APPLIED ECONOMICS

May 21, 2025

Mr. Tom Burns
Executive Director
Governor's Office of Economic Development
555 E. Washington Ave, Suite 5400
Las Vegas, NV 89101

Dear Tom,

This letter documents Applied Economics' review of the Economic and Fiscal Impact of Nevada Studios @ UNLV Harry Reid Research and Technology Park prepared by Camoin Associates. The analysis includes the economic and tax impacts of construction and operations for a mixed-use development that would include a large film studio as well as creative office, retail, hotel, media lab and child care. The purpose is to quantify the potential economic and tax benefits to the state, relative to the film tax credits requested by Birtcher Nevada Development, and to estimate the economic and fiscal return on investment (ROI). The analysis covers an 18-year period, consistent with the term of the proposed credits.

In addition to the film studio impacts, this review also includes the Economic and Fiscal Impact Analysis of Aerospace and Defense, Video Game Design and Publishing, and Medical Device and Healthcare Manufacturing prepared by Camoin Associates. This analysis also covers an 18-year period and includes the estimated return on investment related to tax credits under SB 220.

SB 220, or "The Nevada Film Studio Infrastructure, Education, Workforce Development, and Economic Diversification Act" is aimed at diversifying the state's economy. It would establish the Creative Technologies Initiative that would include film tax credits but would expand this incentive program to include other industries within GOED's target clusters that could diversify the state's economic base. SB 220 would leverage the 112-acre UNLV Harry Reid Research and Technology Park to house these emerging creative technology industries, providing higher education support through workforce development and physical resources.

This review covers each component of the film studio and creative technology industry development impacts and the combined return on investment for all the creative technology industries that would be included under the SB 220 tax credits. It highlights the methodology and compares the results to economic and fiscal impacts estimated by Applied Economics.

Applied Economics has extensive experience conducting economic and fiscal impact analyses for a wide range of different projects including tourism attractions, film industry, mixed-use development and various types of commercial and industrial development. This review focuses on the economic impact results in the Nevada Studios report and the report on other creative technology or strategic growth industries prepared by Camoin Associates. The review provides commentary on the approach and various assumptions used in the Camoin Associates reports, including the fiscal economic ROI calculations.

Economic impacts measure the change in a state or regional economy, in this case the State of Nevada, stemming from an increase in spending or demand. These changes can be quantified in terms of jobs, labor income, output and value added. For each of those variables there are direct impacts of the project, indirect impacts of local supplier purchases, and induced impacts of employee spending. Using economic multipliers for Nevada limits the indirect and induced impacts to local spending based on the type of industry creating new demand and the types of goods and services available in the state. Applied Economics attempted to replicate the economic impacts in the Camoin Associates reports.

The Camoin Associates report uses Lightcast to estimate economic impacts, while Applied Economics uses IMPLAN. Both IMPLAN and Lightcast are input-output models that show how an increase in demand in a particular industry sector ripples through a state or local economy based on buyer-supplier relationships between sectors. The models are based on a national input-output model that is scaled to local areas based on employment by industry and other factors. Lightcast supplements their model with real-time labor market data that seems to result in uniformly higher wage assumptions than in the IMPLAN model. Given the differences in methodology, it is expected that the impact results from the two models would vary.

Nevada Studios Project Description

The Nevada Studios development plan covers 50 acres in total and could include a 520,000 square foot production studio and sound stage on 37 acres. The remaining 13 acres could include 365,000 square feet of mixed-use retail space, hotel, creative office space, a child care facility/sick care, the studio tour facility, a headquarters facility for the International Alliance of Theatrical State Employees (IATSE), and the Nevada Media and Technology Lab. The development would be built over a period of three years, reaching full operating levels by year four. The timing is particularly important in terms of the ROI given that both the economic and tax impacts are cumulative over time. Because timing may change as the project develops, the impact results could also change, even if the mix of development stays the same.

