

**WHEN MOVIE MAKING COMES TO TOWN:  
An Economic Impact Analysis and Strategies for Development**

**An INCOMMN Study and Report to  
The Berkshire Film and Media Collaborative**



**By: Rick Feldman  
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## WHEN MOVIE MAKING COMES TO TOWN:

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#### Executive Summary

This particular assessment and analysis began with a simple objective: model the economic impacts of feature Filmmaking in the Franklin County area of western Massachusetts. The project has expanded to start to address the economic questions this analysis stimulated:

- How long does the value of this impact last?
  - Can the value or the impact itself be sustained?
  - Can planners and decision makers do anything, and what specifically, to build on that impact?
1. The filming of a feature movie, produced by a major production studio, will certainly have some positive economic impact on the local and region where the filming occurs. The studio is essentially bringing in a large amount of external financial resources for the filming, additional people are staying in the area for the filming and spending money, and some number of local people are hired for work on the filming. (For many readers, it's important to note that this analysis and report does not address tax related policy issues --- for example, it does not address the Massachusetts state incentive program, tax credits, or tax revenues. There are several other reports that address those issues specifically).
  2. There is no question about impact. The questions are:
    1. how much of an impact occurs and how deep into the local and regional economy are the impacts felt?
    2. how long does the impact last?
    3. and, the *economic development* question, how can the impact be repeated or sustained?
  3. Revenue from feature Filmmaking comes to a locality from one primary source, one induced source, and one new activity previously absent from most similar studies:
    1. The primary source is from the filmmaking itself: production staff, crews, actors, support staff, expenditures for various goods and services;
    2. The induced source is local resident spending: local (within 25 miles) residents are drawn to the location to observe, enjoy the presence of film stars and film makers, and rediscover local eating and drinking and recreation establishments; most of the money spent by these residents is from earnings directly or indirectly related to the film production;
    3. Based on follow-up surveys with various business establishments in a selected area which hosted a major commercial film production project, we may have discovered yet a third source of revenue into the region: visitors from outside the production area who are now attracted to witness the production and view the stars.

4. The money from these sources goes primarily to:
  1. filming and Filmmaking: salaries, supplies, direct filming expenses
  2. local services
  3. food and drinking establishments
  4. retail establishments, including gift shops
  5. hotels, motels, inns and bed & breakfast establishments
  6. municipalities and their services
  7. local hiring, both for the filming and for local businesses
  
5. Following the path of expenditures, these recipients of the initial in-flow of money will in turn spend money on:
  1. food and drink
  2. retail
  3. services
  4. local businesses
  
6. This flow, from initial expenditure of resources through the second and third level of spending, describes the impact, or what is often referred to as “the multiplier”. Those in the first group provide initial expenditures and have a *direct effect* on businesses in the immediate and regional area. Those businesses receiving this initial expenditure then spend some of that revenue on other businesses creating an *indirect effect*. Those who subsequently get paid, the income earners, now have more money in their households, and these households now spend some portion locally, having an *induced effect*.
  
7. Filmmaking in western Massachusetts has a 1.63 total output multiplier effect: for every \$1 spent to film, \$.63 is spent on other business transactions.
  
8. To understand the measure of the money flow described earlier, we considered three models, or scenarios:
  1. We created one model to describe what would happen if the indigenous film industry increased its sales/output by \$1 million (New Filmmaking Output)
  2. We created a second model to describe what might happen if an outside production operation came into the region and spent \$1 million to film, and we used the expenditure pattern used in earlier IMPLAN film-impact studies (New Production);
  3. We created, finally, a third model to describe a moderate level of new visitors attracted by news of the filmmaking (1000 visitors staying one day, and 100 visitors staying over-night. No hard data was gathered at the time to determine how many visitors arrived and how many stayed for one or more night; purely based on spot interviews long after the event, we felt it reasonable to use these numbers to depict a what-if scenario, although many people we interviewed firmly believed that these numbers should be much higher).
  4. To get a complete measure of the impact of a new feature commercial Filmmaking project in the region, we’d look at the impacts of the film expenditures plus the impacts of the visitor expenditures. Each of these activities has a distinct set of multipliers, and we would not aggregate the multipliers but rather add the dollar impacts. For visitors from outside the region, we modeled the food service and drinking expenditures plus the accommodation (hotels, motels, inns) expenditures.

9. A new production by an out-of-the-region producer, spending \$1 million in a way typical of filmmaking, could create 8.8 new jobs in the region related to film production, plus 2.2 new jobs would be created in the sectors selling goods and services to film production (this is an indirect employment effect), plus 2.5 new jobs created by the induced effects (household expenditures), for a total of 13.5 new jobs in the region. If in fact this filming does attract new visitors, for every 1000 visitors attracted for a day and with 100 of them staying one night, 2 more jobs are created in the region (in restaurants and hotel/motel/inn accommodations).
10. Compare this to the scenario of having an increased output of \$1 million by the film industry that currently resides in the western Massachusetts region. In this scenario, 2.7 new jobs are created directly (compared with 8.8) plus 2.2 new jobs from indirect and induced effects for a total of 4.9 jobs. Note, then, that the new production from an out-of-region film company has far greater impacts, at least initially.
11. What isn't typically addressed is the timing of this impact. Economic models can describe the flows and impacts, and even the sequence, but can't tell when any action or event takes place.
12. We do know that the filming of a feature movie is a discrete event, happening over a very fixed and clear period of time. During that time, all of the Filmmaking expenditures are completed (hiring and purchasing, and paying of local fees and contributions). THE JUDGE, filmed in Franklin County in 2013, for example, had pre-filming events in May and ended filming in June; this was a 2 month economic event.
13. During the filming, local residents increase their visits to the location's business district to watch, and to be near the activity and its stars. Local papers help increase that traffic by carrying public interest stories, printing pictures of the stars, and generally promoting the event. There appears to be some continued local activity after the filming ends and the actors and crews have left the area, but this local resident activity returns to its base quickly. It may last a month.
14. As news and media communications increase and as more of the world outside the location learns of the filming, visitors to the local area increase, and even tourism --- attracting visitors from greater distances --- increases. How long this lasts is more difficult to determine: there is a "bump" in business, but the base-line of visitor and tourist expenditures is not easily determined in all cases. In the case of Shelburne Falls, for example, summer and fall are primary visitor and tourist seasons. There could be an increase due to weather, or a decrease from one year to the next due to larger economic factors. Anecdotal evidence is that visits and their expenditures from a regional distance (up to 50 miles) as well as longer distance tourism do in fact increase as a result of the Filmmaking and the recent presence of popular actors, and the peak of this lasts yet another month.
15. From May 2013 through August 2013, then, the Shelburne Falls and Greenfield area experienced a clear positive economic impact from the Filmmaking event (THE JUDGE) of measurable significance, with the largest initial impacts being in May and June, and the trailing off of impacts from visitors and tourists in July and August.
16. Recent interviews of visitors and of local businesses result in some finding that visitors to the area continue to increase because they learned of the area and its attractions from press about the original filming.

