
COLORADO FILM INCENTIVES

Economic and Fiscal Impact Analysis of Actual Film Budget Scenario on Colorado

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EXECUTIVE SUMMARY

Not Forgotten was filmed in the state of New Mexico in 2008. With a budget of \$10,057,959, this is considered a medium-budget film. New Mexico was selected as the film location by and large due to the 25% film incentives offered on local spending. Had this movie been filmed in Colorado, the state would have reaped \$11.2 million in economic benefits, including 120 jobs, and \$5.7 million in wages. In a 20% tax credit environment, the net cost to the state would be \$365,668 after new tax revenues and fees, or \$3,037 per job. This cost per job does not take into account the savings to the state by reducing unemployment.

In addition to ratcheting up incentives to increase the appeal to film makers, the Colorado Office of Film, Television and Media is proposing a senior loan guarantee program, financed by banks, in which the state will take an upfront 5% facility fee, paid by the production company, in exchange for the guarantee. This will secure an additional \$100,000 for the state, which will reduce the state's exposure on the tax credit or rebate.

This study analyzed the "what if" scenario of filming *Not Forgotten* in Colorado in 2010. Examining the film's financial statements, it is estimated that \$5,825,383 of the film's \$10,057,959 budget would have been directly spent in Colorado on payroll and spending. While many of the expenditures spent on making a film occur directly within the film industry, spending also occurs on construction, hotels, restaurants, transportation, and other critical goods and services needed during production.

Colorado's film incentives are structured to lure medium-sized films to the state; however, at 10%, the state's incentives have proven under-sellable due to a lack of competitiveness with other states nationally. In fact, in FY2010-FY2011, only \$98,000 of the available \$1.4 million in tax credits was claimed by two in-state companies.

Given the competitive national film incentive landscape, productions can shift to states with attractive incentives. This is appealing for Colorado, especially during this recession, because direct spending on incentives yields nearly immediate returns at a time when Colorado's unemployment rate is at 8.5%, well above the natural rate.

At more than 900 employees in 2010, the film industry remains small in Colorado. Data show that film production and post-production wages averaged \$57,998, or 21.2% higher than the state average for all industries. However, this industry continues to shed jobs as production moves elsewhere around the country. Colorado's film industry has declined every year since 2006.

PROJECT PURPOSE

The Business Research Division at the Leeds School of Business was asked by the Colorado Office of Film, Television & Media to conduct a study examining the economic and fiscal analysis of *Not Forgotten*, a movie filmed in New Mexico and released in 2009. The analysis provides a “what if” look at the economic and fiscal impacts to Colorado as if the scenes were shot today in Colorado rather than New Mexico. These calculations are based on the film’s financial statements and examine local versus nonlocal employment. Additionally, this study looks at the additional fiscal impacts based on forthcoming proposed incentives in Colorado. Ultimately, this report presents a realistic picture of the influences, costs, and benefits of film incentives because it analyzes actual expenses incurred during filming.

METHODOLOGY

Rather than conducting a complete industry analysis, this study examines the actual budget and spend for the film *Not Forgotten*, which was filmed in New Mexico in 2008, and models the economic and fiscal impacts had it been filmed in Colorado today. The film’s producer provided budget reports, which included above-the-line and below-the-line expenditures, with 239 account numbers and descriptions detailing spending. Additional spreadsheets were supplied with New Mexico vendor and labor spend, with names, descriptions, invoices, and check numbers. Spreadsheet data were reconciled with the detailed budget to check accuracy.

Examining the spending descriptions, expenditures were categorized by North American Industry Classification (NAICS) codes. Naturally, most spending resided in the film industry, but some expenditures were parsed to other industries, including construction, retail trade, accommodation and food services, rental and leasing, and others.

To estimate the economic impacts on output, employment, and wages, the total spend by industry was then entered into the input-output modeling tool IMPLAN, with customized data files specific to Colorado. Impacts are expressed as direct, indirect, and induced, together representing the “multiplier” effect.