Construction Impacts

Total construction costs (excluding land) are estimated at $900 million over three years, including $225.3 million in materials costs, $163.2 million in local labor costs and $511.5 in non-local labor based on the data provided by the applicant. The construction impacts from Camoin Associates are similar to Applied Economics' calculations. Direct output, which represents local construction costs, is the same for both estimates. Applied Economics assumed that direct labor income would be equal to the estimates of local labor as a component of construction cost. The results from the Camoin report show approximately 3,000 direct jobs, versus 2,600 direct jobs in the Applied Economic estimate. Wages (labor income per job) average about $87,000 in both analyses. Indirect impacts (local supplier purchases related to construction) and induced impacts (purchases related to employee spending) are higher in the Camoin analysis. The higher induced impacts are unexpected given that direct and indirect labor income that are the basis for the induced impacts are very similar in both analyses. Overall, the construction impacts vary by about 15%, which is generally reasonable. The economic impact of construction is not included in the economic ROI, but sales tax on construction materials is included in the fiscal ROI.

CONSTRUCTION IMPACTS
NEVADA STUDIOS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$388.5	$101.6	$186.5	$676.7	
Employment	1,345	469	1,175	2,989	
Labor Income (millions)	$156.1	$33.3	$71.6	$260.9	
IMPLAN					
Output (millions)	$388.5	$90.9	$112.3	$591.6	14%
Employment	1,634	366	604	2,604	15%
Labor Income (millions)	$163.2	$27.5	$34.9	$225.6	16%

Sound Stage and Production Studio

A large portion of the economic impacts generated by the proposed development come from the 520,000 square foot studio. The studio could open in year three with 2,372 employees, increasing to 2,980 employees by year four. The results shown in the table represent total impacts over 18 years (with operations starting in year three). No inflation assumptions are included in the studio impacts, although all other aspects of the Camoin analysis assume 2% annual inflation. The IMPLAN results use multipliers for the film and television production industry. Stabilized employment and total direct output (production value) are the same in both analysis.

The economic impact results for the production studio are similar in terms of total output, but total employment is 24% higher and labor income is 44% higher in the Camoin study. The difference in jobs is largely due to substantially higher induced impacts in the Camoin results, which are a function of differences between the IMPLAN and Lightcast models, and the differences in direct labor income.

SOUND STAGE AND PRODUCTION STUDIO
18-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$9,845.4	$4,630.6	$5,207.4	$19,683.4	
Employment	2,980	2,214	1,996	7,190	
Labor Income (millions)	$2,566.2	$1,618.5	$2,004.9	$6,189.6	
IMPLAN					
Output (millions)	$9,845.4	$7,463.6	$2,507.6	$19,816.5	-1%
Employment	2,980	1,993	844	5,817	24%
Labor Income (millions)	$1,842.8	$1,673.1	$779.3	$4,295.1	44%

Media and Technology Lab

The 50,000 square foot media and technology lab would be an educational facility that could be used for Nevada System of Higher Education programs, as well as Career Technical Education and K-12 programs in Clark County. The lab could open in year three, concurrent with the opening of the production studio, and could employ 130 people. The number of jobs is held constant between the Camoin results and Applied Economics estimates. Based on information provided by Camoin that is not in the report, the jobs at the Media and Technology Lab would be 50% typical higher education jobs and 50% software industry jobs. Based on data from the IMPLAN model, the average wage for higher education jobs would be $52,000 and the average wage for software publishing industry jobs would be $136,000. The Camoin study assumes a direct average wage of $158,000 for both types of jobs combined. Direct output, or the value of services, is about twice as much in the Camoin study as the IMPLAN estimates, most likely due to higher direct average wages. These differences in direct output and labor income lead to proportionally greater total impacts.

MEDIA AND TECHNOLOGY LAB
18-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$1,361.6	$390.8	$715.7	$2,468.1	
Employment	130	103	225	458	
Labor Income (millions)	$383.2	$148.4	$274.7	$806.3	
IMPLAN					
Output (millions)	$555.2	$242.8	$222.8	$1,020.8	142%
Employment	130	60	64	255	80%
Labor Income (millions)	$225.6	$88.1	$73.3	$387.0	108%

Creative Office

The largest component of the mixed-use development impacts come from the creative office space, which could open in year three and support 500 jobs. The office space could be occupied by multiple tenants in different creative industries, which makes it difficult to estimate the economic impacts given that the results could vary significantly based on the mix of industries. Applied Economics used multipliers for specialized design services and internet publishing and broadcasting.