17. There is some period of time when the on-going effects of the filming continue through in the area. There is considerable evidence of this effect at least on large scale events. For example, the global popularity of the television series *Breaking Bad* resulted in large number of visitors to the Albuquerque, New Mexico area. In a more rural area, where tourism is a known factor due to that area's attractions and attributes, this continued effect will be strongly felt: even a few more sales at restaurants and gift shops, for example, will be noticeable.
  
18. The longer term economic development question emerges, and gains in significance: are there strategies and actions that can be taken to keep this visitor rate at its new level, and even build on it? And, if filming a feature motion picture can have this much impact, what can be done to increase or participate in that industry?
  - Develop the region's filmmaking and film producing assets: skilled Filmmaking professionals and supporting labor, filmmaking educational resources, film production studios and work spaces, networks linking talent and skilled labor within the region AND between the region and other parts of Massachusetts where more commercial film production occurs;
  
  - Ensuring employment to local professionals and workers through more film work and through connections to film productions in other parts of the state, will stimulate others economic components: education organizations and institutions, film related entrepreneurship, and commercial real estate;
  
  - Having a developed fabric that supports and encourages filmmaking (that is, having a well developed, even if small in scale initially, filmmaking “eco-system” or infrastructure, will attract more production);
  
  - More filmmaking--- increased rate of well publicized commercial Filmmaking, more commercial productions --- will require, stimulate and support more hospitality related businesses, and will support more multi-season tourism.
  - The overall strategy is to build up the support network and infrastructure, and continue to develop those assets that contribute to filmmaking, and thus make the region a more attractive area as well as one linked to other film production areas.

### **Background**

The recent years of 2013 and 2014 have been busy times for commercial Filmmaking in western Massachusetts (the area encompassing what has been known as Berkshire, Franklin, Hampshire and Hampden Counties). A mixed rural and small city area, with a few larger cities and metropolitan areas, the region is well known for its scenic beauty and small city-scapes, although it has a very well established industrial core in the Hampden County area, parts of Franklin County, and Pittsfield area in Berkshire County. The area is also home to many colleges and universities, major health care research and provider institutions, and financial services. Most recently, it has been a major location for entrepreneurship and small business development in fields as diverse as robotics, plastics, metal milling, cutlery, computer and information technology, medical research and medical devices, and renewable energy, and, for the purposes of this study, most importantly filmmaking.

It is this entrepreneurial development that leads to this study. Higher education, most notably

Hampshire College, have developed filmmaking, video, and production courses and even majors. Small studios have sprung up, and the numbers of professionals in this arena have grown. One of the region's main Internet-supported virtual associations now identifies over 190 professional videographers, animators, and production engineers. For the past two decades, Berkshire County has been home to animation and production studios and businesses, and now other areas are hosting similar developments (Greenfield, Amherst, Holyoke, Northampton, West Springfield).

The entrepreneurial fervor that has resulted in start-ups and growth in almost every sector has ignited film and video in the region as well. The emergence of filmmaking capabilities and capacities, matched with the scenic values of the region for great film locations, stimulated the founding and rapid growth of Berkshire Film and Media Collaborative. Initially focused on the Berkshire County area, the organization has quickly grown to address the interests and needs of the entire region. Whereas it was considered a major event in 2008 to have a film and media meet-up session in Amherst that attracted 40 engineers, film editors, film software developers, and film makers, a BFMC meet up in February 2014 attracted over 140 people. And that was the fourth such meet up in the past 10 months held at various locations around the region.

Smaller independent Filmmaking has been well known in the region for many years. But clearly the interest in Filmmaking at all levels has grown, and continues to grow, as more and more films are shot and produced in the region. The most recent large Filmmaking event completed a little over a year ago (summer of 2013) when THE JUDGE had major scenes shot in the Franklin County area, bringing its stars and production crews to the region for several weeks. According to interviews with local officials and small businesses in the primary locations (Shelburne Falls, for example), the glow of that event is still felt; local business owners insist that tourism and spending is up an unusual amount over last year, with many visitors commenting on their interest in seeing where the movie was shot.

