Nevada Adult-Use Marijuana
Economic & Fiscal Benefits Analysis

July 2016

Prepared by:

RCG ECONOMICS

&

MPG MARIJUANA POLICY GROUP

RCG ECONOMICS

Financial Advisory
Gaming & Hospitality
Public Policy Research
Real Estate Advisory
Regional & Urban Economics

July 12, 2016

Mr. Sean Sinclair
The Coalition to Regulate Marijuana Like Alcohol
2300 W. Sahara Ave. #800
Las Vegas, NV 89012

Re: Initiative to Tax and Regulate Marijuana ("the Initiative") Benefits Analysis ("the Study")

Dear Mr. Sinclair:

The Consultant Team of the RCG Economics LLC ("RCG") and the Marijuana Policy Group ("MPG") is pleased to submit this economic & fiscal benefits Study ("the Study") to The Coalition to Regulate Marijuana Like Alcohol ("the Coalition"). The purpose of the Study is to analyze the potential economic and fiscal benefits of the Initiative on the Nevada economy.

The Study represents an analysis of the estimated and hypothetical economic, and a portion of the public fiscal benefits associated with the Initiative, which concerns adult-use only, not the medical use of marijuana. These benefits include, but are not limited to, increases in output (gross sales/spending), employment and wages/labor income, as well as sales and use taxes resulting from the implementation of the Initiative.

Our analysis of the Initiative's direct benefits on the state's economy is also based upon information provided by the MPG, based on its previous work, as well as data provided by various state and local government agencies pertaining to the potential benefits noted above. Estimates of indirect and induced benefits were prepared by the Consultant Team employing the widely used and widely accepted IMPLAN (Impact Analysis for PLANing) economic benefits model. Our general fiscal analysis is based on Nevada Revised Statutes, data from the U.S. Bureau of Economic Analysis and municipal tax information and formulas.

The Study is intended for the sole use of the Coalition and it may be distributed to the press, to various interest groups and to governmental representatives. Publication of the Study or any information contained therein, in any manner, must explicitly indicate that it was prepared by the Consultant Team.

Standard Assumptions

This work scope was performed according to the *"Standard Assumptions & Limiting Conditions"* detailed in an attachment to this letter.

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Consultant Team Expertise

The Consultant Team is uniquely qualified in providing regional economic consulting and financial services. The team has many years of experience in conducting economic research and analyses, which have been successfully and widely used by a host of private and public sector clients. Our knowledge and knowhow turn complex and technical economic issues into understandable informational tools for effective public policy making. Details about RCG, its clients, services and assignments can be found at www.rcg1.com. Information about MPG, its clients, services and assignments can be found at http://www.mjpolicygroup.com/.

The Consultant Team was comprised of the following economists and analysts

RCG
John Restrepo
Principal

Hubert Hensen Economist	David Rivenbark, Ph.D. Economist	Andres Fonseca Research Analyst

MPG

Adam Orens Founding Partner	Miles Light, Ph.D. Founding Partner	
Jacob Rowberry Research Associate	Clinton Saloga Research Associate	William Crimmins Research Associate

Use & Nature of Report & Methodologies

The distribution of the Study is limited to the Coalition. If the Coalition intends to reproduce and distribute the Study, it must be reproduced in its entirety. If it intends to include the Study in a document used for the offering of securities, the Coalition agrees: (1) to provide the Consultant Team with a representation letter; (2) that legal counsel will have advised it before the offering is made; (3) that the offering document complies with all applicable local jurisdictions and regional agencies, State of Nevada and federal legal requirements; and (4) that no reference will be made to our name in any promotional or offering materials without first furnishing us a draft of the materials and then obtaining our written consent.

The results of the Consultant Team's services under this engagement are the property of the Coalition. Copies of all documents including writings and computer or machine-readable data, which describe or relate to the services performed pursuant to this consulting assignment, or the results thereof, are the property of the Coalition and will be provided upon request. However, the Coalition will not provide the Consultant Team's Inventions and Works to any third party or use the same for the benefit of any third party, except with the prior written consent of the Consultant Team.

The Study is in the form of a narrative-report, along with any appropriate tables, graphs and maps. the Consultant Team is not responsible for statements or interpretations made by the Coalition relating to the Study.

All ideas, developments, computer models, methodologies, innovations, inventions and copyrightable work (hereinafter "Inventions and Works"), which the Consultant Team conceived and were used during the period of the Study, and which either (a) are within the scope of the Consultant Team's businesses or investigations, or (b) are supported by the use of materials, facilities or information paid for or provided by the Consultant Team are the exclusive property of the Consultant Team. In this regard, the Coalition agrees to credit the Consultant Team for its work.

If you have any questions, please do not hesitate to contact John Restrepo at your convenience by phone at 702-967-3188 ext. 401 or by email at jrestrepo@rcg1.com.

Regards,

RCG Economics LLC

RCG Economics LLC

Attachment

Attachment: Standard Assumptions & Limiting Conditions

1. The Consultant Team has prepared, from third-party information collected by the Coalition, as well as our internal econometric models and databases, the Study, as it relates to the Nevada economy.

2. The Coalition is responsible for representations about its plans and expectations, and for disclosure of significant information that might affect the ultimate realization of the analyses results.

3. The results of the Consultant Team's analyses apply only to the effective date of the Study. The success of the Coalition's plans will be affected by many related and unrelated economic conditions within a local, regional, national and/or world context. We assume no liability for an unforeseen change in the economy. Accordingly, we have no responsibility to update the Study for events and circumstances occurring after the date of the Study.

4. The Study is based on historical and projected benchmark information. Thus, variations in the future could be material and have an impact on the Study conclusions. Even if the Study's hypothetical assumptions were to occur, there will usually be differences between the estimated and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material. These could include major changes in economic and market conditions; performing arts center benchmarks; significant increases or decreases in mortgage interest rates and/or terms or availability of financing altogether; property assessment and/or major revisions in current state and/or federal tax or regulatory laws.

5. If the Study is reproduced by the Coalition, it must be reproduced in its entirety.

6. The Consultant Team makes no representation or warranty as to the accuracy or completeness of the third party information contained in the Study, and shall have no liability for any representations (expressed or implied) contained in, or for any omissions from, our materials.

7. The working papers for this consulting assignment will be retained in the Consultant Team's files and will be made available for your reference. We will be available to support the analyses, as required.

8. Unless otherwise stated in the Study, no efforts were made to determine the possible effect, if any, on the Initiative of future Federal, State or local legislation, including any environmental or ecological matters or interpretations thereof.

9. The Consultant Team did not perform an audit, review or examination, or any other attest function (as defined by the AICPA) regarding any of the third-party historical market, industry and economic benchmarks or any other information used or included in the Study; therefore, the Consultant Team does not express any opinion or any other form of assurance with regard to the same, in the context of the Study.

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I. EXECUTIVE SUMMARY

The Consultant Team of the RCG Economics LLC ("RCG") and the Marijuana Policy Group ("MPG") were retained by The Coalition to Regulate Marijuana Like Alcohol ("the Coalition") to prepare an economic & fiscal benefits study ("the Study"). The purpose of the Study is to analyze the potential economic and fiscal benefits on the Nevada economy of the proposed November 2016 ballot initiative known as the *Nevada Initiative to Tax and Regulate Marijuana* ("the Initiative or Question 2"). The focus of the Study is solely on the adult-use of marijuana, not its medical use. The study period is 2018-2024. The Initiative language can be found at https://nvsos.gov/Modules/ShowDocument.aspx?documentid=3294.

The Study is comprised of three separate but complementary analyses:

- Demand Analysis
- Economic Benefit Analysis ("EBA")
- Fiscal Benefit Analysis ("FBA")

The report also includes four Appendices.

The EBA addresses of the estimated and hypothetical direct, indirect and induced economic benefits associated with the Initiative. These benefits include, but are not limited to, increases in output (gross sales/spending), employment and wages/labor income resulting from the implementation of the Initiative.

Our analysis of the Initiative's direct benefits on the Nevada economy is also based upon information provided by the MPG, based on its previous work, as well as data provided by various state and local government agencies pertaining to the potential benefits noted above. Estimates of indirect and induced benefits were prepared by the Consultant Team employing the widely used and widely accepted IMPLAN (Impact Analysis for PLANing) economic benefits model. Our general fiscal analysis is based on Nevada Revised Statutes, data from the U.S. Bureau of Economic Analysis and municipal tax information and formulas.

Our FBA uses the following sources of tax revenue related to the Initiative for seven-year period from 2018-2024 were analyzed:

- Retail sales and use tax revenue from the sale of marijuana.

- Excise tax revenues from the wholesale of marijuana at the fair market value at wholesale of the marijuana.
- Business license fees and one-time application fees paid by retailers, manufacturers and cultivators.
- State commerce tax revenue generated by retailers, manufacturers, and cultivators with gross revenues in excess of $4,000,000 for the tax year.
- Modified business tax revenues by retailer, manufacturers, and cultivators with gross wages in excess of $50,000 for the tax quarter.

RESIDENT & TOURIST DEMAND SUMMARY

The Consultant Team found the total demand for adult-use marijuana crop to be nearly 46,000 kilograms ("kg") per year, including resident- and tourist-use. Of that, we found that resident demand should account for slightly over 50 percent, or about 23,300 kg, while tourist demand should account for 22,700 kg (see Table ES-1). For detailed calculations, see the demand analysis in Chapter II.

Table ES-1: Total Nevada Demand, in Kilograms, for Adult-Use Marijuana: 2018

Total NV Resident Consumers	321,463
Total NV Tourist Consumers	6,800,719
Total NV Resident Demand (kg)	23,272
Total NV Tourist Demand (kg)	22,684
TOTAL NEVADA DEMAND (kg)	**45,957**

Source: Marijuana Policy Group, RCG, Travel Nevada, Las Vegas Convention and Visitors Authority, Reno Sparks Convention and Visitors Authority. Numbers may not calculate due to rounding.

However, because of the price differential observed by most tourists, tourists should actually account for a greater share of the retail market than residents. Table ES-2 shows that the potential market value of adult-use marijuana in Nevada is $393.7 million per year, in 2016 inflation-adjusted dollars. After accounting for the price differential, the resident market should account for only about 37 percent of the total market ($146.6 M), with tourists making up 63 percent ($247.1 M).

Table ES-2: Nevada Adult-Use Marijuana Market Size in Grams & Dollars: 2018

	Quantity Demanded (grams)	Average Price Per Gram	Potential Market Value
Clark County Tourists	20,379,102	$11.00	$224,170,118
Washoe County Tourists	1,088,522	$11.00	$11,973,745
Rural Counties Tourists	1,216,691	$9.00	$10,950,221
Nevada Tourist Market Size	22,684,315	-	$247,094,084
Nevada Resident Market Size*	23,272,369	$9.00	$146,615,925
Nevada Adult-Use Marijuana Market Size	**45,956,684**	**-**	**$393,710,009**

*Note: *Assumes 70% first year capture rate. Numbers may not calculate due to rounding.*
Source: Marijuana Policy Group.

ECONOMIC BENEFITS SUMMARY

Summary of Total Initiative Benefits: 2018-2024

The Consultant Team found that the forecasted spending of $393.7 million (in 2016 inflation-adjusted dollars) has potentially sizable effects on the Nevada economy. The benefits are broken into two parts: total seven-year study period and the year 2024. "Total economic benefits" are the sum of direct, indirect and induced benefits.