In addition to the economic benefits, fiscal benefits were estimated in relation to filming in Colorado. When estimating fiscal benefits the primary focus is on the sales, income, and property taxes because these sources form the bulk of discretionary spending derived from the film industry (other industries, such as oil and gas, add additional funding, for example severance taxes). Other public revenues are considered to directly offset user costs, or are derived from nonrelated functions (e.g., investment dividends).

This report offers an economic analysis of one movie with a \$10,057,959 budget—*Not Forgotten*. Colorado’s incentives are structured to attract medium-size film budgets, such as this roughly \$10 million film. Given the static nature of I-O analysis, results from this study may be scaled to illustrate the impacts varying levels of film production (e.g., \$20 million, \$30 million, \$40 million in production). This study does not examine the additional long-term growth of post-production or permanent film-related infrastructure. Ultimately, it is important to recognize the presence of either net benefits or net costs of the program.

DATA AND ASSUMPTIONS

The BRD acquired the actual budget and spend for the film *Not Forgotten*, which was filmed in New Mexico in 2008. The above-the-line and below-the-line expenditures were listed in the budget by account number and description, detailing \$10,057,959 in spending. Additional spreadsheets were supplied with actual vendor and labor spend in New Mexico.

Vendor data detailed \$2,658,646 in spending related to the production of *Not Forgotten* in New Mexico and \$2,054,929 related to New Mexico resident payroll (Table 1). Examining the spending descriptions, expenditures were categorized by North American Industry Classification (NAICS) codes. Naturally, most spending occurred in the film industry, but expenditures were also parsed to other industries, including construction, retail trade, accommodation and food services, rental and leasing, and others.

TABLE 1: NOT FORGOTTEN SPENDING IN NEW MEXICO, ESTIMATED BY INDUSTRY

NAICS	Industry	Payroll	Vendor	New Mexico
23	Construction	\$246,910	\$59,963	\$306,873
44	Retail Trade	\$231	\$57,338	\$57,569
48	Transportation	\$357,950	\$71,061	\$429,011
52	Finance and Insurance	\$0	\$84,600	\$84,600
72	Accommodation and Food Services	\$30,312	\$423,764	\$454,076
81	Other Services	\$26,714	\$7,892	\$34,606
92	Public Administration	\$0	\$240	\$240
481	Air Trans	\$1,050	\$41,188	\$42,238
512	Film	\$1,345,941	\$1,236,356	\$2,582,297
532	Rental and Leasing	\$45,171	\$627,465	\$672,636
541	Marketing	\$0	\$16,755	\$16,755
561	Security	\$650	\$32,024	\$32,674
-	Total	\$2,054,929	\$2,658,646	\$4,713,575

Spend on vendors in Colorado were expected to be similar to that in New Mexico—\$2,658,646. Colorado film incentives allow for resident and nonresident labor to be counted toward incentives, as long as payroll taxes are withheld and paid on in-state earnings. Therefore, qualifying Colorado payroll would be higher

than in New Mexico, at \$3,166,737. Total Colorado spending was estimated at \$5,825,383, or 57.9% of the total film budget. Nearly 54.4% of this is on payroll and 45.6% on purchases.

Currently in Colorado, 10% of in-state qualified spending may be eligible film tax incentives. Assuming that 100% of this detailed Colorado spend is all eligible, according to current regulations, the state would pay \$582,538 in incentives for the \$5,825,383 in direct economic activity. If incentives were increased to 20%, the state would essentially be doubling the investment to \$1,165,077 in incentives.