The economic impact results for the creative office development are higher in the Camoin report. The number of jobs is the same, but average wages in the Camoin report are estimated at $158,000, whereas the default direct average wage in IMPLAN is $73,900. Direct output per job in the Camoin report is $562,000 versus $403,000 for the IMPLAN estimates. The difference in direct output (and likely direct labor income) results in induced impacts that are three to four times higher than the IMPLAN estimates prepared by Applied Economics. This is important because the office development makes up a large share of the total output impacts for Nevada Studios. These difference could stem from using multipliers for different industries, or they could stem from higher default wages in the Lightcast model compared to the IMPLAN model. IMPLAN uses annual data from the Bureau of Labor Statistics, Census of Employment and Wages (CEW) to benchmark industry wages, whereas Lightcast uses proprietary labor market data.

CREATIVE OFFICE DEVELOPMENT
18-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$5,236.9	$1,503.1	$2,752.7	$9,492.7	
Employment	500	397	866	1,763	
Labor Income (millions)	$1,473.8	$570.8	$1,056.7	$3,101.3	
IMPLAN					
Output (millions)	$3,751.0	$1,319.8	$741.9	$5,812.6	63%
Employment	500	390	214	1,104	60%
Labor Income (millions)	$590.8	$455.2	$230.6	$1,276.7	143%

Mixed Use Retail and Support Services

The development plan includes retail and support services that could open in year four with 220 jobs. This analysis assumes the retail space includes restaurants, personal services and fitness/recreation uses. The mixed use retail jobs are assigned to three different industry types in the IMPLAN model. The Applied Economics estimates show lower impacts in output, employment and labor income. The specific industries that are represented by this type of development are not specified in the Camoin analysis, making it difficult to replicate the economic impacts.

MIXED USE RETAIL AND SUPPORT SERVICES
18-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$475.1	$229.1	$235.0	$939.2	
Employment	220	69	78	367	
Labor Income (millions)	$110.4	$82.6	$89.9	$282.9	
IMPLAN					
Output (millions)	$279.6	$109.8	$109.6	$499.0	88%
Employment	220	31	34	285	29%
Labor Income (millions)	$120.3	$33.0	$34.1	$187.4	51%

Hotel

The development plan includes a hotel with an unknown number of rooms that could open in the year 4. The hotel could employ 105 people according to the Camoin report. All hotel jobs are assigned to the accommodations industry in the IMPLAN model. Direct output is set at the same level in both analyses. In this case, direct output represents estimated sales. The IMPLAN estimates show somewhat higher direct labor income, but slightly lower indirect and induced impacts. The total impacts are within 3% to 18% of the Camoin estimates, which is a reasonable range given that the IMPLAN model has different assumptions than the Lightcast model.

HOTEL DEVELOPMENT
18-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$328.5	$92.3	$186.3	$607.1	
Employment	105	32	64	201	
Labor Income (millions)	$90.5	$39.0	$71.2	$200.7	
IMPLAN					
Output (millions)	$328.5	$74.9	$113.5	$516.9	17%
Employment	114	21	35	170	18%
Labor Income (millions)	$134.5	$24.9	$35.3	$194.7	3%

Other Development

The development plan includes a child care facility with 12 employees and a headquarters facility for IATSE with 25 employees, both opening in year three. The Camoin impacts for the child care facility are about 30% lower than IMPLAN, primarily due to lower direct output. The Camoin impacts for the IATSE Headquarters are 25% to 55% higher due to higher direct output and direct wages (labor income). Both development components are small compared to the project overall.