The total results apply to only the first seven years of the existence of the regulated market. The single year (2024) is meant to show what the adult-use market should look like after reaching maturity.

To summarize the total results:

- An estimated $7.5 billion of total output activity is projected to be generated for the Nevada economy during the first seven years of marijuana regulation.
- The market is forecasted to support about 41,000 person-years in jobs in Nevada in the seven-year study period.
- Marijuana regulation is estimated to generate approximately $1.7 billion in direct, indirect and induced labor income during the seven-year study period.

Table ES-3 illustrates the cumulative economic benefits of adult-use marijuana regulation in Nevada from the associated direct, indirect and induced spending.

Table ES-3: Total Economic Benefits to Nevada from Adult-Use Marijuana Industry: 2018-2024

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$3,201,391,017	21,769	$736,319,934
Indirect Benefit	$2,497,084,993	13,766	$406,578,602
Induced Benefit	$1,760,765,059	5,442	$578,085,530
Total Benefits	**$7,459,241,070**	**40,978**	**$1,720,984,066**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

The direct spending would also help create additional spending. The total benefits are described using "multipliers". For example, "direct spending/output" would potentially result in a multiplier of 2.33 in the state economy during the seven-year study period. This means that for every dollar spent on retail marijuana, an additional $1.33 would ripple through the Nevada economy. These multipliers measure the total increase in output/economic activity, total employment and labor income in the wider regional economy per dollar in output/spending, per new jobs created and per dollar increase in earnings.

Summary of Total Initiative Economic Benefits: 2024

The total annual economic benefits, based on 2024 benefits, are the sum of the annual averages of direct, indirect and induced benefits (see Table ES-4).

- An estimated $1.1 billion of total output activity is projected to be generated for the Nevada economy each year due to marijuana regulation.
- Marijuana regulation is forecasted to support about 6,200 FTE jobs in Nevada per year.
- The market is estimated to generate approximately $260.7 million in direct, indirect and induced labor income each year.

Table ES-4: Total Economic Benefits from Adult-Use Marijuana Industry: 2024

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$485,016,525	3,298	$111,553,801
Indirect Benefit	$378,312,890	2,086	$61,597,393
Induced Benefit	$266,759,089	825	$87,581,003
Total Benefits	**$1,130,088,504**	**6,208**	**$260,732,197**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

FISCAL BENEFITS SUMMARY

The following sources of tax revenue related to the Initiative for the seven-year period from 2018-2024 were analyzed:

- Retail sales and use tax revenue from the sale of marijuana.
- Excise tax revenues from the wholesale of marijuana at the fair market value at wholesale of the marijuana.
- Business license fees and one-time application fees paid by retailers, manufacturers and cultivators.
- State commerce tax revenue generated by retailers, manufacturers and cultivators with gross revenues in excess of $4,000,000 for the tax year.
- Modified business tax revenues by retailer, manufacturers and cultivators with gross wages in excess of $50,000 for the tax quarter.

The results of our FBA are as follows. The FBA is detailed in Chapter IV.

Table ES-5: Total Fiscal Benefits: 2018-2024

Tax	Revenue
Estimated Total Sales and Use Tax Revenue – 7 Years	$257,434,778
Estimated Excise Tax Revenue – 7 Years	$147,104,874
Application Fee Revenue – 7 Years	$3,478,428
License Fee Revenue – 7 Years	$47,186,595
Total Nevada Commerce Tax Revenue – 7 Years (see Note)	$520,736
Total Nevada Modified Business Taxes – 7 Years	$8,279,702
Total Fiscal Benefit – 7 Years	***$464,005,113***

Sources: RCG.

Note: Total commerce tax revenues collected are for all seven years of the analysis period, combined. We decided not to present calculations of annual commerce tax collections in order to simplify the results as much as possible.

II. RESIDENT & TOURIST DEMAND ANALYSES

A. OVERVIEW

This chapter summarizes the methods and findings of Nevada resident and tourist demand for marijuana associated with the passage of the *Initiative to Regulate and Tax Marijuana ("the Initiative" or "Question 2")*. The analysis was performed by the Marijuana Policy Group ("MPG") and RCG Economics ("RCG"), collectively known as "the Consultant Team". Included herein are sections on Nevada adult resident users, adult tourist users and total adult users.

B. RESIDENT & TOURIST 21+ MARIJUANA USERS

This report contains RCG's projections of Nevada's population as well as tourists age 21 and over ("21+") from 2015 through 2033. We have included 2015 estimates of these cohorts as a baseline. The purpose of the forecasts is to provide a basis for the estimated economic benefits associated with the Initiative as detailed in the Economic Benefits Analysis ("EBA") portion of this study.

RCG used two reports published by the Nevada State Demographer to project Nevada population for 21+ residents.

- "Nevada County Population Projections 2015 to 2034"
- "Nevada County Age, Sex, Race and Hispanic Origin Estimates and Projections 2000 to 2033: Estimates from 2000 to 2013 and Projections from 2014 to 2033"

As the most recent official source of Nevada population forecasts, by age, the *Nevada County Age, Sex, Race and Hispanic Origin Estimates and Projections* ("Nevada ASRHO") were used to apportion the 2015-2033 *Nevada County Population Projections* to persons 21+, including populations in group quarters. Group Quarters are defined by the U.S. Census as "places where people live or stay, in a group living arrangement, which are owned or managed by an entity or organization providing housing and/or services for the residents."[1] Group quarters include places such as college residence halls, military barracks, worker dormitories, correctional (institutional) facilities, etc. The Consultant Team believes the importance of capturing the impacts of residence halls and other

[1] https://ask.census.gov/faq.php?id=5000&faqId=1681

non-institutional facility populations outweighs the small potential bias of including institutional populations.

The Nevada ASRHO estimates are reported in five-year increments: 0-4 years of age, 5-9 years of age, 20-24 years of age, 25-29 years of age, etc. Because we are interested in the share of the population that is expected to be 21+, an 80-percent pro rata share was applied to the estimated 20-24 population for each of Nevada's counties. Our 2015-2033 estimates for the 21+ population in each county, as a percentage of the total county population, are contained in Table II-1.

Table II-1: Percent of Total Population 21+, by Nevada County: 2015-2033

Year	Carson City	Churchill	Clark	Douglas	Elko	Esmeralda	Eureka	Humboldt	Lander
2015	74.4	71.0	71.8	78.8	71.8	83.1	76.0	70.0	72.5
2016	74.9	70.6	71.9	79.3	72.9	84.0	76.4	70.8	73.2
2017	75.1	70.3	72.0	79.6	73.8	84.8	76.7	71.4	74.2
2018	74.8	70.4	72.1	79.9	74.5	85.4	76.9	71.8	74.4
2019	75.0	70.1	72.2	80.1	75.2	86.1	77.1	72.3	74.3
2020	74.3	69.9	72.3	80.3	76.0	86.7	76.9	72.8	73.8
2021	75.3	68.5	72.4	80.5	76.3	87.0	77.2	72.8	73.4
2022	74.8	68.1	72.5	80.7	76.4	87.2	77.2	72.7	73.0
2023	75.5	67.3	72.6	80.9	76.2	87.1	77.3	72.5	72.0
2024	76.4	66.7	72.7	81.0	75.8	87.0	77.1	72.1	71.4
2025	75.7	66.2	72.9	80.9	75.6	86.4	76.6	71.8	70.7
2026	77.4	65.9	73.2	80.9	75.3	85.9	76.9	71.4	69.8
2027	77.5	65.4	73.4	80.8	75.0	85.4	76.4	70.9	69.3
2028	78.1	65.7	73.6	80.8	74.7	85.2	76.7	70.4	68.5
2029	78.7	65.0	73.7	80.7	74.4	84.8	76.5	69.9	67.7
2030	78.8	65.2	73.8	80.7	73.8	84.0	76.5	69.5	67.2
2031	79.6	64.7	73.9	80.6	73.2	83.1	76.4	69.2	66.7
2032	80.2	64.5	73.9	80.5	72.8	82.6	76.3	69.0	66.6
2033	79.9	64.7	74.0	80.3	72.3	81.8	76.4	68.8	66.7

Source: RCG calculations and "Nevada County Age, Sex, Race and Hispanic Origin Estimates and Projections 2000 to 2033: Estimates from 2000 to 2013 and Projections from 2014 to 2033," Jeff Hardcastle, AICP, Nevada State Demographer, Nevada Department of Taxation.

Table II-1: Percent of Total Population 21+, by Nevada County: 2015-2033 (Continued)

Year	Lincoln	Lyon	Mineral	Nye	Pershing	Storey	Washoe	White Pine	Nevada
2015	75.5	73.5	75.8	77.9	77.0	83.4	72.4	76.3	72.2
2016	75.3	74.0	77.2	78.2	78.0	83.6	72.5	76.3	72.4
2017	75.2	74.5	77.3	78.4	79.0	84.0	72.5	76.5	72.5
2018	76.2	74.8	77.5	78.7	79.0	84.4	72.6	76.8	72.6
2019	76.5	75.2	77.2	79.0	80.0	84.7	72.7	76.8	72.7
2020	77.2	75.2	76.5	79.1	80.9	84.8	72.8	76.8	72.8
2021	77.3	75.2	75.3	79.3	81.1	84.4	72.9	76.3	72.9
2022	77.1	75.4	76.0	79.3	81.2	84.1	73.0	76.3	73.0
2023	77.1	75.4	76.0	79.3	80.4	83.9	73.1	76.3	73.1
2024	76.9	75.7	75.8	79.3	80.4	83.7	73.3	75.7	73.2
2025	77.1	75.7	75.5	79.4	80.8	83.7	73.4	75.4	73.4
2026	77.3	75.7	75.0	79.6	80.3	83.4	73.5	75.4	73.6
2027	77.3	75.6	75.6	79.7	80.2	82.8	73.7	75.6	73.8
2028	77.4	75.6	76.5	79.7	78.9	82.5	73.8	75.6	73.9
2029	77.1	75.5	75.5	79.6	79.3	82.3	73.8	75.4	74.0
2030	77.3	75.5	75.1	79.5	79.5	82.1	73.8	75.8	74.1
2031	76.8	75.5	76.0	79.5	78.9	81.9	73.8	76.0	74.1
2032	76.6	75.4	76.5	79.4	78.9	81.5	73.7	76.0	74.1
2033	76.2	75.3	77.5	79.3	78.5	81.3	73.7	75.5	74.1

Source: RCG calculations and "Nevada County Age, Sex, Race and Hispanic Origin Estimates and Projections 2000 to 2033: Estimates from 2000 to 2013 and Projections from 2014 to 2033," Jeff Hardcastle, AICP, Nevada State Demographer, Nevada Department of Taxation.

To obtain the forecasts of the 21+ population, by county, RCG applied the 21+ shares from Table II-1 to the Demographer's 2015-2033 *Nevada County Population Projections,* included in Table II-2.

The estimates for Nevada counties' 21+ populations are shown in Table II-3.