TABLE 2: NOT FORGOTTEN SPENDING IN COLORADO, ESTIMATED BY INDUSTRY

NAICS	Industry	Payroll	Vendor	Colorado
23	Construction	\$246,910	\$59,163	\$306,073
44	Retail Trade	\$231	\$57,001	\$57,233
48	Transportation	\$357,950	\$71,061	\$429,011
52	Finance and Insurance	\$0	\$84,600	\$84,600
72	Accommodation and Food Services	\$30,312	\$423,764	\$454,076
81	Other Services	\$26,714	\$7,892	\$34,606
92	Public Administration	\$0	\$240	\$240
481	Air Trans	\$1,050	\$41,188	\$42,238
512	Film	\$2,457,748	\$1,237,650	\$3,695,398
532	Rental and Leasing	\$45,171	\$627,308	\$672,479
541	Marketing	\$0	\$16,755	\$16,755
561	Security	\$650	\$32,024	\$32,674
-	Total	\$3,166,737	\$2,658,646	\$5,825,383

INDUSTRY SNAPSHOT

- In 2010, film production and post-production wages averaged \$57,998, or 21.2% higher than the state average for all industries.¹
- The average wage for all industries was \$47,864 (Source: Colorado Department of Labor and Employment, Quarterly Census of Employment and Wages, <http://lmigateway.coworkforce.com>).
- Film employment in 2010 totaled 906, with employment decreases recorded every year since 2006.
- Industry employment lost 372 jobs, or 29%, from 2007 to 2010.
- Film industry relies on numerous other industries for goods and services during production, including construction, accommodation and food services, professional and business services, transportation, and finance.
- Industry is a primary employer—importing investment and exporting films for national and global consumption.

¹Includes NAICS 51211- Motion Picture and Video Production, 51212- Motion Picture and Video Distribution, and 51219- Postproduction Services and Other Motion Picture and Video Industries.

TABLE 3: COLORADO FILM EMPLOYMENT AND WAGES

Year	Employment	Percentage Change	Total Wages	Percentage Change	Average Wages	Percentage Change
2010	906	-2.8%	\$52,550,697	0.9%	\$57,998	3.8%
2009	932	-3.2%	\$52,105,476	-0.3%	\$55,892	3.0%
2008	963	-24.6%	\$52,257,785	-18.5%	\$54,280	8.1%
2007	1,278	-	\$64,145,909	-	\$50,209	-

TABLE 4: COLORADO TOTAL EMPLOYMENT AND WAGES

Year	Employment	Percentage Change	Total Wages	Percentage Change	Average Wages	Percentage Change
2010	2,177,005	-1.1%	\$104,206,994,391	1.0%	\$47,867	2.1%
2009	2,201,365	-4.7%	\$103,158,636,961	-4.2%	\$46,861	0.5%
2008	2,310,868	0.8%	\$107,718,558,578	3.5%	\$46,614	2.7%
2007	2,292,649	-	\$104,077,021,914	-	\$45,396	-

ECONOMIC IMPACT

Filming *Not Forgotten* in Colorado in 2010 would have yielded direct, indirect, and induced economic benefits totaling \$11.2 million and more than 120 employees.

TABLE 5: *NOT FORGOTTEN* SPENDING IN COLORADO, ESTIMATED BY INDUSTRY

Impact Type	Employment	Labor Income	Output
Direct Effect	79.2	\$3,777,509	\$5,785,821
Indirect Effect	13.3	\$702,546	\$1,899,354
Induced Effect	27.9	\$1,171,335	\$3,466,659
Total Effect	120.4	\$5,651,390	\$11,151,833

The film industry, like all industries, relies on goods and services from a broad supply chain. In the case of film, the supplier industries range from bankers, construction workers, and electricians, to hotels and caterers. Film, however, does provide unique economic contributions that are characteristic of industries like manufacturing, tourism, and mining—as an exporting industry (selling products nationally or globally), it attracts outside dollars to finance investment and hiring.

The potential for economic activity driven by film incentives depends on the ability to sell film incentives to interested producers. The competitive national (and global) landscape for film incentives means that merely offering incentives does not guarantee film activity.

Given a finite pool of funding (e.g., \$20 million), Colorado would surely be better off if producers would engage at incentive levels of 10%, rather than 20% tax credits, as it would gain twice the economic benefit per dollar of incentive spending. However, when New Mexico offers 25% film incentives, Louisiana offers up to 35% incentives, and Michigan offers 42% incentives, Colorado’s 10% incentives become a difficult sell. To illustrate, only \$98,000 of the available \$1.4 million in tax credits were claimed by two in-state companies in

FY2010-FY2011 at the 10% rate. This \$98,000 in activity implicitly contributed \$1.67 million in economic activity to the state, but the state only was able to sell 7% of these incentives.