*Regional Economic Data I*

(For Most Recent Data Year, 2012; Sources: BEA, U.S. Department of Commerce; BLS, U.S. Department of Labor; U.S. Census Bureau; IMPLAN data calculations, copyright 2014 Minnesota IMPLAN Group)

For the four county area of western Massachusetts:

Population: 827,274

Land Area: 2,781 square miles

Total Households: 360,643

Total Employment: 445,023 people employed; yearly average

Top Ten Employment Industry Sectors:

State and Local Government

Food Services and Drinking Establishments

Higher Education

Nursing and Residential Care Facilities

Hospitals

Offices of physicians, dentists, health care providers

Retail Stores: food and beverage

Real Estate

Wholesale Trade

Final Demand: Total value of all goods and services purchased by households and other institutions not counting imports: \$34,655,520,649

Value of all film and video related production and engineering: \$99.5 million

Value of all inputs purchased by this industry: \$46.8 million

Value of inputs purchased that is supplied from within region: \$26 million

Employment, Film and Video (Bureau of Labor Statistics): 235-300

Employment: setup and post-production: 300

Employment payroll (BLS), Film and Video production: \$21 million

Employment: setup labor and post=production: \$14 million

### Approach, Sources, Methodology

To complete this study, we employed a number of tools and tactics to gather and evaluate data:

- Collect data available from Bureau of Labor Statistics and Bureau of Economic Analysis;
- Purchase regional data sets with trade flow and production calculations, Minnesota IMPLAN Group, 2013;
- Interview local officials and business owners in film locations;
- Read and reference previous studies and reports, particularly:
  - Economic and Fiscal Impacts of the New York State film Production Tax Credit; December 2012, HR&R Advisors, Inc. New York, NY
  - Film and Television Production in Massachusetts: An Industry Overview and Analysis; February 2010; Foster, Terkla and Laubacher through the Creative Economy Initiatives Fund at the University of Massachusetts-Boston;
  - Economic Impacts of the Massachusetts Film Tax Incentive Program; May 2013; HR&A Advisors, Inc. New York, NY
  - Film and Television Production in Massachusetts: The Beginning of Hollywood East? 2011; Foster and Terkla; University of Massachusetts-Boston

#### *Regional Modeling:*

To model and analyze industry data, we utilized Minnesota IMPLAN Group software, IMPLAN. This has become one of the standards for regional industry and economic analysis and modeling throughout the country, and has been used in numerous such studies and reports. Since the earlier reports made great use of IMPLAN as well, we borrow heavily from their model approaches and analysis.

Interviewing local business owners and local officials adds a new dimension of information and assessment while providing substantive support for the model.

Using an econometric tool such as a regional model has been well established as a reliable method for assessing industry impacts on a region's economic fabric. The systematic ways in which economic institutions --- households, government levels, and industries --- interact with each other creates a structure, or economic fabric, that can be described, documented, and analyzed. The analyst can then create what-if scenarios: what if industry x purchased \$1 million more of raw materials, or hired 500 more people, or produced and sold \$1 million more product? What would be the ripples throughout the region's economic fabric?

The model is, then, a reliable approximation or representative of what happens within a region based on agreed upon assumptions (hiring patterns, household expenditure patterns, wage patterns, import and export or trade flow patterns, production patterns). In our modeling, we can describe the portion of the fabric that contains film and video production, but we cannot describe what happens over a particular period of time. For example, the model may show how many more people would be hired if there were \$1 million more dollars spent in a year on commercial film production. But it could not tell us when that hiring would take place; it could happen all at once, or it could happen very slowly over the course of a year or more, depending on the rate at which the new \$1 million was spent.

Some collected data is not reported at local levels and some industries and businesses are reluctant to provide analysts with detailed information. Confidentiality requirements come into play, protecting the privacy of small businesses and business operators. For example, employment data at the very local level may not be reported if one could easily deduce which business hired those people and paid those wages. In these situations, data are reported in aggregated formats. Similarly, interviewing a

commercial movie studio about the details of their expenditures could infringe on that studio's protected rights. The aggregated model data, based on industry sectors and institutions, eliminates any reference to a specific event or business.

### *Multipliers*

As noted, one important and productive use of regional modeling is to calculate and better understand the transactions between and among the various industries in a region, and between and among other economic institutions (households and governments). We can then tell more accurately what the consequences are likely to be when some major economic event occurs: will wages increase or decrease, will there be employment changes, will production and sales change, and so on. The input-output model is particularly good at this analysis: not only does it depict the basic current economic fabric, it also depicts consequences of events.

“Multipliers” are measures of those consequences. When an industry increases production and sales, it has to purchase more from its suppliers, and it typically has to hire more workers. Increased sales for A has a direct effect: its employment and wages paid increases, and its purchases increase. Those suppliers now get more sales, and therefore more income, so they, too, experience an effect. If their sales increase enough, they may then have to hire more people, such that their wage payments increase. By this point, households are feeling the impact: more wages paid means more income, allowing households to make more purchases, creating yet another level of impact. This ripple effect is measured in terms of how much a new initial dollar cycles through the economic fabric having these effects; this is the multiplier.

When the film and video production sector gets one new dollar, it will tend to apply that dollar to its sector's typical expenditure pattern: put some toward wages, some toward new tools and supplies, some toward subcontracting, and some toward profits. These actions taken together are the *direct effects*.

As some of that new dollar is spent on supplies of some sort, including food for its workers, and accommodations, and whatever else it tends to spend on, those sectors experience increased sales and therefore new income. This is the *indirect effect*.

The combination of the direct and indirect effects typically results in increased employment, which in turn means more money flowing to households. Households tend to spend income in fairly predictable ways, in household expenditure patterns, as they save, invest, and purchase new goods and services. This household expenditure is the *induced effect*.

The combination of the direct, indirect, and induced effects is the multiplier for that initial industry in that region. For film and video production, the regional multiplier is 1.63: for every dollar that the film and video production sector brings into the region, other businesses and institutions experience an additional 63 cents coming to them.