CHILD CARE FACILITY
18-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$8.6	$3.0	$5.6	$17.2	
Employment	12	1	2	15	
Labor Income (millions)	$5.0	$1.1	$2.1	$8.3	
IMPLAN					
Output (millions)	$14.7	$5.8	$6.7	$27.2	-37%
Employment	12	2	2	15	-3%
Labor Income (millions)	$7.8	$1.6	$2.1	$11.5	-28%

IATSE HEADQUARTERS
18-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$71.6	$24.3	$40.6	$136.6	
Employment	25	8	13	46	
Labor Income (millions)	$34.1	$9.4	$15.6	$59.1	
IMPLAN					
Output (millions)	$60.1	$17.5	$22.1	$99.7	37%
Employment	25	5	7	37	25%
Labor Income (millions)	$25.6	$5.5	$6.9	$38.0	55%

Summary of Economic Impacts Of Onsite Operations

The figure below shows the direct, indirect, induced and total economic impacts for all components of the proposed development. The differences between the Camoin results and the Applied Economics' estimates range from a 20% difference in output to a 67% difference in labor income over 18 years. The variation is largely due to impact results for the studio and the creative office space.

SUM OF ONSITE OPERATIONS IMPACTS
18-YEAR TOTALS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$17,327.7	$6,873.3	$9,143.3	$33,344.2	
Employment	3,972	2,824	3,244	10,040	
Labor Income (millions)	$4,663.3	$2,469.7	$3,515.2	$10,648.2	
IMPLAN					
Output (millions)	$14,834.3	$9,234.2	$3,724.3	$27,792.8	20%
Employment	3,981	2,502	1,200	7,684	31%
Labor Income (millions)	$2,947.3	$2,281.6	$1,161.5	$6,390.4	67%

Visitor Impacts

The Camoin report includes economic impacts related to Screen Tourism and Studio Tours. Screen tourism includes travelers that would come to Nevada to visit the filming location of movies or television shows. While other U.S. states may experience an increase in tourism related to popular movies and television programming filmed on-location. Las Vegas is an iconic location featured in many films and television shows over the years, and is also a global tourism destination for gaming and entertainment. The presence of Nevada Studios may not result in as large of an increase in tourism as on-location filming.

This analysis utilizes the assumptions in the Camoin report of 100,000 new screen tourism visitors starting in year four, increasing to 500,000 new visitors by year 12. Screen tourism impacts are based on visitor spending by type using per person per trip figures from the Las Vegas Convention and Visitors Bureau economic impact report prepared by Applied Analysis. Applied Economics verified that the expenditures by type match the 2023 information from the Convention and Visitors Bureau report, although 2024 data is now available in an updated report. The Camoin report applies a 2% annual inflation rate to visitor spending. In IMPLAN, it is necessary to margin retail expenditures to account for only the retail markup, which is the portion of spending retained locally since most retail products sold in Las Vegas are produced elsewhere. The Lightcast model does not appear to account for retail margining.

The screen tourism impacts include only 20% of total spending to account for the fact that screen tourism may be one of five top reasons for a visit to Las Vegas. The comparative results show 19% lower total output in IMPLAN because retail spending is margined. Employment impacts are 27% lower, and labor income is 30% lower in IMPLAN. Screen tourism is not verifiable and beyond the control of Nevada Studios.

SCREEN TOURISM

18-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$1,809.3	$742.1	$1,020.5	$3,571.9	
Employment	1,270	430	535	2,235	
Labor Income (millions)	$531.2	$299.4	$390.5	$1,221.2	
IMPLAN					
Output (millions)	$1,809.3	$633.5	$549.3	$2,992.0	19%
Employment	1,224	283	256	1,763	27%
Labor Income (millions)	$572.2	$198.8	$170.7	$941.8	30%

Studio Tourism

Nevada Studios could include a visitor attraction with tours featuring recent productions. This could result in visitor spending outside the attraction for lodging, food, retail, gaming, sightseeing and other local transportation. The Camoin report assumes 25,000 annual studio tourism visitors starting in year three, increasing to 100,000 annual visitors at stabilized levels in year 13. The results assume that 15% of these visitors came to Las Vegas primarily for the studio tour, and for the remaining 85% the studio tour was one of only five primary reasons for visiting the region. For the 85% of visitors, the impact results include only a fifth (20%) of the visitor spending. The studio tourism impacts use similar per person per trip spending assumptions as screen tourism and do not distinguish between spending at the attraction versus spending elsewhere in the region.