Table II-2: Total Population, by Nevada County: 2015-2033

Year	Carson City	Churchill	Clark	Douglas	Elko	Esmeralda	Eureka	Humboldt	Lander
2015	54,199	25,104	2,095,843	48,568	52,980	963	1,929	17,169	6,545
2016	54,561	25,243	2,118,878	48,653	52,630	992	1,956	16,952	6,501
2017	55,085	25,475	2,144,124	48,803	52,360	1,005	1,984	16,731	6,388
2018	55,553	25,740	2,171,319	48,960	52,179	1,006	2,011	16,511	6,260
2019	55,966	26,042	2,196,619	49,116	52,072	999	2,041	16,290	6,119
2020	56,358	26,377	2,220,886	49,280	52,052	985	2,074	16,079	5,979
2021	56,718	26,741	2,243,694	49,448	52,082	968	2,108	15,879	5,864
2022	57,068	27,127	2,264,869	49,616	52,147	949	2,140	15,694	5,771
2023	57,392	27,514	2,283,990	49,776	52,231	927	2,170	15,516	5,696
2024	57,690	27,898	2,301,202	49,922	52,325	905	2,196	15,360	5,636
2025	57,959	28,289	2,316,752	50,056	52,411	882	2,220	15,248	5,587
2026	58,205	28,684	2,330,726	50,176	52,487	859	2,242	15,171	5,550
2027	58,436	29,088	2,343,235	50,280	52,571	837	2,266	15,129	5,522
2028	58,649	29,495	2,354,390	50,371	52,706	818	2,289	15,111	5,507
2029	58,811	29,898	2,364,295	50,437	52,891	800	2,310	15,114	5,505
2030	58,961	30,292	2,373,115	50,486	53,126	785	2,333	15,131	5,511
2031	59,094	30,681	2,381,307	50,525	53,388	769	2,349	15,157	5,521
2032	59,207	31,072	2,389,065	50,550	53,676	756	2,363	15,190	5,534
2033	59,302	31,470	2,396,258	50,558	53,983	743	2,376	15,228	5,549

Source: "Nevada County Population Projections 2015 to 2034," Jeff Hardcastle, AICP, Nevada State Demographer, Nevada Department of Taxation.

Table II-2: Total Population, by Nevada County: 2015-2033 (Continued)

Year	Lincoln	Lyon	Mineral	Nye	Pershing	Storey	Washoe	White Pine	Nevada
2015	4,963	54,078	4,610	45,277	6,743	4,044	440,938	10,123	2,874,075
2016	4,921	54,662	4,646	45,096	6,756	4,122	446,281	10,003	2,902,853
2017	4,877	55,441	4,693	44,926	6,764	4,207	452,767	9,860	2,935,491
2018	4,834	56,148	4,749	44,776	6,761	4,295	459,054	9,694	2,969,848
2019	4,791	56,802	4,808	44,673	6,765	4,380	464,898	9,515	3,001,895
2020	4,753	57,440	4,873	44,615	6,775	4,464	470,557	9,338	3,032,886
2021	4,715	58,046	4,940	44,610	6,790	4,543	475,902	9,168	3,062,215
2022	4,673	58,641	5,011	44,642	6,809	4,616	480,933	9,007	3,089,712
2023	4,643	59,196	5,086	44,693	6,829	4,684	485,594	8,857	3,114,794
2024	4,609	59,708	5,160	44,765	6,852	4,743	489,902	8,716	3,137,588
2025	4,577	60,185	5,235	44,862	6,897	4,796	493,776	8,584	3,158,316
2026	4,545	60,638	5,308	44,971	6,949	4,846	497,314	8,452	3,177,123
2027	4,513	61,061	5,382	45,086	7,007	4,887	500,564	8,327	3,194,192
2028	4,499	61,467	5,452	45,206	7,071	4,922	503,598	8,214	3,209,765
2029	4,497	61,804	5,520	45,310	7,140	4,951	506,131	8,111	3,223,525
2030	4,506	62,115	5,585	45,400	7,213	4,973	508,510	8,015	3,236,054
2031	4,510	62,413	5,644	45,486	7,285	4,990	510,788	7,926	3,247,833
2032	4,514	62,691	5,700	45,561	7,353	5,002	513,019	7,858	3,259,114
2033	4,517	62,959	5,750	45,620	7,421	5,012	515,176	7,810	3,269,735

Source: "Nevada County Population Projections 2015 to 2034," Jeff Hardcastle, AICP, Nevada State Demographer, Nevada Department of Taxation.

Table II-3: Projected 21+ Population, by Nevada County: 2015-2033

Year	Carson City	Churchill	Clark	Douglas	Elko	Esmeralda	Eureka	Humboldt	Lander
2015	40,344	17,834	1,504,491	38,277	38,035	801	1,466	12,014	4,746
2016	40,879	17,819	1,523,659	38,567	38,349	833	1,494	11,995	4,759
2017	41,365	17,918	1,543,797	38,840	38,624	852	1,523	11,947	4,741
2018	41,537	18,118	1,565,219	39,122	38,857	859	1,547	11,861	4,657
2019	41,970	18,252	1,585,566	39,329	39,174	860	1,573	11,772	4,548
2020	41,901	18,446	1,605,079	39,570	39,567	854	1,595	11,703	4,412
2021	42,702	18,317	1,623,809	39,785	39,729	842	1,628	11,567	4,305
2022	42,704	18,473	1,641,151	40,041	39,832	828	1,652	11,416	4,214
2023	43,304	18,508	1,657,612	40,266	39,796	807	1,678	11,256	4,101
2024	44,075	18,609	1,673,843	40,415	39,660	787	1,694	11,081	4,022
2025	43,855	18,740	1,689,369	40,489	39,642	762	1,701	10,952	3,948
2026	45,025	18,899	1,705,028	40,585	39,514	738	1,724	10,831	3,874
2027	45,291	19,032	1,720,003	40,632	39,452	715	1,732	10,721	3,824
2028	45,793	19,382	1,732,582	40,675	39,347	697	1,756	10,637	3,775
2029	46,280	19,444	1,742,903	40,707	39,351	678	1,767	10,571	3,726
2030	46,437	19,742	1,751,730	40,748	39,221	659	1,785	10,514	3,702
2031	47,061	19,852	1,759,695	40,730	39,062	639	1,796	10,483	3,684
2032	47,455	20,047	1,766,643	40,676	39,077	624	1,804	10,479	3,687
2033	47,402	20,347	1,772,286	40,599	39,012	608	1,814	10,480	3,699

Source: RCG, Nevada State Demographer.

Table II-3: Projected 21+ Population by Nevada County: 2015-2033 (Continued)

Year	Lincoln	Lyon	Mineral	Nye	Pershing	Storey	Washoe	White Pine	Nevada
2015	3,749	39,756	3,496	35,254	5,194	3,371	319,172	7,721	2,075,720
2016	3,707	40,458	3,585	35,285	5,268	3,445	323,340	7,630	2,101,070
2017	3,667	41,318	3,630	35,243	5,343	3,536	328,281	7,544	2,128,166
2018	3,686	41,992	3,679	35,239	5,344	3,624	333,114	7,448	2,155,902
2019	3,666	42,703	3,712	35,270	5,411	3,709	337,808	7,308	2,182,630
2020	3,670	43,187	3,727	35,305	5,478	3,785	342,348	7,173	2,207,800
2021	3,645	43,656	3,721	35,372	5,510	3,833	346,859	6,992	2,232,274
2022	3,601	44,189	3,808	35,383	5,532	3,880	351,176	6,870	2,254,751
2023	3,578	44,659	3,867	35,428	5,492	3,929	355,196	6,754	2,276,233
2024	3,545	45,190	3,910	35,499	5,507	3,970	358,981	6,597	2,297,385
2025	3,529	45,561	3,950	35,620	5,576	4,014	362,302	6,468	2,316,476
2026	3,514	45,886	3,981	35,791	5,581	4,039	365,715	6,371	2,337,098
2027	3,488	46,169	4,069	35,917	5,618	4,045	368,805	6,292	2,355,803
2028	3,482	46,445	4,171	36,009	5,579	4,058	371,435	6,211	2,372,034
2029	3,469	46,676	4,165	36,045	5,664	4,074	373,488	6,119	2,385,129
2030	3,485	46,919	4,194	36,110	5,736	4,085	375,270	6,075	2,396,412
2031	3,462	47,119	4,291	36,163	5,747	4,088	376,736	6,023	2,406,633
2032	3,458	47,263	4,358	36,189	5,804	4,078	378,222	5,972	2,415,836
2033	3,440	47,434	4,456	36,160	5,825	4,077	379,534	5,900	2,423,073

Source: RCG, Nevada State Demographer.

RCG also projected 21+ tourists for 2015-2033, by place of origin – segmented by U.S. regions and internationally. The 21+ tourist estimates were calculated, by origin, in order to account for regional differences in tourists' cannabis demand.

RCG relied on five visitor reports published in Nevada by the following organizations:

- "First Quarter 2015 Volume XXIII, Discover the Facts," "Second Quarter 2015 Volume XXIII, Discover the Facts," "Third Quarter 2015 Volume XXIII, Discover the Facts," and "Fourth Quarter 2015 Volume XXIII, Discover the Facts," quarterly reports published by the Nevada Division of Tourism ("Travel Nevada");

- "Rural Nevada Visitor Facts: Calendar Year 2015, 2014, 2013, 2012, 2011," published by Travel Nevada;

- "Las Vegas Visitor Profile Study, 2015," published by the Las Vegas Convention and Visitor Authority ("LVCVA");

- "2015 Visitor Profile Survey Summary Presentation," published by the Reno-Sparks Convention and Visitor Authority ("RSCVA"); and

- "2015 Visitor Origins Analysis," published by the RSCVA.

Travel Nevada's quarterly reports provided estimates of tourists to Clark County, Washoe County and Nevada's rural counties. These data were reconciled with data on tourist counts for Clark County and Washoe County to verify Travel Nevada's estimated tourist count for the rural counties. The 2015 tourist counts are shown in Table II-4.

Table II-4: Nevada Tourists: 2015

	2015 Tourists
Clark County[1,2]	45,408,173
Washoe County[3]	4,746,208
Nevada's Rural Counties[4]	4,851,666
Nevada	55,006,047

Source: (1) LVCVA. (2) Travel Nevada (3) RSCVA. (4) Travel Nevada.

RCG estimated future visitors to the state based on 21+ Nevada residents. The estimated number of total tourists to Clark County in 2015 was 30.2 times greater than the 21+ population of Clark County. RCG assumed that future tourism to Clark County would remain at 30.2 times the 21+ Clark County population.[2]

The estimated number of tourists to Washoe County in 2015 was 14.9 times greater than the 21+ population of Washoe County. It was assumed that future tourism in Washoe County would remain 14.9 times the Washoe County population.

[2] RCG supports its assumption that tourism will change proportionally with 21+ population by noting that (1) the 21+ population is a good proxy for the size of the economy, (2) economies with larger 21+ populations will have larger tax-bases to fund infrastructure that attracts tourists, (3) when an economy is highly adult tourist-oriented, as is Las Vegas, the expected population growth of the 21+ segment is a reasonable indicator of growth in the tourism industry and visitors; and (4) larger 21+ populations will have proportionally larger volumes of 21+ friends and family visiting. This is a simple, but conservative estimate of tourism to Nevada, based on recent historical trends.

The estimated number of tourists to Nevada's rural counties was 19.2 times greater than the 21+ population of Nevada's rural counties in 2015. RCG assumed that future tourism in Nevada's rural counties would remain 19.2 times the Nevada's rural county population.

