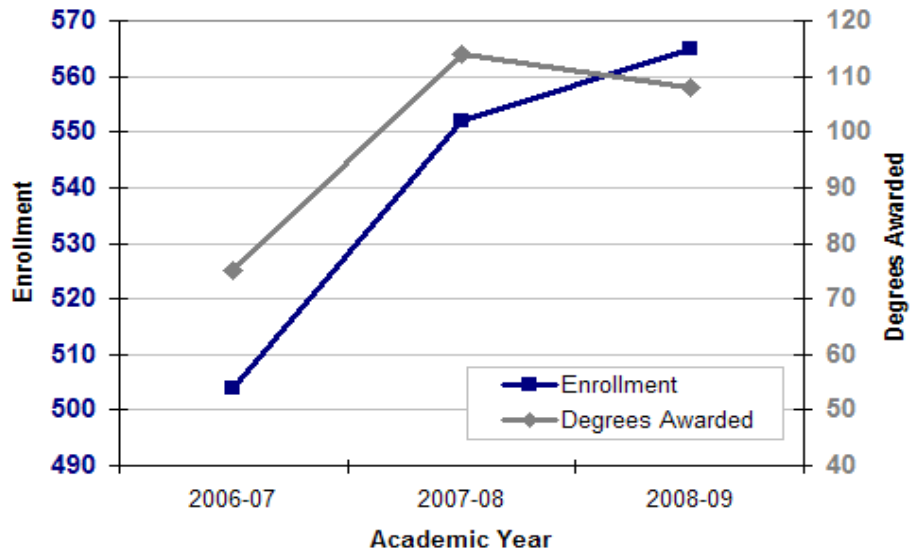
Since the enactment of Arizona's MOPIC program in 2006, there has been a concerted effort by local educational institutions to meet the growing demand for organized instruction in film production and related fields.

Major local educational institutions that offer courses in film and multi-media production were contacted to gauge whether there has been a significant increase in student enrollment and/or degrees awarded in these particular areas of study. The schools contacted included:

- School of Theatre and Film at Arizona State University (ASU)
- Scottsdale Community College, Film School
- Collins College School of Film, Video, and Visual Effects
- Art Institute of Phoenix, Media Arts program.

Enrollment and/or degrees awarded data was obtained from ASU and SCC. The Art Institute of Phoenix was unable to furnish data, as was Collins College. While Collins declined to provide specific data, they did indicate that their enrollments are up 5 percent over their previous academic year. Based on the two reporting colleges, overall enrollment is up 9.5 percent and the number of degrees awarded increased by 52 percent from 2006-07 to 2007-08¹⁰. While, the increase in the film business in Arizona cannot be attributed solely to the MOPIC program, there is solid evidence that this industry has been adding jobs and contributing financially to the economy since the adoption of the program.

Chart 1 – Enrollment and Degrees Awarded in Film, Maricopa County



Source: ASU, Scottsdale Community College, Art Institute of Phoenix

¹⁰ Scottsdale Community college did not yet have degrees awarded data for the 2008-09 academic year. ESI estimated this figure using SCC’s average ratio of degrees awarded to students enrolled in years 2006-07 and 2007-08.

The above chart shows a dramatic increase in enrollments from these institutions over the last two academic years. What follows is a brief summarization of the two programs for which data was obtained.

Arizona State University offers a Bachelor's of the Arts degree in Film. This degree is jointly offered by the School of Theatre and Film in the Herberger College of the Arts and the College of Liberal Arts and Sciences. The program was established in 2005, and offers concentrations in film and media production and filmmaking practices. Enrollment in the program has grown dramatically in recent years. According to data provided by the university, enrollment in film and media production majors increased from 9 in 2006-2007 to 53 in 2007-2008. From 2007-2008 to 2008-2009, enrollment jumped up to 111. Importantly, "pre-film exploratory students" (i.e. film students that have not declared their major) are not included in this count.

In terms of degrees awarded in film, the first one conferred was in the 2006-2007 academic year. The next year, ASU conferred 13 Bachelor's degrees in film. In the most recent 2008-2009 school year, 28 degrees were awarded, although this data is considered preliminary.

Scottsdale Community College also offers film-related degree and certification programs. Their Film School, which is housed under SCC's Division of Fine Arts, offers a certification program in Film Production, an Associate of Applied Science in Motion picture and Television Production, and an Associate of Applied Science in Audio Production Technologies. These three educational tracks are popular and enroll quite a few students. Enrollment in these three programs has hovered just under 500 in recent years, although SCC saw enrollment in these programs decline to 454 by the 2008-2009 academic year. The number of degrees or certifications awarded increased by 36 percent in the last academic year.