We can then apply this multiplier metric to the economic fabric and calculate what it means in terms of jobs, wages, output, and taxes. Dealing with one dollar is, of course, impossible: we need to use a number that will allow us to take measure of the effect. In reality, one new dollar coming to any particular industry in a region would quickly disappear. But if production and sales increased by \$1 million, we could calculate the effects such that they'd be visible.

### *Expenditure Patterns*

When a particular industry or institution earns income, that money is put to use in particular ways. Households of various income levels will tend to spend money in fairly predictable ways, for example, based on the patterns of that income level. Higher income households may spend new income on non-essential items first, whereas lower income households will tend to spend any new dollars on delayed purchases of essentials. Similarly, each industry has its particular patterns. Some industries have all their supply needs met from within the region, and can purchase materials easily when needed. Other sectors have to purchase supplies when money allows, so new income may first go toward replenishing essential supplies or tools before going toward new wages.

These patterns are part of the data set and model calculations. But what is not so clear in the model is the portion of the fabric that involves the industry being studied. The analyst gains insight into that arena through survey, direct observation, and a good deal of research. In our case, we have a simpler approach: we borrow from the excellent work that has preceded us.

Professors Pacey C. Foster and David Terkla of the University of Massachusetts developed a vendor network schematic and geographic mapping of feature film spending patterns to depict the expenditure pattern and relationships between film and video production and the rest of the economy. In developing this map, they used data collected on local vendors' transactions related to the production of eight feature films being shot in Massachusetts in a single year. One of the very significant discoveries is that film producers will tend to purchase from local suppliers and vendors whenever possible, largely to reduce delays in filming and production. Quoting from their 2011 paper, we find "The pattern is explained by interviews with industry participants and press reports which suggest that a significant proportion of non-wage spending is clustered around the location in which filming takes place." And, "Film and television productions are material intensive and often require rapid service from local vendors." We will return to this point in our later analysis and strategy sections.

In the HR&A, Inc. report on Massachusetts in 2013, the authors presented a table of film production expenditures. This pattern for Massachusetts filmmaking is very similar to the one for New York, and, based on our interviews around western Massachusetts, very similar to the expenditure pattern for film production in this region. The HR&A pattern was generated using a Massachusetts Department of Revenue industry study. This pattern also matches well with the IMPLAN transaction data and model.

We are able, then, to apply the expenditure pattern should we need further analysis of regional impacts resulting from any growth in the film and video industry.

### **Analysis and Findings**

Reviewing the data and model, we can state the following:

- Film and video production industry produces very close to \$100 million dollars in the region<sup>1</sup>;
- It employs over 600 people annually and pays out \$35 million in wages;
- The initial expenditure pattern discovery is this, then: 35% of industry earnings goes toward employment and wages, fringe and employment taxes;
- The industry purchases \$26 million of goods and services from other businesses in the region, some of the largest being materials and labor for sets, electricity, a variety of "location fees", software and other production and engineering goods and services, real estate services, food, and accommodations; in all, film and video production purchases goods and services from some 160 other industry sectors in the region;
- If we model a \$1 million increase in this sector's production, we find 5 jobs being created throughout the region, and increased regional gross product of over \$500,000, with the greatest

impacts on employment services, food and drinking, technical services, real estate services, and advertising and promotion. This applies to the impacts created by a film production business currently located within the region.

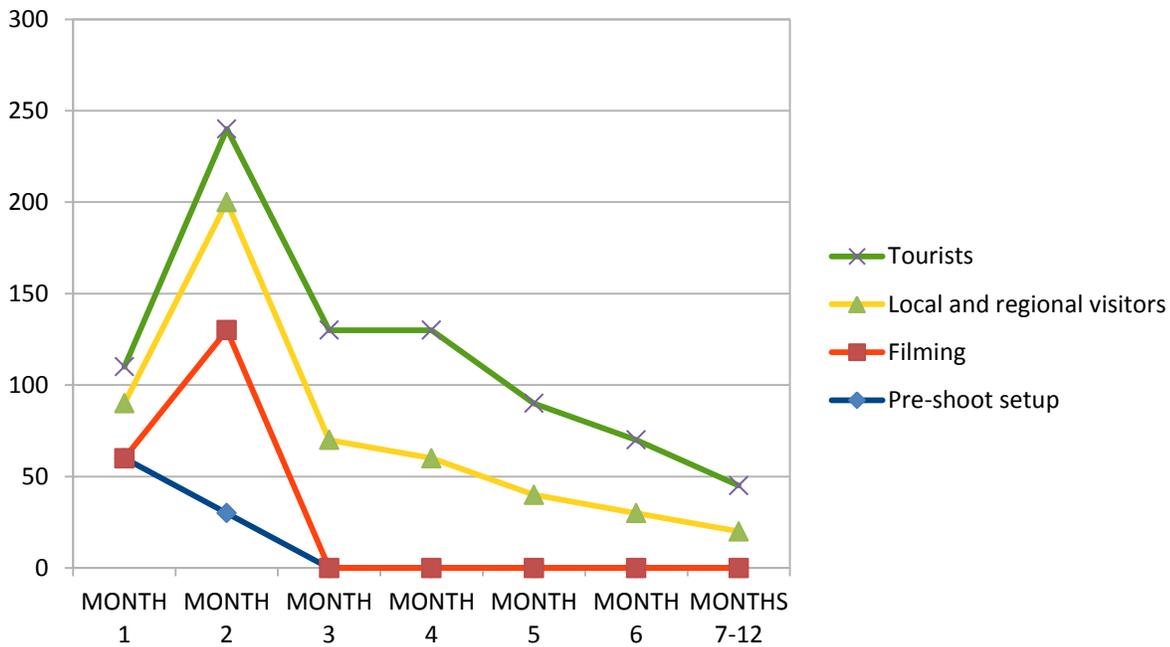
- When an outside production studio comes into the region to produce a film, different events occur. Money is coming into the region for specific goods and services, and for some labor, but a good deal of the higher wage labor has already been paid for from the studio. In that case, the region experiences something akin to tourism, when those higher paid stars and directors and staff spend their money in the region for recreation, goods and services, accommodations, food and beverage.
- In addition, the outsider studio is bringing in new dollars to municipalities in way of various location fees for police, fire, ambulance, and various other services.
- In modeling the effects of an outside production company expending \$1 million on goods and services, the impacts are considerable: over 13 new jobs are created and total regional output is greatly increased.
- Finally, tourism increased in selected areas: Shelburne Falls, Greenfield, and Turners Falls had measurably increased out-of-region visitation, according to business surveys, and based on visitor questions and comments this increase in visitors was largely if not entirely due to the publicity surrounding recent filmmaking.
- There are other supporting and affiliated industries to further assess: independent writers and directors; photography; hospitality; and security. We have not yet gone into these additional levels of analysis.