The percentage differences between the Lightcast and IMPLAN results over 18 years range from a 19% different in total output to a 30% difference in labor income. Output is likely higher in part due to the retail margining in the IMPLAN model. While visitor spending at the studio tour attraction is verifiable, total visitor spending by studio tour attendees is not verifiable, so it is reasonable to exclude it from the ROI calculation.

STUDIO TOURISM
18-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$438.1	$177.2	$256.0	$871.4	
Employment	379	112	146	637	
Labor Income (millions)	$142.5	$71.9	$98.0	$312.4	
IMPLAN					
Output (millions)	$438.2	$154.9	$133.5	$726.6	20%
Employment	347	76	67	490	30%
Labor Income (millions)	$139.5	$47.9	$41.5	$228.9	36%

Aerospace and Defense

In addition to the Nevada Studios development, SB 220 would provide tax credits for other strategic growth industries. Camoin Associates analyzed the economic impacts of growth in Aerospace and Defense, Video Game Design and Publishing, and Medical Device and Healthcare Manufacturing. The assumption for Aerospace and Defense is that Nevada could capture Department of Defense and Veterans Affair contracts equal to 30% of what Utah currently captures by 2030. The analysis does not assume a shift in spending from Utah to Nevada, but rather that Nevada could capture future growth in defense contracts in proportion to what Utah currently receives.

The assumptions about future Aerospace and Defense activity in Nevada relative to Utah seem arbitrary and the report does not discuss how this increase compares to the current level of employment or output in these industries in Nevada. According to the Bureau of Labor Statistics, Quarterly Census of Employment and Wages, there were only 550 people employed in the aerospace manufacturing industry in Nevada in 2023. The Camoin study projects 7,284 direct jobs in Nevada starting in 2030. National projections from the Bureau of Labor Statistics for the aerospace industry show 11% employment growth from 2023 to 2033, which is much lower than the level of growth that Camoin projects for Nevada.[1]

Applied Economics estimated the economic impacts in the Camoin report using IMPLAN multipliers for aircraft manufacturing, aircraft engines and parts, and guided missile and space vehicle manufacturing. Using the same direct output, IMPLAN projected only about 4,100 direct jobs versus the 7,300 direct jobs in the Camoin analysis. However, average aerospace industry wages in the IMPLAN model are $122,600, versus only $83,900 in the Lightcast model. The indirect impacts are similar, but the induced impacts are lower in IMPLAN due to the lower direct impacts. The table below shows year one jobs from the Camoin analysis compared to Applied Economics estimates using IMPLAN.

AEROSPACE AND DEFENSE
13-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$26,782.5	$5,144.9	$11,827.8	$43,755.1	
Employment (Yr 1)	7,284	1,792	4,975	14,051	
Labor Income (millions)	$8,969.7	$1,884.7	$4,558.0	$15,412.4	
IMPLAN					
Output (millions)	$26,782.5	$4,966.7	$6,635.6	$38,384.8	14%
Employment	4,090	1,759	2,434	8,283	70%
Labor Income (millions)	$7,360.1	$1,915.2	$2,061.9	$11,337.2	36%

Video Game Design and Publishing

[1] Bureau of Labor Statistics, *Industry Output and Employment Projections*, November 2024.

This industry is a subset of the software industry, and it more dependent on human capital than industries like aerospace and defense. As a basis for its projections, the Camoin study assumes that the video game industry in Nevada could grow by 25% in annual revenues by 2030. The software publishing is projected to have 74% output growth nationally over the next ten years, so this rate of growth for Nevada is well below national projections.[2] According to the Bureau of Labor Statistics, the software industry (including video games and all other types of software) employed an estimated 4,975 people in Nevada in 2023, and the Camoin report projects an increase of 278 jobs related to video game design and publishing by 2030. The IMPLAN analysis below uses the same direct output projections as the Lightcast analysis. The results for output are almost identical. The jobs impacts from IMPLAN are 19% lower and the labor income impacts are 13% lower than Lightcast, which is within a reasonable margin.