Output

Direct, indirect, and induced economic activity attributable to filming *Not Forgotten* in Colorado would have topped \$11.2 million in 2010 (Table 6). Of this, \$5.8 million is direct, budgeted spending on film crews, set construction, airfare, ground transportation, retail purchases, hotels, and food. The construction and the accommodation and food services industries—both reeling from the recession—together account for more than \$1 million in economic benefits.

TABLE 6: OUTPUT, AGGREGATED BY INDUSTRY

NAICS and Description	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	\$0	\$3,548	\$17,552	\$21,101
21 Mining	\$0	\$4,908	\$4,093	\$9,001
22 Utilities	\$0	\$29,395	\$66,365	\$95,760
23 Construction	\$306,073	\$5,975	\$8,653	\$320,701
31-33 Manufacturing	\$0	\$61,001	\$138,002	\$199,000
42 Wholesale Trade	\$0	\$83,184	\$166,939	\$250,124
44-45 Retail trade	\$17,671	\$15,642	\$351,603	\$384,918
48-49 Transportation & Warehousing	\$471,249	\$75,411	\$76,749	\$623,408
51 Information	\$3,695,398	\$349,985	\$167,790	\$4,213,173
52 Finance & insurance	\$84,600	\$228,804	\$522,262	\$835,666
53 Real estate & rental	\$672,479	\$284,036	\$778,245	\$1,734,758
54 Professional- scientific & tech svcs	\$16,755	\$358,675	\$139,669	\$515,099
55 Management of companies	\$0	\$83,935	\$31,950	\$115,885
56 Administrative & waste services	\$32,674	\$104,759	\$57,802	\$195,235
61 Educational svcs	\$0	\$176	\$22,003	\$22,179
62 Health & social services	\$0	\$78	\$387,616	\$387,694
71 Arts- entertainment & recreation	\$0	\$78,058	\$61,758	\$139,816
72 Accommodation & food services	\$454,076	\$37,944	\$198,580	\$690,601
81 Other services	\$34,606	\$38,825	\$162,999	\$236,430
92 Government & non NAICs	\$240	\$51,168	\$99,258	\$150,667
Total	\$5,785,821	\$1,899,354	\$3,466,659	\$11,151,833

Employment

Total employment related to filming would have totaled 120 jobs (Table 7). Most of these would have been film jobs, but many others would have been in transportation and warehousing, and accommodation and food services. This activity would have accounted for nearly 80 direct jobs related to film crews, set construction, airfare, ground transportation, retail purchases, hotels, and food.

TABLE 7: EMPLOYMENT, AGGREGATED BY INDUSTRY

NAICS and Description	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	0	0	0.1	0.1
21 Mining	0	0	0	0
22 Utilities	0	0	0.1	0.1
23 Construction	5.5	0	0.1	5.6
31-33 Manufacturing	0	0.1	0.1	0.2
42 Wholesale Trade	0	0.4	0.8	1.2
44-45 Retail trade	0.3	0.2	6.2	6.7
48-49 Transportation & Warehousing	17.2	0.6	0.5	18.3
51 Information	45	2	0.3	47.3
52 Finance & insurance	0.4	0.9	2.4	3.8
53 Real estate & rental	3	1.1	2.8	6.7
54 Professional- scientific & tech svcs	0.1	2.8	1.1	4.1
55 Management of companies	0	0.4	0.1	0.5
56 Administrative & waste services	0.5	1.5	0.8	2.8
61 Educational svcs	0	0	0.4	0.4
62 Health & social services	0	0	4.2	4.2
71 Arts- entertainment & recreation	0	1.4	0.9	2.5
72 Accommodation & food services	6.8	0.6	3.1	10.5
81 Other services	0.4	0.5	2.2	3.2
92 Government & non NAICS	0	0.6	1.1	1.7
Total	79.2	13.3	27.9	120.4

Income

Direct, indirect, and induced wage impacts totaled \$5.7 million and accounted for half of the economic contributions (Table 9). The greatest wage impact is on the film industry (information sector 51), followed by transportation, construction, rental and leasing, and professional services.