Table II-5 shows the estimated total tourists for Clark County, Washoe County and Nevada's rural counties.

Table II-5: Nevada Visitors: 2015-2033

Year	Clark	Washoe	Rural	Nevada
2015	45,408,173	4,746,208	4,851,666	55,006,047
2016	45,986,718	4,808,187	4,890,434	55,685,339
2017	46,594,503	4,881,662	4,929,265	56,405,430
2018	47,241,063	4,953,542	4,957,745	57,152,349
2019	47,855,167	5,023,341	4,990,218	57,868,726
2020	48,444,115	5,090,842	5,011,732	58,546,689
2021	49,009,416	5,157,929	5,035,452	59,202,796
2022	49,532,830	5,222,122	5,051,197	59,806,149
2023	50,029,637	5,281,905	5,070,473	60,382,015
2024	50,519,524	5,338,190	5,092,331	60,950,045
2025	50,988,140	5,387,566	5,097,036	61,472,742
2026	51,460,755	5,438,329	5,126,863	62,025,947
2027	51,912,701	5,484,279	5,139,202	62,536,182
2028	52,292,380	5,523,379	5,158,855	62,974,614
2029	52,603,869	5,553,910	5,172,745	63,330,524
2030	52,870,295	5,580,416	5,185,701	63,636,413
2031	53,110,681	5,602,215	5,200,919	63,913,816
2032	53,320,394	5,624,312	5,215,718	64,160,424
2033	53,490,720	5,643,821	5,221,138	64,355,679

Source: RCG calculations.

The share of 21+ tourists to Clark County was estimated from information contained in the LVCVA's 2015 *Visitor Profile Study* using the number of total visitors. The LVCVA estimated that in 2015 eight percent of tourist parties had persons under 21 in their immediate travel party. Therefore, to be conservative, we assumed that eight percent of Clark County tourists are under 21 and 92 percent of Clark County tourists are 21+.

The RSCVA reports the number of persons per travel party that are both over and under 21. The reported average number of people 21+ per party was 2.17 and the average number of visitors under

21 per party was 0.81, which implied that the average number of people per tourist party to Washoe County was 2.98. The share of 21+ tourists was, therefore, calculated to be 72.8 percent.

Travel Nevada does not report the average age of rural tourists. Accordingly, it was assumed that the share of 21+ tourists to Nevada's rural counties was approximately equal to the share of Washoe County 21+ tourists, 72.8 percent. The 21+ share of tourists is shown below in Table II-11.

C. MARIJUANA DEMAND

MPG estimated resident and tourist demand for adult-use marijuana. The data came from various sources, including the *National Survey on Drug Use and Health* ("NSDUH"). MPG assumed that drug use patterns would not change significantly between 2014 and 2018.

First, using the 21+ population data calculated above by RCG (2,155,902 persons) and the percent usage of marijuana, by frequency, by the Nevada populace, based on NSDUH data (see Table II-6), MPG estimated the number of total resident marijuana consumers in Nevada. This provided the number of base consumers among Nevada residents.

Table II-6: Days Marijuana Used in Past Month among Persons 21+ in Nevada, by Percent: 2014

Never Used	Not Used in Past Month	1-5 Days	6-10 Days	11-15 Days	16-20 Days	21-25 Days	26-30 Days
49.1	43.7	2.5	0.6	1.2	0.5	0.3	2.1

Source: NSDUH.

Using the base figure, MPG calculated an estimated number of total consumers. This figure is the product of the base consumers and an underreporting adjustment, based on MPG findings[3]. However, because this report is estimating the economic effects of adult-use consumers only, we netted out the estimated medical users to obtain an estimate for adult-use (see Table II-7)[4].

The Consultant Team assumed that it would take a full year after passage of Question 2 for the State to prepare the regulations to allow the adult-use marijuana market to operate, making 2018 the first year of operation of the market.

[3] Recent literature suggests that users tend to under-report their drug consumption by 11.1 percent for heavy users and 22.2 percent for all other users.
[4] Total resident consumers = [Base resident consumers * (1 + underreporting adjustment)] – medical consumers.

Table II-7: Nevada Resident Demand for Adult-Use Marijuana: 2018

Use Frequency	Base Consumers	Underreporting Adjustment	Estimated # of Consumers	Medical Consumers	Adult-Use Consumers
Less than once per month	136,252	22.2%	166,530	0	166,530
1-5 days per month	53,898	22.2%	65,875	0	65,875
6-10 days per month	12,935	22.2%	15,810	0	15,810
11-15 days per month	25,871	22.2%	31,620	0	31,620
16-20 days per month	10,780	22.2%	13,175	0	13,175
21-25 days per month	6,468	11.1%	7,186	3,630	3,557
26-31 days per month	45,274	11.1%	50,304	25,408	24,897
Yearly User Total	**291,477**	**-**	**350,500**	**29,037**	**321,463**
Monthly User Total	**155,225**	**-**	**183,970**	**29,037**	**154,933**

Sources: NSDUH, Marijuana Policy Group, RCG, Nevada State Demographer.

The number of medical users was based on a projection of medical marijuana cardholders in Nevada at the start of 2018. Data was collected from the Nevada Division of Public and Behavioral Health ("NDPBH"), which approves medical marijuana licenses to state residents. According to the NDPBH, about two percent of all licensees are under 21, so we subtracted out these users, because they will not be able to participate in the adult-use market. It was assumed that the average rate of growth in 21+ medical marijuana licenses would be at the rate of growth from January 2014 through May 2016, starting in June 2016, and would slow to the Woods & Poole projected population growth level for Clark County by December 2017 (see Table II-8).

Table II-8: 21+ Nevada Resident Demand for Medical Marijuana: Jan-14 to Dec-17

Date	Total Licenses	Historical 21+ Users	Monthly Change		Date	Projected 21+ Users	Monthly Change
Jan-14	4,989	4,889			Jun-16	19,104	4.8%
Feb-14	5,201	5,097	4.2%		Jul-16	19,974	4.6%
Mar-14	5,503	5,393	5.8%		Aug-16	20,832	4.3%
Apr-14	5,820	5,704	5.8%		Sep-16	21,673	4.0%
May-14	5,859	5,742	0.7%		Oct-16	22,493	3.8%
Jun-14	6,329	6,202	8.0%		Nov-16	23,285	3.5%
Jul-14	6,422	6,294	1.5%		Dec-16	24,045	3.3%
Aug-14	6,496	6,366	1.2%		Jan-17	24,768	3.0%
Sep-14	6,500	6,370	0.1%		Feb-17	25,449	2.7%
Oct-14	6,541	6,410	0.6%		Mar-17	26,083	2.5%
Nov-14	7,491	7,341	14.5%		Apr-17	26,665	2.2%
Dec-14	8,055	7,894	7.5%		May-17	27,192	2.0%
Jan-15	8,575	8,404	6.5%		Jun-17	27,659	1.7%
Feb-15	8,888	8,710	3.7%		Jul-17	28,063	1.5%
Mar-15	9,023	8,843	1.5%		Aug-17	28,400	1.2%
Apr-15	8,925	8,747	-1.1%		Sep-17	28,668	0.9%
May-15	9,345	9,158	4.7%		Oct-17	28,864	0.7%
Jun-15	9,364	9,177	0.2%		Nov-17	28,988	0.4%
Jul-15	9,542	9,351	1.9%		Dec-17	29,037	0.2%
Aug-15	10,119	9,917	6.0%				
Sep-15	11,406	11,178	12.7%				
Oct-15	12,091	11,849	6.0%				
Nov-15	12,873	12,616	6.5%				
Dec-15	13,561	13,290	5.3%				
Jan-16	14,482	14,192	6.8%				
Feb-16	15,238	14,933	5.2%				
Mar-16	16,053	15,732	5.3%				
Apr-16	17,156	16,813	6.9%				
May-16	18,599	18,227	8.4%				

Sources: NDPBH, RCG.

The Consultant Team believe this approach to be reasonable for two reasons. First, unlike Colorado, which had six years to develop a mature medical marijuana market, Nevada got off to a late start and would have much less time to develop such a mature market, assuming passage of Question 2 in November. Second, the cost of obtaining and renewing a medical marijuana license in Nevada is high, at approximately $142 per year, plus doctor visit costs (compared to Colorado, which charges $15). At this price point, in addition to the long process, it is more likely that

additional residents would forego applying for cards and that existing license holders would forego renewing theirs. Instead, both groups would opt to pay nothing up-front and would shop at adult-use locations. However, it is possible that the State of Nevada could lower these fees to incentivize medical users to remain in the medical market, as was done in Colorado. Therefore, to be conservative, it was assumed that the number of medical users after the creation of the adult-use market would remain constant at 2018 levels.

Medical users are generally daily users, by definition. Therefore, these users were distributed among the two most frequent user groups by using the same distribution as for total marijuana users. For example, 7,186 consumers smoke marijuana 21-25 days per month out of 57,490 consumers that smoke 21-31 days per months. Therefore, that cohort makes up 12.5 percent of the heavy users. This percentage was applied to medical users in the same cohort (29,037 * 12.5% = 3,630).

Total quantity demanded was calculated by multiplying adult-use marijuana consumers by annual use-days and average daily consumption quantities. Daily marijuana use per day is shown in Table II-9. From the *Colorado Marijuana Use Survey* and previous findings from MPG, low, high and mid-point estimates were developed for usage amounts in grams per day. We assumed that these 2014 usage figures would remain the same in 2018.

Table II-9: Marijuana Use per Day, by Frequency of Use: 2014

Days of Use per Month	Low	Mean	High
<1	0.20	0.30	0.60
1-5	0.43	0.67	0.95
6-10	0.43	0.67	0.95
11-15	0.43	0.67	0.95
16-20	0.43	0.67	0.95
21-25	1.30	1.60	1.90
26-31	1.30	1.60	1.90

Sources: Marijuana Policy Group, Colorado Marijuana Use Survey.

We projected that the midpoint estimate for adult-use marijuana demand among Nevada residents aged 21+ in 2018 would be 23.3 metric tons as illustrated in Table II-10. This table only shows the midpoint for daily consumption, but the low and high estimates for consumption per day in Table II-9 were used to calculate low and high usage amounts in Table II-10.

Table II-10: Adult Nevada Resident Demand for Marijuana: 2018

Frequency of Use	Estimated # of Consumers	Avg. Annual Use-Days	Avg. Daily Consumption	Usage Amounts: (Kilograms)			Share of Nevada	
Days/Mnth	Persons	Days/Year	Grams	Low	Mid	High	Users	Demand
<1	166,530	6	0.30	200	300	600	51.8%	1.3%
1-5	65,875	36	0.67	1,028	1,581	2,253	20.5%	6.8%
6-10	15,810	96	0.67	658	1,012	1,442	4.9%	4.3%
11-15	31,620	156	0.67	2,138	3,288	4,686	9.8%	14.1%
16-20	13,175	216	0.67	1,233	1,897	2,704	4.1%	8.2%
21-25	3,557	276	1.60	1,276	1,571	1,865	1.1%	6.7%
26-31	24,897	342	1.60	11,069	13,623	16,178	7.7%	58.5%
Total:	**321,463**	-	-	**17,601**	**23,272**	**29,727**	**100%**	**100%**

Sources: NSDUH, Marijuana Policy Group, RCG, Nevada State Demographer.