VIDEO GAME DESIGN AND PUBLISHING
13-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$1,325.6	$361.8	$776.5	$2,463.9	
Employment (Yr 1)	278	134	325	737	
Labor Income (millions)	$554.4	$139.8	$299.2	$993.4	
IMPLAN					
Output (millions)	$1,325.6	$592.3	$509.9	$2,427.8	1%
Employment	249	185	187	621	19%
Labor Income (millions)	$496.8	$221.3	$158.5	$876.6	13%

Medical Device and Healthcare Manufacturing

This industry is not defined in the Camoin report, but is assumed to include surgical and medical instrument manufacturing, surgical appliances and supplies, and electromedical and electrotherapeutic apparatus manufacturing. As a basis for its projections, the Camoin study assumes that the medical device industry in Nevada could grow by 25% in annual revenues by 2030. Projected national output growth for medical device manufacturing from the Bureau of Labor Statistics is 14% over ten years.[3]

According to the Bureau of Labor Statistics, Quarterly Census of Employment and Wages, 1,067 people were employed in medical device manufacturing in Nevada in 2023. The Camoin report projects 172 new jobs by 2030. National employment growth for the medical device industry is projected at 5% over ten years, and the Camoin projections would result in 16% growth.

The IMPLAN analysis uses the same direct output projections as the Camoin analysis. However, $608.0 million in industry sales would only support 73 jobs using the IMPLAN model, versus 172 jobs in the Camoin results. The differences in direct employment and labor income flow through to create higher induced impacts in the Camoin results. Total output is only 14% higher in the Camoin analysis, but labor income and employment are 85% to 104% higher.

MEDICAL DEVICE AND HEALTHCARE MANUFACTURING

[2] Bureau of Labor Statistics, *Industry Output and Employment Projections*, November 2024.
[3] Bureau of Labor Statistics, *Industry Output and Employment Projections*, November 2024.

13-YEAR TOTAL OPERATING IMPACTS

	Direct	Indirect	Induced	Total	% Difference
Camoin Associates Analysis					
Output (millions)	$608.0	$99.0	$302.6	$1,009.6	
Employment (Yr 1)	172	35	126	333	
Labor Income (millions)	$210.1	$38.6	$116.6	$365.2	
IMPLAN					
Output (millions)	$608.0	$165.8	$115.1	$889.0	14%
Employment	73	49	42	164	104%
Labor Income (millions)	$103.3	$58.8	$35.8	$197.9	85%

Fiscal Impacts – Nevada Studios

This section on state and local taxes includes taxes generated by the Nevada Studios development and by the other target industries that would be eligible for SB 220 tax credits. This review compares the tax calculations in the Camoin Associates reports to calculations performed by Applied Economics. The fiscal impacts are integral to the ROI calculations.

The Nevada Studios report estimates state and local tax impacts of the proposed development, including sales tax, property tax, commerce tax, modified business tax (MBT) and occupancy tax. In the Camoin report, the total state tax impact over 18 years (including construction) is estimated at $607.0 million and the local tax impact is estimated at $337.9 million. In comparison, Applied Economics estimates total state taxes at $137.7 million and local taxes at $125.5 million.

FISCAL IMPACT OF NEVADA STUDIOS
18-YEAR CONSTRUCTION AND OPERATING IMPACTS

	Property	Sales	Commerce	MBT	Lodging	Total	% Difference
Camoin Associates Analysis							
State	$0.00	$493.77	$42.47	$70.73	$0.00	$606.98	
Local	$159.43	$135.72	$0.00	$0.00	$42.70	$337.85	
Applied Economics							
State	$31.16	$32.66	$36.67	$26.12	$11.09	$137.70	341%
Local	$67.11	$26.80	$0.00	$0.00	$31.62	$125.53	169%

The Camoin property tax estimates assume a taxable value of $941.0 million. The Applied Economics property tax estimate uses information from Ryan Property Tax Consulting on total assessed value per square foot for the studio and applies it to the square feet of other ancillary development provided by the developer. A 35% assessment ratio is applied to estimate taxable assessed value, and the 2023 tax rate for the site of 2.9328 per $100 is applied to estimate property taxes. A 2% annual inflation rate is applied to assessed value. The Camoin study uses the same tax rate and the same annual rate of increase for fair market value, but arrives at a different result. Applied Economics estimates total state and local property taxes over 18 years at $98.3 million, versus $159.4 million in the Camoin study.