TABLE 8: WAGES, AGGREGATED BY INDUSTRY

NAICS and Description	Direct	Indirect	Induced	Total
11 Ag, Forestry, Fish & Hunting	\$0	\$617	\$2,289	\$2,906
21 Mining	\$0	\$1,109	\$941	\$2,050
22 Utilities	\$0	\$4,931	\$11,133	\$16,064
23 Construction	\$336,965	\$2,368	\$3,430	\$342,764
31-33 Manufacturing	\$0	\$12,304	\$19,829	\$32,133
42 Wholesale Trade	\$0	\$32,971	\$66,168	\$99,139
44-45 Retail trade	\$9,394	\$8,378	\$185,964	\$203,735
48-49 Transportation & Warehousing	\$470,797	\$29,147	\$27,673	\$527,616
51 Information	\$2,498,946	\$106,943	\$49,032	\$2,654,921
52 Finance & insurance	\$23,379	\$62,383	\$144,870	\$230,632
53 Real estate & rental	\$229,554	\$25,888	\$50,316	\$305,759
54 Professional- scientific & tech svcs	\$9,614	\$205,810	\$80,144	\$295,568
55 Management of companies	\$0	\$46,300	\$17,624	\$63,924
56 Administrative & waste services	\$16,332	\$52,002	\$28,664	\$96,999
61 Educational svcs	\$0	\$88	\$10,959	\$11,046
62 Health & social services	\$0	\$42	\$209,901	\$209,943
71 Arts- entertainment & recreation	\$0	\$37,708	\$26,392	\$64,099
72 Accommodation & food services	\$164,346	\$14,031	\$73,891	\$252,268
81 Other services	\$18,002	\$19,870	\$85,421	\$123,294
92 Government & non NAICs	\$180	\$38,377	\$74,444	\$113,002
Total	\$3,777,509	\$702,546	\$1,171,335	\$5,651,390

FISCAL IMPACTS

With 20% incentives, the cost of incentives for the production of *Not Forgotten* would have totaled \$1,165,077 in 2010 (\$5,825,383 in Colorado eligible spend multiplied by the 20% tax credit). Direct, indirect, and induced income, property, and sales taxes related to the \$5.8 million Colorado spending are estimated at \$698,829. Fees associated with the guarantee program are estimated at \$100,580. Therefore, total public revenue is estimated at \$799,408.

Income Taxes

Corporate and individual income taxes related to the film are estimated at \$142,282. Any income earned in Colorado is subject to Colorado income taxes, regardless of one's residence. The \$3.8 million in total direct income has an associated net effective tax rate of 2.3%, accounting for \$86,883 in direct income taxes. Total employee income taxes (direct, indirect, and induced) totaled \$129,982. Estimates from IMPLAN on corporate profits taxes totaled \$12,300.

Property Taxes

Corporate and individual property taxes related to *Not Forgotten* would have totaled \$297,363 in 2010. In Colorado, 74.8% of homes are single-family units and 25.2% multi-family units. The American Community Survey for 2006-2009 indicates the Colorado median owner-occupied unit value was \$234,100, while

median monthly rent was \$835. With the average mill levies for counties, cities, school districts, and special districts at 20.602, 6.46, 44.53, and 2.73, respectively in 2010, property taxes associated with the 84% of direct employees who are residents totaled \$74,812. Total property taxes (direct, indirect, and induced) were estimated at \$121,142. Corporate property taxes were estimated using IMPLAN, totaling \$176,221.

Sales Taxes

Corporate and individual sales taxes were estimated at \$259,184 for direct, indirect, and induced activities related to the film.

While all eligible payroll would be taxable income under Colorado law, it is estimated that 84% of the direct payroll eligible for incentives would be to Colorado residents, and therefore, 16% of income would be considered leakage to other states.