MPG also estimated the annual tourist demand for marijuana using a similar method for the three tourist destination areas - Clark County, Washoe County and the rural counties. Visitors aged 21+ to each destination area are presented based on visitor estimates by origin in Table II-11.

MPG applied average NSDUH "past-month use prevalence (frequency)", by region of origin, to estimate the total number of tourists that are current marijuana users[5,6]. It is generally customary in estimating tourist marijuana use to count only past-month users. However, an alternate approach is more accurate for destinations with more lively entertainment offerings, such as Las Vegas. Tourists visiting Las Vegas often go for the gambling, nightlife, dining, music festivals, concerts and other events. MPG accounted for the "entertainment effect" on tourists visiting Clark County by including past-year users in the Clark County tourist user estimates. Table II-11 provides the results of these calculations. MPG estimated that 6,983,158 tourists, or about 13.9 percent of all 21+ tourists, would potentially consume marijuana during their visit to Nevada in 2018.

Total tourists from each U.S. region is the product of total tourists to each county and the percentage of tourists from each region for that county. The share of tourists, by location of origin,

[5] For each U.S. region, the NSDUH prevalence estimates were averaged for all states included in that region. For tourists from California and Arizona, NSDUH estimates of prevalence allowed for breakdown by state. Tourists originating in Nevada were excluded because they are included in the resident demand section. For the remaining tourists from the West region (those in the 'Other' category), the prevalence estimates from all other West Region states were averaged, excluding California, Arizona and Nevada. For foreign tourists, the overall U.S. national average was applied to past-month and past-year marijuana use prevalence estimates.
[6] Regional prevalence estimates were uniformly adjusted for under-reporting by the average 22.2 percent.

used by MPG for the rural counties was the average of Clark and Washoe counties. Tourists that are 21+ years of age, by region of origin, was calculated using the share of 21+ tourists for the Nevada geographies.

For Clark County, the total number of 21+ marijuana-using tourists was calculated by multiplying the number of 21+ tourists by the sum of past-month prevalence (frequency) of users, by origin, plus the past-year prevalence of users, by origin, times one plus the underreporting adjustment. For Washoe and the rural counties, the total number of 21+ marijuana user tourists was calculated by multiplying the number of 21+ tourists by the past-month prevalence of users, by origin, times one plus the underreporting adjustment[7].

The final step before obtaining the total adult-use tourists was to net out the medical tourist users. The number of medical-using tourists was already estimated by MPG in a previous study[8]. That study found that Nevada would attract 182,439 eligible medical marijuana card holders per year. Compared to total visitors to Nevada, this was such a small figure (2.6%) that the Consultant Team assumed that there would be no change in medical marijuana-using tourists by 2018. These users were distributed, by domestic region of origin, for each county using the same regional shares as for all Nevada visiting marijuana users, given in the MPG medical study. Assuming that all these visitors would make their purchases at medical dispensaries, it resulted in 6,800,719 total adult-use marijuana consumers visiting Nevada in 2018.

[7] # of 21+ marijuana-using tourists = # of total 21+ tourists * (past month prevalence of users + past-year prevalence of users) * (1 + underreporting adjustment)

[8] Nevada Medical Marijuana Demand Model. BBC Consulting. February 2014.

Table II-11: Nevada Marijuana Adult-Use Tourists-Domestic: 2018

Tourist Destination & Region of Origin	% of Tourists from Region	Total Tourists from Region	% of Tourists Aged 21+	Tourists Aged 21+	Past-Month 21+ User % Prevalence by Origin	Past-Year 21+ User % Prevalence by Origin	Underreporting % Adjustment	Total 21+ Marijuana User Tourists	Total 21+ Medical Use Tourists	Total 21+ Adult-Use Tourists
Clark County										
East	7%	3,306,874	92%	3,042,324	9.88%	4.27%	22.2%	526,057	33,919	492,138
South	13%	6,141,338	92%	5,650,031	6.18%	3.36%	22.2%	658,674	2,924	655,750
Midwest	11%	5,196,517	92%	4,780,796	6.45%	3.45%	22.2%	578,371	39,145	539,226
West										
CA	29%	13,699,908	92%	12,603,916	9.24%	3.44%	22.2%	1,952,972	3,630	1,949,342
AZ	9%	4,251,696	92%	3,911,560	7.96%	4.00%	22.2%	571,679	10,069	561,611
Other	14%	6,613,749	92%	6,084,649	9.90%	3.94%	22.2%	1,029,065	66,940	962,125
Foreign	16%	7,558,570	92%	6,953,884	7.73%	3.52%	22.2%	955,985	0	955,985
Subtotal	-	*46,768,652*	-	*43,027,160*			-	*6,272,804*	*156,627*	*6,116,177*
Washoe County										
East	13%	643,960	72.8%	468,924	9.88%	-	22.2%	56,615	2,787	53,828
South	24%	1,188,850	72.8%	865,706	6.18%	-	22.2%	65,378	240	65,138
Midwest	15%	743,031	72.8%	541,066	6.45%	-	22.2%	42,646	3,216	39,430
West										
CA	32%	1,585,133	72.8%	1,154,275	9.24%	-	22.2%	130,332	298	130,034
AZ	3%	148,606	72.8%	108,213	7.96%	-	22.2%	10,526	827	9,699
Other	10%	495,354	72.8%	360,711	9.90%	-	22.2%	43,638	5,500	38,139
Foreign	1%	49,535	72.8%	36,071	7.73%	-	22.2%	3,407	0	3,407
Subtotal	-	*4,854,471*	-	*3,534,967*			-	*352,543*	*12,868*	*339,675*
Rural Counties										
East	10%	495,774	72.8%	361,017	9.88%	-	22.2%	43,587	2,803	40,784
South	19%	917,183	72.8%	667,881	6.18%	-	22.2%	50,438	242	50,196
Midwest	13%	644,507	72.8%	469,322	6.45%	-	22.2%	36,991	3,235	33,756
West										
CA	31%	1,512,112	72.8%	1,101,102	9.24%	-	22.2%	124,328	300	124,029
AZ	6%	297,465	72.8%	216,610	7.96%	-	22.2%	21,070	832	20,238
Other	12%	594,929	72.8%	433,220	9.90%	-	22.2%	52,410	5,532	46,878
Foreign	9%	421,408	72.8%	306,864	7.73%	-	22.2%	28,987	0	28,987
Subtotal	-	*4,883,379*	-	*3,556,017*			-	*357,812*	*12,945*	*344,867*
NEVADA TOTAL	-	**56,506,502**	-	**50,118,144**			-	**6,983,158**	**182,439**	**6,800,719**

Note: Visitor totals do not match original totals due to exclusion of Nevada in-state tourists.

Sources: NSDUH, Marijuana Policy Group, RCG, Travel Nevada, Las Vegas Convention and Visitors Authority, Reno Sparks Convention and Visitors Authority.

In order to estimate the daily consumption quantity for tourists, MPG used national NSDUH prevalence and frequency estimates to calculate a weighted average consumption amount of 0.98 grams per day among past-month marijuana users as illustrated in the Table II-12. Average daily consumption amounts were obtained from surveys conducted in Colorado and Washington.[9] We assumed that past-month and past-year marijuana users would consume this quantity during their visit. Again, it was assumed that these 2014 estimates would remain constant in 2018.

Table II-12: U.S. Average Daily Marijuana Consumption for Past-Month Marijuana Users: 2014

Frequency of Use Among U.S. Past-Month Marijuana Users		Average Daily Consumption
Days/Month	Percent	Grams
1-5	39.0%	0.67
6-10	10.5%	0.67
11-15	7.5%	0.67
16-20	9.0%	0.67
21-25	6.8%	1.60
26-31	27.2%	1.60
Weighted Average Grams per Day		**0.98**

Sources: NSDUH, Marijuana Policy Group.

In order to estimate the total quantity of adult-use marijuana potentially demanded by tourists, MPG multiplied the total 21+ adult-use tourist figure for each Nevada area by the average length of stay for that area. This calculation yielded the total visitor-nights by 21+ adult marijuana tourist users to each area. We then multiplied total visitor-nights by the average consumption quantity to estimate a total demand for adult tourists: 22,684 kilograms (1 kg = 1,000 g). Table II-13 below provides the MPG estimates for tourist demand, by destination area, as well as Nevada's total demand in 2018. MPG estimated the combined tourist and resident demand for adult-use marijuana in Nevada to be 46,000 kg.

[9] MPG. Colorado Cannabis User Survey. Colorado Department of Revenue. 2014. and BOTEC Analysis. Washington Cannabis User Survey. 2014.

Table II-13: Total Demand, in Kilograms, for Adult-Use Marijuana in Nevada: 2018

	Total 21+ Adult-Use Tourists	Average Nights Stayed	Total Visitor Nights	Average Daily Consumption (grams)	Total Demanded (kg)
Clark County Tourists	6,116,177	3.40	20,795,002	0.98	20,379.1
Washoe County Tourists	339,675	3.27	1,110,737	0.98	1,088.5
Rural Counties Tourists	344,867	3.60	1,241,522	0.98	1,216.7
			Total Nevada Tourist Demand		22,684.3
			Total Resident Demand		**23,272.4**
			TOTAL NEVADA DEMAND		45,956.7

Source: Marijuana Policy Group, RCG, Travel Nevada, Las Vegas Convention and Visitors Authority, Reno Sparks Convention and Visitors Authority.

After calculating the total quantity demanded, MPG combined these estimates with unit pricing to calculate the potential value of the regulated marijuana market in Nevada. In order to estimate the average price of adult-use marijuana in Nevada after legalization, MPG examined recent prices in three states with legal sales. In Colorado, MPG calculated an average 2015 price per gram of $9.43 for adult-use marijuana before tax, based on transaction data. The Washington Liquor and Cannabis Board reported an average price per gram of about $9.00 per gram before tax in January 2016 and a review of menu prices at adult-use marijuana dispensaries in Oregon also revealed an average price per gram of about $9.00 before tax. Based on the prices observed in mature markets for adult-use marijuana, MPG assumed a baseline pre-tax retail price of $9.00 per gram in Nevada.

MPG also examined the price premium for adult-use marijuana in "tourist areas" (as determined by MPG), based on observed price differentials in Colorado. Sampling menu and transaction prices from adult-use marijuana stores in tourist areas and the rest of the state, MPG found that similar products in Colorado's tourist destinations cost 23.7 percent more than non-tourist areas of the state, on average.

We, therefore, assumed that tourists visiting Clark and Washoe Counties would face a similar price premium, paying about $11.00 per gram, while residents and tourists to the rest of the state would pay $9.00 per gram. In Table II-14, we applied these average prices to each type of consumer, by area, to estimate a potential market size for adult-use marijuana in Nevada. We assumed that these prices, in inflation-adjusted 2016 dollars, would not change by 2018.

Table II-14: Nevada Adult-Use Marijuana Market Size in Grams & 2016 Dollars: 2018

	Quantity Demanded (grams)	Average Price Per Gram	Potential Market Value
Clark County Tourists	20,379,102	$11.00	$224,170,118
Washoe County Tourists	1,088,522	$11.00	$11,973,745
Rural Counties Tourists	1,216,691	$9.00	$10,950,221
Nevada Tourist Market Size	22,684,315	-	$247,094,084
Nevada Resident Market Size*	23,272,369	$9.00	$146,615,925
Nevada Adult-Use Marijuana Market Size	**45,956,684**	**-**	**$393,710,009**

*Note: *Assumes 70% first year capture rate.*
Source: Marijuana Policy Group.