In short, the effects of even a small change in industry production or outside industry activity (production company from outside the region doing filming and production in the region), are many and profound. The challenges for any region hosting outside production companies, however, are also significant:

- To benefit, the region must have adequate, quality hotel and restaurant operations;
- It must have a labor pool of skilled and professional workers, many with the specific technical skills required of even entry level work;
- Having a robust tourism foundation helps tremendously;
- It needs all the elements production companies will look for and purchase from.

To this point, we turn to our anecdotal information derived from business interviews. We learned that during the months of May to July, 2013, employees and temporary workers brought in by a major studio could not find adequate accommodations, forcing many to find room and board outside the region (as far away as southern Vermont and northern Connecticut). All available temporary workers, including skilled workers, were hired. Food and drinking establishment owners and managers expressed a level of jubilation: those directly engaged in the filming, local and regional residents, and new tourists, filled the establishments nightly for the months of production and for months afterward. Some are reporting increased sales this year as well, with new patrons asking about last year's filmmaking.

The following diagram attempts to depict the impact streams and their time-line. Note the red dot in the MONTH 2 area: that's the very large and very short term impact of the filming itself. It drives the other impacts. Note that there are short term effects in local/regional visitors and tourism, which trail off over time. But neither ever goes back to its former ground, so there seems to be a long lasting albeit small effect.



This is graphic what we've been describing: the finding that a production tends to purchase goods and services locally, and that the greatest effects are found close to the time of the filming itself.

### **Conclusions and Strategies**

Film and video production is a significant and growing sector in western Massachusetts, just as it has been found to be in the Boston area and throughout the state. Its greatest impacts are local, then regional, and they tend to happen concurrently with filming and production. There are long-tail effects, at least in western Massachusetts where major studio production is still a novelty.

Most importantly, this sector points to a multi-tiered economic strategy, as the findings reveal what attracts production to a region and what sustains the region's own internal production businesses. Simply put, the region stands to benefit from developing an economic infrastructure that encourages, supports, attracts and sustains film and video production:

- Education and training for a skilled workforce;
- Education and support for professionals in the industry and artists of all types who contribute to the industry, from photographers to set designers and builders to painters to writers and directors and editors;
- Production and filmmaking facilities;
- Software and computer engineers with special skills and talents related to film and video;
- Continued build-out of accommodation and hospitality sectors;
- Electrical and lighting operations;
- Increased transportation services, including lite-truck and travel transport;
- Inventory of and access to best sites for filming;
- Coordinated, collaborative networking of expertise, businesses, and skilled workers.

The region has clearly emerged as an area with excellent site and location qualities. It now needs the rest of the supporting fabric to elevate its position as a prime region for this industry. Without being overly sycophantic, we do applaud the initiative of the Berkshire Film and Media Collaborative, and recommend its continued development and expansion.

Endnotes:

1. \$100 million industry: The sector is a broadly inclusive one. The IMPLAN sector of “Film and Video Production” 346 is the same as the North American Industrial Classification System (NAICS) “Motion Picture and Video Production”. NAICS has replaced the SIC Code system to allow compatibility between Canada and the U.S. data, and a more reliable way to compare industrial data between North America and Europe and Asia.

Within each industry sector, there may be many subsectors. IMPLAN operates at the sector level. This particular sector includes:

- the commercial value of all film and video produced; note that video --- which includes television as well commercial video work such as training videos --- is included;
- animation and special effects production, and commercial short films
- distribution
- movie theaters; cinemas
- tele-production and post-production
- film labs and film libraries
- booking agencies

If one wants a very detailed analysis of just feature films, one would miss the rest of the film and video fabric. From a regional economy perspective, which includes job creation, supporting sectors, and total impact, it’s the total industry that matters most. If all the region did was attract an occasional feature to be filmed in the area, there would be little to discuss and little in the way of real economic development opportunity. But because there is a film and video industry fabric, the value and impact of feature filmmaking is important.

February 2015  
Rick Feldman  
INCOMMN LLC

## Addendum

The author wishes to thank the readers and analysts at the Donohue Institute, University of Massachusetts, for important comments and questions addressed below:

1. The chart depicting relative activity ---- visits, tourism, sales ---- related in time to the filming of a major production --- was derived from anecdotal information. Owners of and workers at eating and drinking establishments, for example, did not track why someone was at their establishment. They noted that business levels were high or low, and better or worse than previous months or years. Based on their descriptions, we used an index to show the upswing and downswing of business activity.

This is by no means scientific or hard evidence. Since everyone interviewed had similar stories to tell, one is compelled to believe a certain underlying truth to the events. This is not the most reliable way to arrive at strong conclusions, but it is a way to discover what needs additional study and consideration.