Sales taxes include taxes on construction materials in the first three years, and additional sales taxes from the operations of the businesses in the Nevada Studios development. The Camoin analysis uses a state sales tax rate of 6.85%, which includes the 2.25% in city-county relief taxes that are not retained by the state. Camoin uses a local sales tax rate of 1.525% in Clark County. This results in a total sales tax rate of 8.375%, which is the current rate for Clark County.

The calculation of sales taxes on construction materials is straightforward, however, the assumptions about sales taxes on operating revenues of the various types of businesses in the development are not industry-specific. The Camoin analysis assumes 40% of all direct output is taxable based on an assumption that 40% of all business and personal spending is taxable. The level of taxable business spending varies widely from industry to industry, and applying this uniform assumption to all the types of development in the Nevada Studios plan does not account for these differences. Most service industries like those housed in the Creative Office space may not have taxable retail sales. Public higher education in the Media and Technology lab would be exempt from taxes. *Sales taxes represent 81% of the total state tax revenues in the Camoin report and the methodology used to estimate taxable sales is integral to the return on investment results.*

The Applied Economics sales tax estimates assume only the direct output from the mixed use retail is taxable, which may still be an overstatement because mixed use retail would include service businesses. Total state and local sales taxes over 18 years are estimated at $59.5 million, versus $629.5 million in the Camoin analysis.

For commerce taxes, the Camoin report uses direct output as a proxy for taxable gross revenues and applies the industry-specific tax rate for each component of the development. Construction activity is excluded. Total state commerce taxes over 18 years are estimated at $36.7 million versus $42.5 million in the Camoin report. The difference is due to differing estimates of direct output in the economic impact analysis.

Modified Business Taxes (MBT) are based on direct labor income from the economic impacts. Direct labor income impacts are typically higher in the Camoin analysis, which uses Lightcast. However, there are two other issues with the MBT calculations. First, the tax rate was lowered to 1.17% in July 2023, however the Camoin report uses a rate of 1.475%, which is 26% higher.

The other issue relates to the commerce tax deduction. The state allows taxpayers to deduct 50% of commerce tax paid from their MBT liability. In other words, after calculating the MBT tax due, 50% of commerce tax paid can be subtracted to get the final MBT liability. The Camoin analysis subtracts 50% of the commerce tax from taxable earnings and then applies the MBT tax rate. *This incorrect application of the commerce tax deduction inflates the MBT tax estimates.* Applied Economics estimates MBT taxes at $26.1 million over 18 years, versus $70.7 million in the Camoin analysis.

Lodging taxes are based on taxable sales (direct output) from the hotel, and a total lodging tax rate of 13%. Based on information provided by Camoin that is not included in the report, the lodging taxes assume 250 hotel rooms, a 78.5% occupancy rate and an average daily room rate of $199.90. The Camoin report assumes a 25% increase in hotel revenues for ancillary revenues. The Applied Economics estimate relies on Camoin's estimates of hotel sales but assumes a

3.375% state tax rate and a 9.625% county tax rate. State and local lodging taxes are estimated at $42.7 million over 18 years.

Fiscal Impacts – Creative Technology Industries

The approach to tax impacts by type in the Camoin report on Aerospace and Defense, Video Game Design and Medical Device and Healthcare Manufacturing is less detailed than the approach used in the Nevada Film Studios impact. The analysis compares the total amount of state taxes of all types to direct output for all industries in the Nevada Studios development (including construction) to yield a ratio of 3.1%. They then apply the 3.1% ratio to direct output for the three creative technology industries and assume that all the tax revenues would be state sales tax. There is no estimate of MBT based on direct earnings or commerce tax based on direct output. *An industry like aerospace manufacturing would not generate the same level of sales taxes as mixed use retail, office or film studios.*