The demand methodology used herein yielded a total Nevada market size for adult-use marijuana of $393.7 million in 2018. The estimated market size associated with tourists visiting Nevada is $247.1 million (63 percent), while residents account for a market size of $146.6 million (37 percent).

III. ECONOMIC BENEFITS ANALYSIS ("EBA")

A. OVERVIEW

The following pages summarize the findings and conclusions regarding the potential economic benefits to the State of Nevada associated with the passage of a ballot initiative to regulate and tax marijuana sales. This initiative, Question 2, will be on the ballot in November 2016 and, if passed, would likely lead to the introduction of adult-use marijuana sales in January 2018.

The Consultant Team performed this EBA to identify the potential benefits of a regulated adult-use marijuana market on the Nevada economy. The Study attempts to quantify these benefits to Nevada, based on the creation of jobs, as well as the generation of wages and economic activity (output/spending).

B. STATEMENT OF METHODOLOGY

The Consultant Team used the text of the ballot initiative to analyze the effects of adult-use marijuana legalization. We calculated the equilibrium demand in the previous section of the report. The Consultant Team used this demand information to estimate three types of economic benefits to the state of Nevada: direct, indirect and induced. The concept of a direct benefit is relatively straightforward. However, concepts of indirect and induced benefits, while critically important in assessing the totality of benefits associated with new economic activities, are often misunderstood in economic analysis. Fundamentally, these secondary and tertiary benefits are based on an extension of the direct expenditures/spending associated with would-be adult-use marijuana purchases. Each type of benefit is briefly described below.

- *Direct benefits* are due to the retail purchases of marijuana; the jobs created to support the retail stores; and the labor income (employee compensation, proprietor income and benefits paid) – essentially the direct benefits associated with marijuana regulation.

- *Indirect benefits* are the local purchases of goods and services resulting from the initial direct spending caused by marijuana retail spending. For example, the retailers' spending on marijuana cultivation, office supplies, rent, utilities, food manufacturing and the like will cause suppliers to replenish inventories, etc. These sales are counted as an indirect economic benefit.

- *Induced benefits* are the output, employment and labor income growth generated by the employees of marijuana retailers and their local suppliers as they consume goods and services in the Nevada economy. Put another way, induced benefits are benefits from labor income spent by direct and indirect employees. For example, a new employee to the area works as a cashier at one of the marijuana retailers. The portion of his or her personal income will be spent locally, will cycle through the region, and will be exchanged among local merchants; thus, inducing additional new spending (retail, food, gas, etc.) and employment in the region.

Estimates of the direct, indirect and induced benefits to output and employment benefits, as well as direct labor income benefits, were prepared by MPG. MPG constructed a new model that integrates the legal marijuana industry in Colorado into the broader economy using cross-industry data from the widely accepted IMPLAN (IMpact Analysis for PLANning) economic input-output model to create the "Marijuana Impact Model," or "MIM". The Marijuana Impact Model was adapted to Nevada's economy, based on the most recent Nevada IMPLAN data, in order to estimate the economic benefit of marijuana regulation, as worded in Question #2.

The IMPLAN model has been in use since 1979. The model accounts closely follow the accounting conventions used in the "Input-Output Study of the U.S. Economy" by the U.S. Bureau of Economic Analysis.

The MIM calculates the benefit of marijuana legalization on overall economic activity and employment. This model does not include indirect and induced multipliers for labor income. Therefore, the Team used a similar sector as a proxy for the marijuana industry regarding labor income. We discuss this in greater detail below.

This EBA was prepared under various limiting assumptions acknowledged and presented herein:

- ***Substitution Effects****:* This analysis does not factor in any changes to purchases of other goods and services on which marijuana expenditures might alternatively have been spent. Without factoring in consumers' substitutions between goods and services, the EBA measures economic benefits of the Initiative to the Nevada economy.

- ***Supply/Demand Pooling****:* For all direct retail sales, the marijuana initiative requires that demands be accommodated in-state. However, for indirect demand, such as for cultivators,

we have assumed that demands will be accommodated in-state to the greatest extent possible. Thus, all needs that can possibly be met by in-state producers/suppliers will be met by these producers/suppliers. If demand is greater than supply, local producers/suppliers will meet as much of that demand as possible and the remaining demand will be met from outside the region. Since this minimizes imports, it would maximize local economic activity and the resulting multipliers.

- ***Economic Leakage****:* the Consultant Team's analysis also recognizes as important, "leakage" from the study region (Nevada) due to spending on purchases outside of the region. Economic leakage refers to revenues that flow out of a local or regional economy to finance the purchase of goods and services from outside sources (imports) instead of being purchased locally. In a highly developed and urbanized local economy, a large share of the goods and services consumed are purchased from local producers and suppliers.

In this Study, all estimates (except employment) are in inflation-adjusted 2016 dollars.

Three categories are estimated for each type of benefit. They include:

- Changes to output/spending (equivalent to Gross Product)
- Changes to employment (measured in terms of annual full-time equivalents, or "FTEs" for annual jobs or person-years for the full 2018-2024 study period totals, which are equal to FTEs multiplied by the number of years in the analysis)
- Changes to labor income (employee compensation, proprietor income and benefits paid)

C. MARIJUANA BENEFIT MODEL

MPG's "marijuana impact model" divides the industry into three types of activities: cultivation, manufacturing and retail. Each segment is represented using a unique production function, with different inputs, outputs and linkages to the economy.

Each segment is tightly connected to the others. For example, 100 percent of each cultivator's products must be sold exclusively to retailers and manufacturers within the state. Likewise, manufacturers and retailers must purchase 100 percent of their products from cultivators who are also inside the state.

This unique structure creates a highly localized industry, where almost all of the spending on marijuana flows to enterprises inside the state. As a result, the marijuana industry tends to create more local output and employment per dollar than most other sectors.

Using MPG's Marijuana Impact Model, it was found that each dollar spent on retail marijuana generates $2.33 in state output. This compares favorably with general retail trade, which yields $1.71 per dollar. Other more traditional, and often subsidized, sectors such as gold mining generate $1.50 per dollar. Amusement parks generate just $1.48 per dollar of spending. Other industries have lower output yields because their inputs are sourced outside of the state, or because the profits are remitted to corporate owners that exist primarily outside of the state as well. The higher output multiplier is due to the requirement that marijuana inputs be purchased from within Nevada. The legal marijuana industry would have substantially lower leakages compared to the other traditional Nevada industries.

Integrating the Marijuana Industry into the Economic Model

In order to integrate marijuana activities into overall Nevada economy, each segment of the industry is inserted into the state's economic accounts. For example, the marijuana cultivation sector is inserted into the industrial classification sector that includes Floriculture and Tobacco Farming. Retail stores and dispensaries are inserted as a type of specialty retail store, and infused product manufacturers are included as part of the food manufacturing sector.

In this way, the production activities for each marijuana segment can be connected with the rest of the Nevada economy.

Next, MPG constructed "business spending patterns" for each industry segment to trace how marijuana spending flows through the state's economy. Since marijuana is currently a cash-only business and is confined within the state, most of the cash accrues directly to local cultivation and manufacturing. Financial services are limited, and instead funds are spent on security and cash transportation services, such as armored vehicles.

The largest spending category for retailers is the product itself[1] (marijuana flower), followed by employee payrolls, business rent, security services, compliance and consulting services.

[1] Vertically-integrated operations do not explicitly account for the cost of marijuana flower. The MPG uses average market rate pricing to convert the implicit pricing for these firms into an explicit cost for the retail

Cultivation in Nevada is expected to primarily occur indoors, making electricity and HVAC the largest portion of spending, next to fertilizers, pesticides and other agricultural inputs. Payrolls round out the largest components of spending for cultivators.

Infused-product manufacturers purchase marijuana trim and flower as the primary input to production, followed by other food products, then machinery rents, payrolls, warehouse rental (or imputed rent), security and cash management services, and chemicals. All three segments of the marijuana industry have increased their spending on product safety and testing services. Marijuana businesses in many states are now required to test for potency and product safety, including pesticide residue and other harmful chemicals.

As the marijuana industry matures and becomes more structured, there will be more demand for services. These include specialized law firms, consultancies and professional service providers. These firms provide industry-specific analyses and advice to private enterprise and government regulatory agencies.

By identifying each marijuana industry segment and classifying and quantifying its activities, they can each be inserted into the State Economic accounts for Nevada. From there, an Input-Output model is constructed and the benefit of marijuana spending can be computed for the region.

Note: The MIM model does not calculate labor income multipliers. Therefore, the Consultant Team used proxy multipliers to calculate labor income. The direct labor income multiplier was based on MIM estimates from MPG. The indirect and induced proxy income multipliers used were for the "Other state government enterprises" IMPLAN sector, in which indirect spending tends toward remaining in-state due to legal and other considerations, similar to spending mandates in the case of marijuana-related activities. These multipliers appeared reasonable relative to the Colorado and Washington data gathered by Consultant Team. The induced spending is also conservative relative to the IMPLAN "Private households" sector, indicating that the overall multiplier could even be higher.

operation and an explicit revenue for the cultivators, even if the cash is not directly transferred between these departments within a single, vertically-integrated firm.

D. DETAILED EBA RESULTS

Two main factors for industry size and growth rates are the initial level of the black market and the rate of transition from black market to the regulated market. This transition is what accounts for most of the sectoral growth in the legal marijuana industry during the early years.

During the first year of operation in Colorado in 2014, MPG estimated that the legal marijuana market supplied approximately 57 percent of total demand. This increased to and 67 percent of total demand in 2015, with the remaining demand supplied by the gray-market (caregivers), home growing and the black market. But the subsequent transition led to a rapidly growing "formal" industry. Total sales were $786 million in 2014 and grew by 27 percent to $996 million in 2015.

Nevada's market is likely to begin with a more highly formalized (regulated) market share. This will occur because the tourist marketplace does not have the "entrenched" dealers that exist in the resident black market. Tourists likely will not have time to try and find a local marijuana dealer. If there's an open store nearby, they will choose that. Residents can often find lower prices if they continue using their existing black-market suppliers.

Since Nevada is expected to have a much larger tourist demand segment, the regulated market share will likely be higher than it was for Colorado. Thus, for this study, the first year capture was assumed to be 70 percent, second year at 90 percent and 95 percent thereafter.

After saturation, the market is expected to grow at the "secular" rate of growth, which equals the rate of population growth, plus tourist growth plus any shift in preferences. For example, currently secular growth for cigarettes is negative due to a societal shift in preferences away from cigarette use. However, we assumed no shift in preferences for the term of this study.

Table III-1 shows the effects of the passage of Question 2 in Nevada from 2018-2024. The range begins in 2018 because January 2018 would likely be when the new regulated market would come online. The range extends to 2024 because MPG estimates that the market will hit maturity by the end of that year. Due to rounding issues, the following direct results may not add exactly (differences less than 0.005%) with the results in the demand section.

Table III-2 shows the effects of the passage of Question 2 in Nevada for only 2024. That year's economic benefits should be a fairly good indicator of the annual benefit of legal marijuana sales because it shows what the market should look like after marijuana sales have stabilized.