The point of all this is that there seems to be a flow of activity that seems related to the filming because no other explanation for the unusual spike of business activity emerges, and because --- again, anecdotally --- workers reported many new patrons asking and talking about the filmmaking.

2. Construction and selection of appropriate area and scale in modeling a regional economy presents interesting challenges. In this case, the author decided that the region to be modeled was what had once been the four western Massachusetts counties.

- Initial interviews and tracking of businesses directly affected by filming in Franklin County revealed that technical workers, eating and drinking establishments, hotels and inns, and supply vendors were scattered around the entire region;
- The economic fabric of a region helps determine the boundaries and shape of the region: people in western Massachusetts commute frequently around the region for jobs and goods and services; to acquire supplies for business regardless of industrial sector businesses purchase from other businesses located all over the region;
- The industrial economy of the region includes most industrial sectors; the local economies will tend to include very few industries. Consequently, very few business and industry transactions can be completed at the local level.
- To analyze the impacts of a large commercial film project, one looks at the project's behaviors to learn the size of its economic net. Tourism and eating/drinking will tend to be most local; business and technical supplies and workers will tend to come from all over the larger region. And, in this case, accommodations were also supplied from a larger region simply because the more local area had far too few accommodations to offer. And this is one of the points of the analysis: having more services might attract more production.
- The multipliers associated with filming in a very rural area would be small: most dollars would leak out to a larger economy quickly. Pay to workers might not even show up in smaller rural local economy, since many of the workers live in other towns around the region where they are more likely to spend their earnings. Having too small a region and too limited an economy will result in misleading impacts from the primary action.

3. “Stacking” multipliers is the result of having multiple economic activities involved in the single study. This is another choice made by the author. We could complete a study of the multiplier impacts related to filmmaking and production. In a separate study, we could determine the multipliers associated with tourism. These would be typically considered as two separate and distinct economic activities, since they each involve a discreet industrial sector. However, in this case, I’m wanting to suggest something very different. In this case, I’m seeking to point out that I believe I’m seeing multiple impacts as each sector’s development affects the other. And, again, that’s my point here: it isn’t that filmmaking by itself has great value to the region, but that what filmmaking stimulates has huge value. Furthermore, to develop and sustain this multiple impact, the region’s planners and decision makers might want to consider policies and behaviors that would encourage and support the sectors that interact with and support each other.

Another way to get at this, and one common in regional economic modeling approaches is to create a new economic player that is the aggregation of various industry sectors. For example, when modeling “tourism”, the analyst is likely to create an aggregated sector that combines eating and drinking, accommodations, gift retail, and recreation. The multipliers that are then the combined multipliers of each sector used to create the aggregate.

It could be that the rarity of major filmmaking in a small regional economy is cause for people to travel to visit the site and be near the action. Perhaps filmmaking in New York City no longer attracts on-lookers or has so many impacts that are not directly related to the filming itself simple because it’s a common enough activity at this point. In western Massachusetts, hosting a major studio is a major event, and it attracts considerable attention and activity.

4. There is a “which comes first” riddle in the analysis which has regional economy implications. If more film technicians, for example, locate to western Massachusetts, will filmmakers be attracted to produce here? Or, will the production of major films attract technicians and other film workers? What are the factors, in other words, that will attract the amount of filmmaking most desirable and most probable to this region?

For this information, the next phase of study and analysis might involve direct interviews with and data collection from film producers and studios, with the basic question being: what would attract you to work here more often? What does this region need to have to be competitive? The responses to these inquiries would feed into many other policy considerations.

***Positive Impact:***

Mary Vilbon, Executive Director of the Greater Shelburne Falls Area Business Association, (comprised of 10 towns in northwestern Massachusetts) has now worked with two major motion pictures (Paramount Pictures’ *Labor Day* and Warner Bros’ *The Judge*.) She has dealt with everything from where to park movie trucks to creating a film permit, from connecting the film studios with local businesses to securing a venue for a special community screening. She has become a bona fide film liaison for her region. Today, Mary has created a film tourism program, one of the first in the Commonwealth, that includes a map of filming sites, trailers and visuals from the two movies exhibited at the Visitors Center, and a growing website dedicated to visitors interested in these movies. <http://www.shelburnefalls.com/index.php/lights-camera-action> Mary has received many inquires about the locations in *The Judge* - folks wanting to know if it’s a “real” town and wanting to visit.

## **APPENDIX-1**

### **Data**

In addition to data reported in the report narrative, a few additional charts help describe the scenarios and their impacts. The following pages contain:

1. "Commodity Production" table, showing the amount of the commodity --- motion pictures --- produced by the industry.
2. Scenario: increased output of current film industry, increased by \$1 million: Top Ten Sectors impacted in terms of employment impacts;
3. Scenario: same as above, showing total new employment from direct effects, indirect effects, and induced effects, from that increased output;
4. Next Scenario: New Production --- a what-if a new production were made, in the region, that cost \$1 million, and that new \$1 million was spent in line with typical expenditure patterns for such a project; this page shows the scenario events (the distribution of that \$1 million) and the top ten sectors impacted in terms of direct effect employment changes;
5. Next Scenario: as just described; now showing the total new employment from that New Production project (direct, indirect, and induced effects);
6. Third Scenario: during and after production, what if that event attracted new visitors from out of the region? Here we look at the what-if of 1000 new visitors spend one day in the region and 100 of them stay one night; top ten sectors impacted in terms of direct employment;
7. Third Scenario: the total employment impacts from those 1000 visitors.