Applied Economics does not assume that the three creative technology industries in this analysis would generate a measurable amount of sales tax since they may only produce intermediate inputs (particularly for aerospace), and they will likely sell almost all their final products to customers outside Nevada who would pay use taxes in another state. However, these industries would generate MBT and commerce taxes that are estimated using the same methodology as in the Nevada Studios analysis. Applied Economics assumes that the creative technology pro-formas described in the Camoin report could generated $107.3 million in MBT and commerce taxes over 13 years, beginning in 2030. The Camoin report assumes these industries would generate no commerce tax or MBT, but would generate $890.4 million in state sales tax, which is more than seven times greater than Applied Economics' estimate.

FISCAL IMPACT OF CREATIVE TECHNOLOGY INDUSTRIES
(Millions of Dollars)
13-YEAR OPERATING IMPACTS

	Sales	Commerce	MBT	Total	% Difference
Camoin Associates Analysis					
State	$890.43	$0.00	$0.00	$890.43	
Local	$0.00	$0.00	$0.00	$0.00	
Applied Economics					
State	$0.00	$28.27	$79.00	$107.27	730%
Local	$0.00	$0.00	$0.00	$0.00	0%

Return on Investment

According to the Camoin analysis, state and local governments could recover 78 cents of every dollar in tax credits based on the construction and operations of the Nevada Studios development and new studio and screen tourism. State and local governments could receive an additional 58 cents of every dollar in tax credits from projected creative technology industry development, which is not eligible for film tax credits, but does produce a return from related investments in training that are part of SB 220. The ROI calculation includes a net film tax credit of $1.543 billion over 18 years. The value of this tax credit can be compared to state and local tax revenues of $944.8 million from studio construction and operations, $254.9 million from studio and screen tourism, and $890.4 million from creative technology industries. The total ROI based on state tax revenues only is estimated at 1.07 and the ROI based on local tax revenues is estimated at 0.29.

Setting aside differences in the economic impact estimates, the approach used to estimate tax revenues in the Camoin report, particularly sales taxes that make up most revenues from the studio development, is not industry-specific and assumes that the taxability of gross revenues is the same for all industries. The error in applying the commerce tax deduction to MBT also contributes to inflated revenue projections. Additionally, including studio and screen tourism revenues in the ROI is complicated because there is no way to track these impacts in terms of the annual number of screen tourism visitors and actual spending levels for both studio and screen tourism visitors. Based on Applied Economics' estimated tax revenues, the return on investment could be 0.23 cents of state tax revenues for every dollar of film tax credits and 0.12 cents of local tax revenues.

TAX REVENUES AND RETURN ON INVESTMENT
(Millions of Dollars)
18-YEAR IMPACTS

	Camoin	Applied Economics
Film Tax Credits	**$1,543.00**	**$1,543.00**
State Tax Revenue		
Aerospace and Defense	$830.47	$98.30
Video Game Design and Publishing	$41.11	$7.49
Medical Device Manufacturing	$18.85	$1.49
Nevada Studios Const and Operations	$606.98	$137.70
Studio and Screen Tourism	$147.00	$108.68
Local Tax Revenue		
Nevada Studios Const and Operations	$337.85	$125.53
Studio and Screen Tourism	$107.89	$62.09
State ROI	**1.07**	**0.23**
Aerospace and Defense	0.54	0.06
Video Game Design and Publishing	0.03	0.00
Medical Device Manufacturing	0.01	0.00
Nevada Studios Const and Operations	0.39	0.09
Studio and Screen Tourism	0.10	0.07
Local ROI	**0.29**	**0.12**
Nevada Studios Const and Operations	0.22	0.08
Studio and Screen Tourism	0.07	0.04

The results presented in the Camoin report are generally significantly different results than the calculations prepared by Applied Economics. The differences in the economic impacts are in part due to the methodological differences in the Lightcast model versus the IMPLAN model, and could also be due to differences in industry assignments for each component of the development. There are also differences in the methodology used to estimate the fiscal impacts.

Should you have any questions regarding the results of our review, please do not hesitate to contact me.

Sincerely,

Sarah E Murley

Sarah E. Murley
Principal