Summary of the Total Benefits of the Regulated Marijuana Market (Adult-Use)

DIRECT BENEFITS

- An estimated $3.2 billion of direct output/spending activity is projected to be generated in the Nevada economy during the first seven years of marijuana regulation.
- The Consultant Team forecasts that marijuana regulation will support about 21,800 person-years of direct jobs in Nevada. This estimate does not factor in indirect and induced jobs.
- Marijuana regulation is estimated to generate approximately $736.3 million in direct labor earnings (payroll) during the seven-year study period.

INDIRECT AND INDUCED BENEFITS

- A projected $4.3 billion of indirect and induced output activity is forecasted in the Nevada economy from the first seven years of marijuana regulation.
- The adult-use market is forecasted to support 19,200 person-years of indirect and induced jobs in Nevada.
- The market is estimated to generate approximately $984.7 million in indirect and induced labor income during the seven-year study period.

TOTAL BENEFITS

"Total economic benefits" are the sum of direct, indirect and induced benefits (see Table III-1 and Figure III-1).

- An estimated $7.5 billion of total output activity is projected to be generated for the Nevada economy during the first seven years of adult-use marijuana regulation.
- The market is forecasted to support about 41,000 person-years in jobs in Nevada in the seven-year study period.

- Marijuana regulation is estimated to generate approximately $1.7 billion in direct, indirect and induced labor income during the seven-year study period.

Summary of the Total Benefits of the Regulated Marijuana Market (Adult-Use): 2024

DIRECT BENEFITS

- By 2024, an estimated $485.0 million of direct output activity is projected to be generated in the Nevada economy every year due to adult-use marijuana regulation.

- The Team forecasted that by 2024 the industry will support about 3,300 direct FTE jobs in Nevada per year. This estimate does not factor in indirect and induced jobs.

- By 2024, the Initiative regulation is expected to generate approximately $111.6 million in direct labor income per year.

INDIRECT AND INDUCED BENEFITS

- By 2024, a projected $645.1 million of indirect and induced output activity is forecasted to be generated in the Nevada economy each year after enacting marijuana regulation.

- In 2024, the market is forecasted to support 2,900 indirect and induced FTE jobs in Nevada every year.

- By 2024, an adult-use marijuana market is estimated to generate approximately $149.2 million in indirect and induced labor income per year.

TOTAL BENEFITS

"Total economic benefits" are the sum of direct, indirect and induced benefits (see Table III-2 and Figure III-2).

- By 2024, an estimated $1.1 billion of total output activity is projected to be generated for the Nevada economy each year due to marijuana regulation.

- By 2024, the Initiative is forecasted to support about 6,200 FTE jobs in Nevada per year.

- By 2024, the market is estimated to generate approximately $260.7 million in direct, indirect and induced labor income each year.

There is a caveat in the employment results. There are two reasons the Consultant Team did not report income per worker. It is inappropriate to calculate income per worker as the ratio of total income benefits-to-total employment benefits. First, IMPLAN calculates total jobs: full- and part-time. Because the MIM results were largely based on the IMPLAN social accounting matrix, these results reflect the same nature of full- and part-time job mixing. Due to the method and tools that IMPLAN provides for the FTE (or person-year) job conversion, the apparent job-to-income ratio is not meaningful. Doing a straight calculation for average labor income yields a result of approximately $42,000 per worker per year. However, every FTE is counted as one job per year by definition rather than total jobs per year as originally calculated, which is approximately 1.1 jobs per FTE job. Therefore, using the FTE (or person-year) employment figure results in an overestimate of average income per job. The second reason is that labor income includes proprietor income and, therefore, does not reflect only employee compensation.

For example, imagine a retailer were to create two jobs – one 30-hour per week job and one 10-hour per week job. If the 30-hour per week worker is paid $40,000 annually, while the 10-hour per week worker is paid $10,000, annually, that would equate to an average of $25,000 per year over the two jobs. However, as an FTE, it would equate to one job at $50,000 per year. This would incorrectly double the combined average annual wage for these two employees from $25,000 to $50,000.

Tables III-1 and III-2 show the results for total benefits from marijuana regulation for 2018-2024 and for 2024 only, respectively. Appendix C contains tables that summarize the estimated economic benefits (direct, indirect, induced and total) of the regulated marijuana market by year.

Table III-1: Total Economic Benefits from Adult-Use Marijuana Industry: 2018-2024

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$3,201,391,017	21,769	$736,319,934
Indirect Benefit	$2,497,084,993	13,766	$406,578,602
Induced Benefit	$1,760,765,059	5,442	$578,085,530
Total Benefits	**$7,459,241,070**	**40,978**	**$1,720,984,066**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

Table III-2: Total Economic Benefits from Adult-Use Marijuana Industry: 2024

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$485,016,525	3,298	$111,553,801
Indirect Benefit	$378,312,890	2,086	$61,597,393
Induced Benefit	$266,759,089	825	$87,581,003
Total Benefits	**$1,130,088,504**	**6,208**	**$260,732,197**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

Multipliers

The following table illustrates the output, labor and labor wage multipliers associated with passage of Question 2. Multipliers are based on the "ripple effect" of economic change. They translate the benefits of a change in the direct variable on the other variables. In other words, multipliers generally estimate the "waves" of economic activities' or events' direct output/spending, labor and wages. Table III-3 shows the multipliers for monies and employment from legalization of adult-use marijuana in Nevada.

Table III-3: Economic Multipliers: Nevada Adult-Use Marijuana Industry

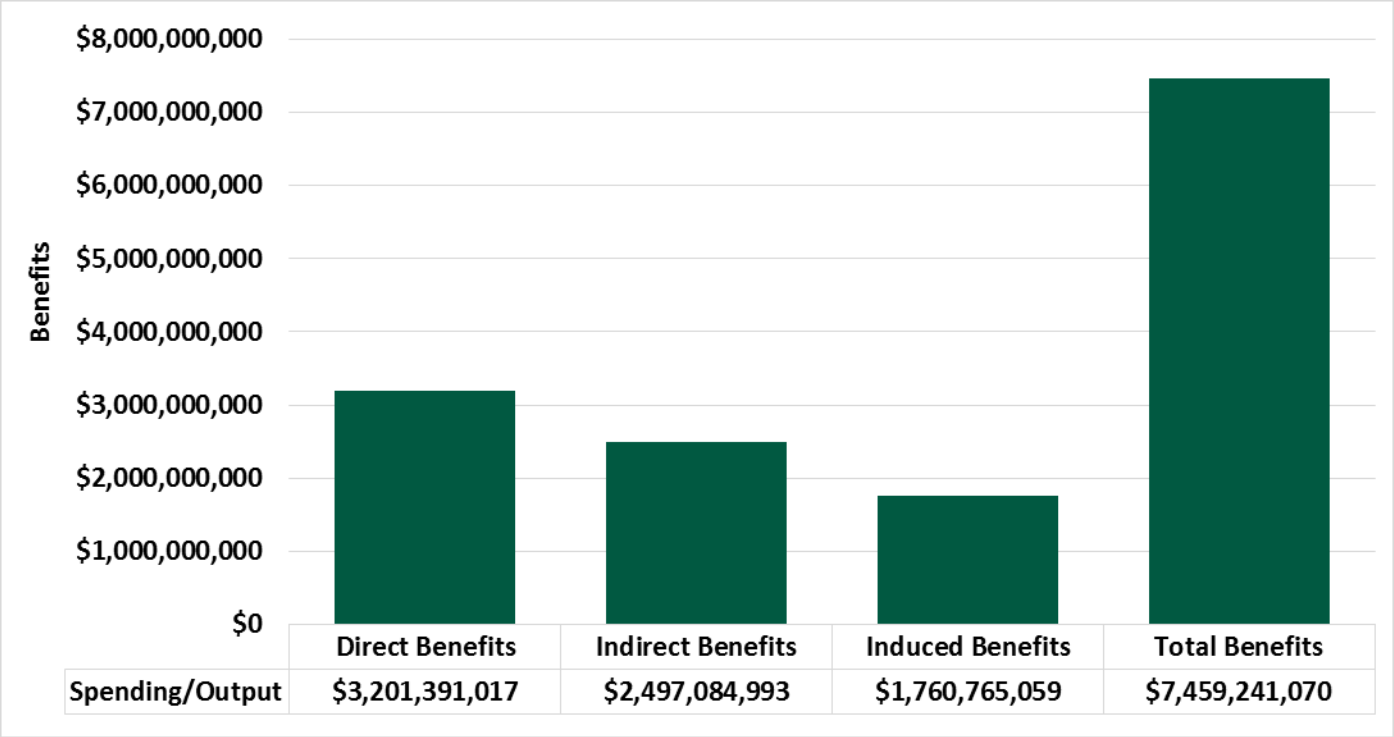
Output	Labor	Wages
2.33	***1.88***	***2.34***

Source: IMPLAN, RCG Economics.

The multipliers in this table show the ratio of total benefits to direct benefits, based on the results of the MIM model. For example, this table shows that for every dollar "directly" spent on retail marijuana, an additional $1.33 of output/spending is generated (sum of indirect and induced benefits) in the Nevada economy.

Multipliers of greater than 2.0 are uncommon. However, because Question 2 requires all marijuana-related activity to be conducted within the state, that generates higher than usual indirect benefits. This, in turn, raises the multiplier for spending/output and labor income. Therefore, we expect that in the case of the adult-use marijuana industry the multiplier would be above "normal".

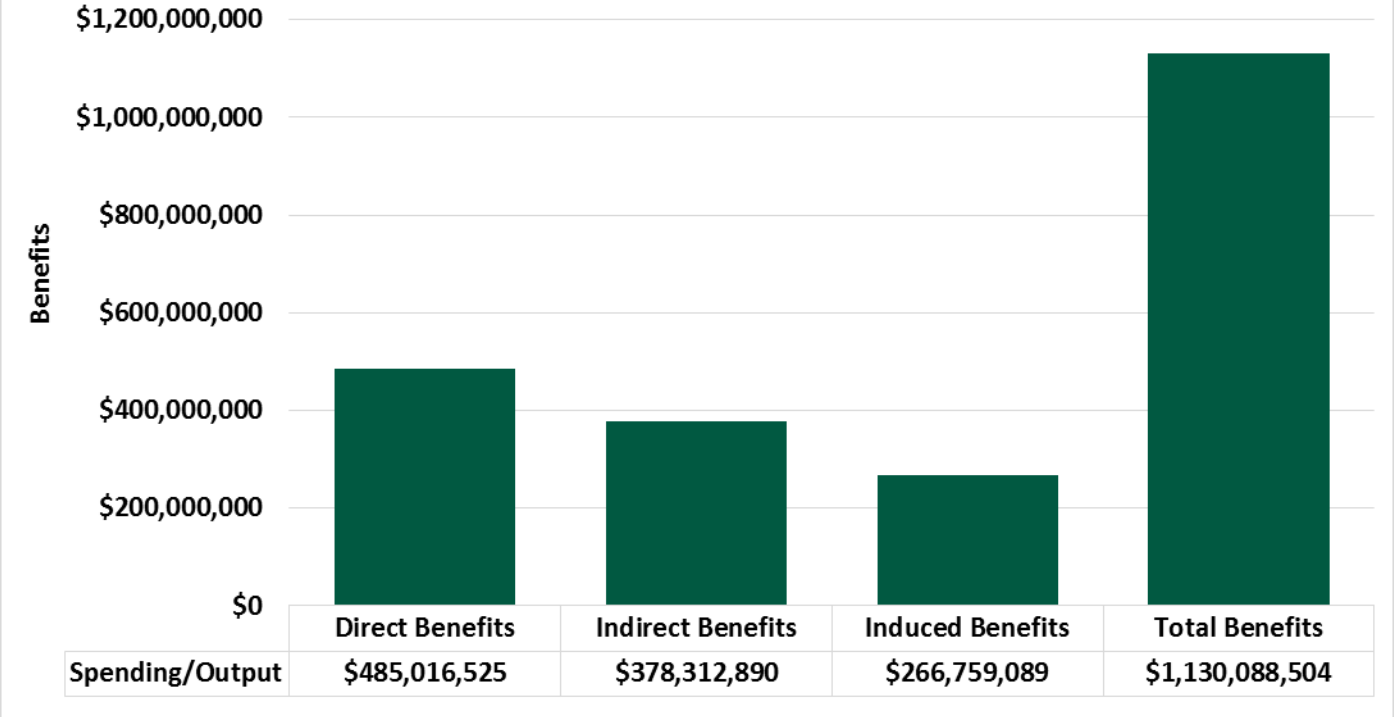
Figure III-1: Total Economic Benefits from Adult-Use Marijuana Industry: 2018-2024



	Direct Benefits	Indirect Benefits	Induced Benefits	Total Benefits
Spending/Output	$3,201,391,017	$2,497,084,993	$1,760,765,059	$7,459,241,070

Sources: MPG, IMPLAN, RCG Economics.