VI. POLICY RECOMMENDATIONS

In the 2004 report “Analysis of the Film and Video Industry in Arizona,” a number of initiatives were recommended to stimulate Arizona’s competitiveness, promote technology and innovation, encourage local and independent filmmaking, and attract more out-of-state film productions, all of which enhance local economies and create jobs statewide. Since the adoption of the MOPIC program by the Arizona State Legislature in 2005, a positive trend in job creation, capacity building, and infrastructure development has taken place in Arizona. Eliminating this program could have the effect of undoing all of the gains that have materialized since 2004.

With this in mind, it is highly recommended that this program remain as a key catalyst for the motion picture industry, but with some modifications as discussed below:

1. **Require Independent Annual Audits from an Outside Agency or Other Third Party** – There is an inherent conflict of interest in having the same party (i.e. ADOC) manage and evaluate the MOPIC program. An independent third party should be contracted with to evaluate the program’s effectiveness taking into consideration all of the benefits of the program. This arm’s length evaluation will encourage a more honest and transparent dialogue regarding the costs and benefits of the MOPIC program, and will remove any pressure to skew facts, strategically omit certain figures, or otherwise misrepresent in any way the nature of the program.
2. **Include Nonqualified Local Expenditures, CAMV Spending, and Expenditures on Infrastructure in the Economic Impact Model** – Although not appropriate as the main gauge of program effectiveness, estimating the net impact of MOPIC on the State’s General Fund does provide insight into the net cost of running the program, which is information highly valued by state lawmakers. As such, ESI recommends basing such an analysis on *all* local expenditures by MOPIC participants, whether expenditures for film production, CAMV production, or infrastructure. Where data is not available, expenditure should be conservatively estimated and included in the model. This methodology would provide a much more thorough look into the impact on the State’s General Fund.
3. **Estimate self employed and include them in the analysis of film production employment** – The QCEW data used to gauge wage and employment in the film industry does not include independent contractors and

self-employed persons because they are not required to submit a quarterly unemployment report. As self-employed persons make up a significant portion of those that work in film production and closely related industries, this poses a major issue. The omissions which are embodied by the QCEW methodology no doubt contribute to a significant understatement of employment and wages earned in the film industry in Arizona. Qualifying the presentation of this data with a discussion of this particular issue, as well as providing an estimate as to the potential number of self-employed persons omitted from the QCEW figures, would provide a much more thorough look at the issue. Upon researching this issue, ESI found a number of bodies that had made estimates as to the percentage of the industry that is self-employed, including the MPAA and the US Department of Labor.

4. **Allow Sufficient Time before Judging the Long-Term Value of the MOPIC Program** – The MOPIC program has only been in effect for three and one half years, consequently there is hardly enough data with which to evaluate the long-term value of the incentive program today. This is exacerbated by the fact that relatively lengthy certification periods required by MOPIC delay the availability of key program data. Thus, the State is in a spot where it doesn't exactly know the full extent of the costs and benefits of the program until more data is made available. Due to this lack of information, ESI feels that eliminating the program in such a short span of time is premature and generally unreasonable.
5. **Adopt a policy that allows for the inclusion of out-of-state actor salaries as qualified expenditures** – Other states set a threshold percentage, such as 50 percent, that must be met before this expenditure is considered a qualified expense. Arizona should consider something similar. The case for adopting such a policy is bolstered by the fact that salaries of out-of-state actors are subject to Arizona income tax, and thus represent a source of fiscal benefit to the State.
6. **Formalize a Series of Metrics to Evaluate the MOPIC Program** – Adopt a set of metrics that can be used to evaluate the performance of the MOPIC program. These metrics should evaluate how effectively the program is meeting its originally-stated goals, how much the program is costing the State on an annual basis, and how well the program is being managed. Indicators that could be considered include the following:
 - Inflation-adjusted annual compensation growth of NAICS 51211, 51212, and 51219 occupations using QCEW data. Although this data is not MOPIC-specific, and includes all film production activity in the State, it may provide insight into whether the program is, in fact, creating well-paying jobs in the industry. As noted above, however, the unique issues the QCEW data has in capturing the entirety of film production occupations need be considered.

- Track program usage including the number of firms who apply for the program, the number who are post-approved, and the total amount of expected Arizona spending per year. For example, post approved spending in Arizona more than doubled between 2007 and 2008. Although this is acknowledged by the ADOC, it is almost presented as a side note. This also goes for the fact that the total value of tax credits approved in 2008 increased by 207 percent from the previous year. The total number of MOPIC applicants increased nearly 77 percent in 2008. These figures, which are seemingly dealt with in passing in the ADOC report, are actually strong indicators that the program is working to attract production, a major measure of program effectiveness.
- Track other metrics including total value-added generated, new capital expenditures realized, and enrollment and graduation rates in film schools.

APPENDIX A: IMPLAN MODEL

IMPLAN Model

Although it is evident that there is less than an accepted standard methodology in examining the economic and fiscal impacts of film incentive programs, most, if not all of the existing film studies utilize some form of regional multiplier model. This is true of the 2008 MOPIC Annual Report produced by the ADOC. In a regional multiplier model, “an initial increase in demand is said to lead to an even greater expansion of regional income as the income received from the initial injection of demand is spent and re-spent in successive ‘rounds’ of expenditure- the process coming to an end when the demand increase is offset by leakages through savings, taxation, and imports¹¹.”