According to the 2008-2009 Consumer Expenditure Survey for metropolitan areas in western states, it is calculated that 25.4% of consumers' disposable income (20.7% of gross income) is spent on taxable goods and services in Colorado. Since 84% of film income would have been paid to Colorado residents, it is assumed that only 84% of payroll would have been eligible as employee expenditures on Colorado taxable goods and services. Under this assumption, direct sales tax revenue and total sales taxes (direct, indirect, and induced) would have totaled \$50,648 and \$82,582, respectively. Corporate spending would have totaled more than \$176,600.

TABLE 9: ESTIMATED FISCAL IMPACTS

	A	B
2	Output	2010
3	<i>Not Forgotten</i> Colorado Spend	5,825,383
4	Direct Output	5,785,821
5	Additional Output (Multiplier on New Spending)	5,366,013
6	Total Output (Direct and Indirect)	11,151,834
7	Operations	2010
8	State Income Taxes	12,300
9	State Sales Taxes	66,419
10	County Sales Taxes	14,429
11	City Sales Taxes	79,784
12	Special District Sales Taxes	15,970
13	County Property Taxes	49,399
14	City Property Taxes	20,035
15	School District Property Taxes	99,051
16	Special District Property Taxes	7,736
17	Proposed 20% Loan Guarantee Program, 5% Fee	100,580
18	Direct Employment	2010
19	<i>Not Forgotten</i> Direct Employment	79
20	Average Earnings	47,696
21	Total Earnings	3,777,509
22	State Direct Income Taxes	86,883
23	State Sales Taxes on Taxable Purchases	19,048
24	County Sales Taxes on Taxable Purchases	4,138
25	City Sales Tax on Taxable Purchases	22,881
26	Special District Sales Tax on Taxable Purchases	4,580
27	County Property Taxes	20,972
28	City Property Taxes	8,505
29	School District Property Taxes	42,050
30	Special District Property Taxes	3,284
31	Indirect Employment	2010
32	<i>Not Forgotten</i> Indirect Employment	41
33	Average Indirect Earnings	45,483
34	Total Indirect Earnings	1,873,881
35	State Direct Income Taxes	43,099
36	State Sales Taxes on Taxable Purchases	11,249
37	County Sales Taxes on Taxable Purchases	4,396
38	City Sales Tax on Taxable Purchases	13,585
39	Special District Sales Tax on Taxable Purchases	2,705
40	County Property Taxes	12,987
41	City Property Taxes	5,267
42	School District Property Taxes	26,041
43	Special District Property Taxes	2,034
44	Total Taxes	2010
45	Total Direct Taxes	577,465
46	Total Indirect Taxes	121,364
47	Total Taxes Collected	698,829
48	Proposed 20% Loan Guarantee Program, 5% Fee	100,580
49	Total Public Revenue	799,408
50	Cost of 20% Tax Incentives	(1,165,077)
51	Net Cost of Incentive Program	(365,668)

CONCLUSION

Analyzing the theoretical filming of *Not Forgotten* in Colorado in 2010 uniquely illustrates the economic contributions and fiscal impacts based on the analysis of a real film budget. From an examination of the film's financial statements, it is estimated that \$5,825,383 of the film's \$10,057,959 budget would have been spent directly in Colorado on payroll, goods, and services. While much of the expenditures related to film production are spent directly within the film industry, spending also occurs on construction, hotels, restaurants, transportation, and other critical goods and services needed during production.

It is estimated that the direct spending of \$5.8 million in Colorado would result in economic benefits of \$11.2 million in 2010 due to spending in other industries and payroll impacts. This would also account for 120 jobs and \$5.7 million in earnings. These quantifiable rewards positively impact GDP, employment, wages, and taxes, and also contribute to the economic and cultural diversity of the state.

Given the transitory nature of film production nationally, the industry is able to react quickly and shift production in order to capture incentives. Incentive spending by the State of Colorado offers immediate benefits by incentivizing producers to shift production to Colorado.

Further analysis should be done on the benefits of reduced unemployment related to increased film production, as well as the benefits associated with providing state-backing of film financing.