These charts are all produced by the IMPLAN program.



western Massachusetts

Commodity Production 346 Motion picture and video industries

IMPLAN westernMassFilm.impdb

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CommodityCode  
3346

Description  
Motion pictures and videos

CommodityProduction    MarketShare    Byproduct  
99,512,619.018555    99.708 %    100.000 %



Scenario: Filmmaking Output Increased by \$1 million in western Mass.

Open for Employment	IMPLAN westernMassFilm.impdb Description	Copyright 2015 Minnesota IMPLAN Group, Inc. TotalEmployment	TotalLaborIncome	TotalValueAdded	TotalOutput
346	Motion picture and video industries	2.9	167,739.6	249,619.0	491,809.0
413	Food services and drinking places	0.2	3,604.4	5,452.4	9,909.4
382	Employment services	0.2	4,444.5	5,214.1	6,341.3
404	Promoters of performing arts and sports and agents for public figures	0.1	1,000.8	1,303.4	4,505.2
360	Real estate establishments	0.1	1,382.9	16,123.0	19,199.3
397	Private hospitals	0.1	5,201.1	5,714.1	10,468.3
405	Independent artists, writers, and performers	0.1	3,414.9	5,613.9	8,377.2
394	Offices of physicians, dentists, and other health practitioners	0.1	6,044.3	6,201.0	9,537.5
388	Services to buildings and dwellings	0.1	1,589.0	2,067.5	3,669.9
324	Retail Stores - Food and beverage	0.1	1,688.4	1,968.3	2,957.0



**Scenario: Film Output Increased by \$1 million in western Mass.**

**Impact Summary**

IMPLAN western Copyright 2015 Minnesota IMPLAN Group, Inc.

<u>ImpactType</u>	<u>Employment</u>	<u>LaborIncome</u>	<u>TotalValueAdded</u>	<u>Output</u>
Direct Effect	2.7	157,351.9	234,160.7	461,352.4
Indirect Effect	1.1	49,341.5	87,258.4	146,495.7
Induced Effect	1.1	48,674.0	89,091.5	137,635.0
Total Effect	4.9	255,367.4	410,510.5	745,483.0



**Scenario: New Production by Outside Production Company**

		Copyright 2015 Minnesota IMPLAN Group, Inc.			
<u>Sector</u>	<u>Description</u>	<u>TotalEmployment</u>	<u>TotalLaborIncome</u>	<u>TotalValueAdded</u>	<u>TotalOutput</u>
IMPLAN	westernMassFilm.impdb				
346	Motion picture and video industries	3.5	215,552.0	320,770.2	631,993.9
425	Civic, social, professional, and similar organizations	2.1	60,926.0	31,381.5	71,359.4
413	Food services and drinking places	1.2	25,900.1	39,178.9	71,205.2
411	Hotels and motels, including casino hotels	0.6	20,081.2	52,265.5	88,050.1
387	Investigation and security services	0.5	15,275.9	15,496.7	23,205.5
327	Retail Stores - Clothing and clothing accessories	0.3	8,065.4	13,702.7	21,850.2
414	Automotive repair and maintenance, except car washes	0.3	14,234.4	14,308.9	24,238.0
378	Photographic services	0.3	5,352.9	18,989.1	25,883.7
336	Transit and ground passenger transportation	0.3	10,334.5	12,592.9	16,895.8
382	Employment services	0.3	7,979.8	9,361.6	11,385.3

**Scenario Events: New Production Expenditure Pattern**

<u>Sector</u>	<u>Description</u>	<u>EventValue</u>	<u>Employment</u>
414	Automotive repair and maintenance, except car washes	20000	0.28
425	Civic, social, professional, and similar organizations	67000	2.02
378	Photographic services	25000	0.31
380	All other miscellaneous professional, scientific, and technic	21000	0.00
346	Motion picture and video industries	572000	3.31
351	Telecommunications	7000	0.01
405	Independent artists, writers, and performers	12000	0.10
413	Food services and drinking places	46000	0.79
336	Transit and ground passenger transportation	15000	0.27
411	Hotels and motels, including casino hotels	85000	0.64
385	Facilities support services	21000	0.10
322	Retail Stores - Electronics and appliances	47000	0.14
327	Retail Stores - Clothing and clothing accessories	41000	0.29
387	Investigation and security services	21000	0.50
		1000000	8.76



**Scenario: New Production; \$1 million distributed by expenditure pattern**

**Impact Summary**

IMPLAN western Copyright 2015 Minnesota IMPLAN Group, Inc.

<u>ImpactType</u>	<u>Employment</u>	<u>LaborIncome</u>	<u>TotalValueAdded</u>	<u>Output</u>
Direct Effect	8.8	365,081.7	513,544.0	950,359.7
Indirect Effect	2.2	94,693.7	168,747.9	281,681.0
Induced Effect	2.5	108,325.7	198,259.1	306,294.3
Total Effect	13.5	568,101.0	880,551.0	1,538,335.0



Scenario: 1000 new visitors, 100 stay overnight

IMPLAN westernMassFilm.impdb

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<u>Sector</u>	<u>Description</u>	<u>TotalEmployment</u>	<u>TotalLaborIncome</u>	<u>TotalTotalValueAdded</u>	<u>TotalOutput</u>
413	Food services and drinking places	1.3	28,162.8	42,601.7	77,426.0
329	Retail Stores - General merchandise	0.1	4,034.2	5,678.1	7,249.9
411	Hotels and motels, including casino hotels	0.1	2,859.0	7,441.1	12,535.9
360	Real estate establishments	0.0	261.3	3,046.0	3,627.2
397	Private hospitals	0.0	1,031.0	1,132.7	2,075.1
394	Offices of physicians, dentists, and other health practitioners	0.0	1,198.1	1,229.2	1,890.6
388	Services to buildings and dwellings	0.0	350.9	456.6	810.5
324	Retail Stores - Food and beverage	0.0	353.2	411.7	618.5
382	Employment services	0.0	338.6	397.2	483.0
319	Wholesale trade businesses	0.0	858.7	1,520.2	2,350.8



**Scenario: 1000 new visitors; 100 stay overnight**

IMPLAN weste Copyright 2015 Minnesota IMPLAN Group, Inc.