ESI Corp utilized the IMPLAN¹² regional multiplier model to estimate the economic impact of the MOPIC program in 2008. The IMPLAN model is a computerized input-output model which analyzes regions by county, state, or ZIP code. Regional information gathered from federal data sets is used to develop custom models for each individual study region. Study regions typically include single counties, multi-county regions, one or more states, or the entire national economy.

The IMPLAN model operates by estimating the direct impacts, indirect impacts, and induced impacts of specific economic activity:

- Direct economic impacts are those attributable to the initial economic activity. For example, an operation with ten full-time employees creates ten direct jobs.
- Indirect economic impacts are those economic activities undertaken by vendors and suppliers within the supply chain of the direct activity as a result of the initial economic activity. For example, suppliers of goods, materials, and services used in the direct activities produce indirect economic impacts.
- Induced economic impacts result from the spending of wages paid to employees in local industries involved in direct and indirect activities. These wages, which are analogous to household spending, support additional local activities, such as the purchase of goods and services within the region. In turn, that portion of spending that accrues to local businesses and employees is once again re-circulated within the local economy, producing additional activity.

As aforementioned, the IMPLAN model measures the amount of expenditure in each round of spending until all of the spending within the local region has been leaked outside the study area due to savings, taxations, and/or the purchase of imported goods and services.

¹¹ Pearce, David W., ed. The MIT Dictionary of Modern Economics. 4th Edition. Cambridge, Massachusetts: MIT Press, 1992.

¹² IMPLAN is a faux acronym standing for Impact Analysis for Planning. The model is owned and distributed by the Minnesota IMPLAN Group (MIG), Stillwater, Minnesota. www.IMPLAN.com

APPENDIX B: DETAILED MODEL OUTPUT

EXHIBIT 1: LABOR INCOME FROM MOPIC POST-APPROVED PRODUCTION EXPENDITURES

	IMPACT	Eligible Motion Picture	Non-Eligible Motion Picture	CAMV Expenditures	Infrastructure Expenditures	Total MOPIC Expenditures
EARNINGS FROM PRODUCTION ACTIVITY						
IMPLAN Sector		44,900,039 \$	13,021,011 \$	863,926 \$	79,390,411 \$	138,175,387
Production Expenditures		346	346	346	36	
Direct Earnings Multiplier		0.166837	0.166837	0.166837	0.432773	
Sector/Year Deflator		1,014	1,014	1,014	1,013	
Total Direct Earnings		7,387,562 \$	2,142,393 \$	142,145 \$	33,917,104 \$	43,589,204
Indirect + Induced Earnings Multiplier		0.309202	0.309202	0.309202	0.264603	
Indirect + Induced Earnings		13,691,501 \$	3,970,535 \$	263,439 \$	20,737,355 \$	38,662,831
Total Direct, Indirect, and Induced Earnings		21,079,063 \$	6,112,928 \$	405,584 \$	54,654,459 \$	82,252,034

EXHIBIT 2: JOBS CREATED FROM POST-APPROVED PRODUCTION EXPENDITURES, IN WORKER YEARS

	IMPACT	2007 Data	
JOBS FROM PRODUCTION ACTIVITY			
IMPLAN Sector		44,900,039 \$	13,021,011 \$
Production Expenditures		346	346
Direct Employment Multiplier		8.993791	8.993791
Sector/Year Deflator		1,014	1,014
Direct Job Creation		398	115
Indirect + Induced Employment Multiplier		7.679037	7.679037
Indirect + Induced Job Creation		340	99
Total Job Creation		738	214

EXHIBIT 3: TOTAL OUTPUT FROM POST-APPROVED PRODUCTION EXPENDITURES

	IMPACT	2007 Data	
TOTAL OUTPUT FROM PRODUCTION ACTIVITY			
IMPLAN Sector		44,900,039 \$	13,021,011 \$
Production Expenditures		346	346
Indirect + Induced Multiplier		0.938814	0.938814
Sector/Year Deflator		1,014	1,014
Total Direct, Indirect, and Induced Output		85,850,911 \$	24,896,764 \$

EXHIBIT 4: SUMMARY OF ECONOMIC IMPACT

	IMPACT	2007 Data	
DIRECT JOB CREATION			
TOTAL JOB CREATION		398	115
TOTAL JOB CREATION			
DIRECT EARNINGS		738	214
TOTAL EARNINGS		7,387,562 \$	2,142,393 \$
DIRECT OUTPUT		21,079,063 \$	6,112,928 \$
TOTAL DIRECT, INDIRECT & INDUCED OUTPUT		44,900,039 \$	13,021,011 \$
TOTAL DIRECT, INDIRECT & INDUCED OUTPUT			
		85,850,911 \$	24,896,764 \$