<u>ImpactType</u>	<u>Employment</u>	<u>LaborIncome</u>	<u>TotalValueAdded</u>	<u>Output</u>
Direct Effect	1.5	33,970.7	54,090.8	94,400.0
Indirect Effect	0.1	7,029.1	13,161.9	21,670.5
Induced Effect	0.2	9,656.1	17,673.2	27,303.4
Total Effect	1.8	50,655.9	84,925.9	143,373.9

## Summary Data: Rick Feldman

### *Education:*

Masters in Public Administration, Policy and Finance □ All-but-Dissertation toward Ph.D., Political Science □ Completed 30- hours graduate school in counseling and education; □ Awarded Advanced Certificate in Math and Statistics (completed all the graduate school courses

offered in the UMass-Amherst Math & Statistics Department, did not pursue a degree in that field; awarded the certificate to document accomplishment)

### *Professional Accomplishments and Positions:*

- 1970: head of academic counseling at the School of Education's University Without Walls (UWW); help found UWW; (
- 1975-76: taught high school, Boston: Senior English and Trigonometry (
- 1972-75: manager, Archer Kent retail and then District Manager (Boston) (
- 1975-1980: fund-raising consultant and development trainer, focusing on arts and cultural (organizations; clients included Massachusetts Arts Council; completed a study of the economic impact of artisans in the four western Massachusetts counties through a State grant; gathered data on 1500 artisans and crafts producers; (
- 1978-1980: Directed a marketing development project for the State, to elevate marketing of Massachusetts produced high-end crafts products; (
- 1980: invited to move the crafts program to UMass-Amherst, and expand it to include business assistance/advising to small businesses, through the Community Development program of the Massachusetts Cooperative Extension Service; (
- 1981: State Specialist, economic and business development, Cooperative

## Extension (

- 1985: State Assistant Director of Mass. Cooperative Extension, Director of Community and (Economic Development Department; raised and managed over \$20 million between 1981 and (1990 to develop and deliver programming and services throughout Massachusetts (
- 1985-1988: participated in learning and developing the initial IMPLAN program, at that time a (a main-frame economic analysis and modeling program run jointly by the U.S. Government and (Colorado State University (
- 1988: raised funding (through grants and contracts) to establish the Center for Economic (Development at the University of Massachusetts; initiated economic impact studies; (
- 1985-1990: founding member and instructor, of New England Leadership Development (program, acquired funding from three national foundations with primary funding from the (Kellogg Foundation (\$600,000); (
- 1986-1990: guest lecturer and speaker at economic analysis research centers, a network of (research centers jointly funded by USDA and US Dept of Commerce; speaker at University of Budapest's International Conference on Regional Planning; published economic policy and development articles in American Economic Development Association journal, Rural Sociology; University of Budapest Research Journal; (
- During this time, helped found the Massachusetts Rural Development Council; served as chair of economic development committee, then vice-president, then president/chairman; (
- 1990: founded a consulting and software company to further develop IMPLAN; Quartet Systems Micro-IMPLAN; created the first desk-top version of the software, allowing greater access to the data and the tools; sold to and completed projects for over 200 institutions and

governments, including the UN office for economic analysis in Geneva; the State of Illinois; Environmental Defense Fund; Pioneer Valley Transit Authority; Town of Franklin (Mass.); City of Springfield (Mass.); Fish and Wildlife Service; New Zealand; sold some of the business to REMI and some to Minnesota IMPLAN Group (the current IMPLAN company); (

- 1990: Adjunct Faculty, Political Science Department: ran and taught in Summer Graduate Institute, teaching courses in policy analysis and policy development; (
- 1996: founded Corporation for Public Technology, to advance the use of advanced data systems in local government and not-for-profits; sold all holdings and software that was developed in 2002; (
- 2002: free-lance consulting: fund-raising, organizational development, enterprise development (
- 2004: contracted to take over a large troubled quasi-agency and charged with closing it down; (able to transfer all programs to other organizations and agencies, able to keep 155 of the 160 (full-time staff people employed in other organizations; (
- 2008: Joined staff of Ostberg and Associates, a financial planning and advisory firm associated (with New York Life Securities; achieved Eagle Strategies advisor status in 2010; (
- 2012 and current: created INCOMMN LLC: an enterprise support and development network; (incubator and accelerator services and facilities; continued to conduct economic impact studies and provide consulting services; Board of Directors and coordinator of facilitator services, Valley Venture Mentors program; (
- 2013 and current: co-owner and CEO of small manufacturing company in Holyoke MA; introducing and implementing “Lean Manufacturing” techniques and advanced precision manufacturing; (

□ OTHER:

- Developed the Neighborhood Council program in the city of Springfield for then Mayor Neil, and designed and delivered the citizen participation training program to assist them; did similar work for the State's Department of Mental Retardation; and for Nueva Esperanza, the primary development agency in the City of Holyoke; □
- The economic impact analysis study on public transportation won a national award; □
- Completed curriculum evaluation studies for the U.S. Department of Education as a □ contracted reviewer of new curricula; □
- Trainer and consultant for numerous not-for-profits as well as for-profit enterprises □
- Currently coordinator of team facilitators for Valley Venture Mentors, a venture-advising □ and development program created and led by businesses in western Massachusetts □
- Continue to advice, assist, develop economic models, raise funds,..... □