Figure III-2: Total Economic Benefits from Adult-Use Marijuana Industry: 2024



	Direct Benefits	Indirect Benefits	Induced Benefits	Total Benefits
Spending/Output	$485,016,525	$378,312,890	$266,759,089	$1,130,088,504

Sources: MPG, IMPLAN, RCG Economics.

IV. FISCAL BENEFITS ANALYSIS ("FBA")

A. STATEMENT OF METHODOLOGY

The Initiative will produce economic activity in the State of Nevada ("Nevada" or the "State") that will fiscally benefit the State and local governments. This FBA presents estimates of the general retail sales and use taxes, excise tax, business licensing and application fees, commerce tax, and modified business tax revenues potentially generated by the Initiative. The FBA does not estimate the public service or other costs associated with the Initiative (e.g., public safety, health and human services, schools, parks, transportation and utilities).

In this section of the Study, the following sources of tax revenue related to the Initiative for the seven-year period from 2018-2024 were analyzed:

- Retail sales and use tax revenue from the sale of marijuana.
- Excise tax revenues from the wholesale of marijuana at the fair market value at wholesale of the marijuana.
- Business license fees and one-time application fees paid by retailers, manufacturers and cultivators.
- State commerce tax revenue generated by retailers, manufacturers, and cultivators with gross revenues in excess of $4,000,000 for the tax year.
- Modified business tax revenues by retailer, manufacturers, and cultivators with gross wages in excess of $50,000 for the tax quarter.

Table IV-1: Total Fiscal Benefits: 2018-2024

Tax	Revenue
Estimated Total Sales and Use Tax Revenue – 7 Years	$257,434,778
Estimated Excise Tax Revenue – 7 Years	$147,104,874
Application Fee Revenue – 7 Years	$3,478,428
License Fee Revenue – 7 Years	$47,186,595
Total Nevada Commerce Tax Revenue Collected – 7 Years	$520,736
Total Nevada Modified Business Taxes Paid – 7 Years	$8,279,702
Total Fiscal Benefit – 7 Years	***$464,005,113***

Sources: RCG Economics.

B. RETAIL SALES AND USE TAX ESTIMATE

In Nevada, retail sales are subject to a combined minimum tax rate of 6.85 percent plus various county option taxes. Not all counties have chosen to enact a County Option Sales Tax. The revenues generated from the combined minimum tax go to the State General Fund, school funds and city/county relief funds. This FBA does not estimate the total amount of tax revenue redistributed back to each county. The sales and use tax analysis herein is focused on revenue generated by the components of the minimum tax rate and the aggregated county option taxes (see Table IV-2).

Table IV-2: Applicable Sales & Use Tax Rates

Description	Tax Rate
Minimum Statewide Tax Rate	
State Sales and Use Tax	2.00%
Local School Support Tax	2.60%
Basic City-County Relief Tax (city governments)	0.50%
Supplemental City-County Relief Tax (city governments)	1.75%
Option Taxes	
County Option Sales Taxes	0.0%-1.3%
Combined Sales & Use Tax	***6.85%-8.15%***

Source: NV Department of Taxation.

The total estimated retail sales and use tax revenues generated in Nevada from the Initiative is projected at $257,434,778 during the seven-year period. The estimated county option sales and use tax revenue generated by Nevada's counties is $38,139,493 over the seven-year period. See Table IV-3 below.

Table IV-3: Total Retail Sales & Use Tax Revenues from the Initiative: 2018-2024

Taxes	Value
Retail Sales by Residents	$1,408,958,273
Retail Sales by Tourists	$1,792,432,744
Total Retail Sales	**$3,201,391,017**
State Sales and Use Tax	2.00%
Local School Support Tax	2.60%
Basic City-County Relief Tax	0.50%
Supplemental City-County Relief Tax	1.75%
County Option Sales Taxes (average)	0.0%-1.3%
Estimated State Sales and Use Tax	$64,027,820
Estimated Local School Support Tax	$83,236,166
Estimated Basic City-County Relief Tax	$16,006,955
Estimated Supplemental City-County Relief Tax	$56,024,343
Estimated County Option Sales Taxes	$38,139,493
Estimated Total Sales and Use Tax Revenue – 7 Years	**$257,434,778**

Sources: RCG Economics, MPG, IMPLAN, NV Department of Taxation. Numbers may not calculate exactly due to rounding.

Retail Sales & Use Tax Assumptions

The results of the sales and use tax analysis are presented in Table IV-3.

The following assumptions and calculations were used in herein:

- Total Retail Sales: Total retail sales equals the direct output of the retail segment of the marijuana industry. Retail sales were calculated for Nevada residents and tourists visiting Nevada.

- Resident Generated Retail Sales: Retail sales generated by residents were allocated to each county, based on the county's share of residents 21+ years of age.

- Tourist Generated Retail Sales: Retail sales generated by tourists were allocated to counties using estimates of total 21+ tourists visiting the counties, weighted by an $11.00/gram price in the "tourist counties" (Clark County and Washoe County) and a $9.00/gram price in rural Nevada counties.

- Estimated Minimum Statewide Tax Revenue: Estimated total sales and use tax revenue from retail marijuana sales was calculated by multiplying total Nevada retail sales by the minimum statewide tax rates listed in Table IV-2.

- Estimated County Optional Tax Revenue: Estimated county option sales and use tax revenue from retail marijuana sales was calculated by multiplying county-level retail sales by the county optional sales taxes.

C. EXCISE TAX ESTIMATE

Under Section 15 of the Initiative, an excise tax is imposed and must be collected by the State. The excise tax is applied to the wholesale sale of marijuana in the State by a marijuana cultivation facility. The proposed excise tax is projected to generate $147,104,874 over the seven-year period.

Table IV-4: Excise Tax Revenues from the Initiative: 2018-2024

	Value
Total Wholesale Sale of Marijuana (lbs)	741,600
Times: Fair Market Wholesale Value per lb	$1,322.41
Total Cultivator Revenue	$980,699,157
Times: Excise Tax Rate	15%
Estimated Excise Tax Revenue – 7 Years	**$147,104,874**

Sources: RCG Economics, MPG, IMPLAN, NV Department of Taxation. Numbers may not calculate exactly due to rounding.

Excise Tax Revenue Assumptions

The results of the seven-year excise tax revenue analysis herein are presented in Table IV-4.

The following assumptions and calculations were used in RCG's analysis:

- Fair Market Value: Fair market value the wholesale level is assumed equal the *Average Market Rate Recommendations for Flower and Trim*, published by the Colorado Department of Revenue[1], weighted by the Packaged Weight volumes. The Colorado Flower Rate recommendation is $1,816/pound ("lb") and 147,702.956 total package weight lbs were harvested in 2015. The Colorado Trim Rate recommendation is $505/lb and 89,190.425 total package weight lbs were harvested in 2015. The fair market value at wholesale is

[1] https://www.colorado.gov/pacific/sites/default/files/AverageMarketRate.pdf .

assumed equal to $1,322.41/lb, the weighted average of the Colorado's recommended Flower rate and the recommended Trim Rate.

- Wholesale Sale: Wholesale sales of marijuana are assumed equal to the pounds of marijuana sold at retail.

- Excise Tax Rates: Under Section 15 of the Initiative, the excise tax rate is set at 15 percent of the fair market value at wholesale of the marijuana.

D. BUSINESS LICENSES AND APPLICATION FEES ESTIMATE

Under Section 12 of the Initiative, *Fee Schedule*, each applicant for a marijuana establishment license must pay a one-time application fee of $5,000 and they may be required to pay an annual licensing fee. Annual licensing fees vary by segment of the marijuana market. Business License and application fees are estimated for retail stores, manufacturing facility and cultivation facilities. The Initiative also sets licensing fees for marijuana testing labs and marijuana distributor analysis assumes the existing Nevada testing labs and distributors will absorb the demand for marijuana testing and marijuana distribution services that will be generated by the Initiative.

We estimate 696 licenses will potentially be issued during the seven-year period of our analysis (127 retail store licenses, 177 manufacturing facility licenses and 392 cultivation facility licenses). Total application fees are estimate to be $3,478,428 (see Table IV-5) during the period.

Table IV-5: Total Application Fee Revenues from the Initiative: 2018-2024

First-Time Marijuana License Issues	Value
Retail Store	127
Manufacturing Facility	177
Cultivation Facility	392
Total Initial Marijuana Licenses Issued	696
Times: One-Time Application Fee	$5,000
Application Fee Revenue – 7 Years	**$3,478,428**

Sources: RCG Economics, MPG, IMPLAN, NV Department of Taxation.

RCG estimates that during the seven-year period of our analysis, the Initiative will generate $47,186,595 in Nevada business licensing fees. We estimate that 34 percent of licensing fees ($16,067,758) will be generated by first-time license issuances and 66 percent of licensing fees ($31,118,837) will be generated by license renewal fees (See Table IV-6).

Table IV-6: Total License Fee Revenues from the Initiative: 2018-2014

Licenses & Fees	First-Time Licenses	Renewal Licenses	Total Licenses
Retail Store License Fees			
Retail Store Licenses	127	762	889
Times: License Fees	$20,000	$6,600	
Retail License Fees Paid	$2,540,000	$5,029,200	$7,569,200
Manufacturing Facility License Fees			
Manufacturing Facility Licenses	177	1,023	1,200
Times: License Fees	$10,000	$3,300	
Manufacturing License Fees Paid	$1,766,404	$3,377,029	$5,143,433
Cultivation Facility License Fees			
Cultivation Facility Licenses	392	2,271	2,663
Times: License Fees	$30,000	$10,000	
Cultivator License Fees Paid	$11,761,354	$22,712,608	$34,473,962
License Fees Paid	$16,067,758	$31,118,837	$47,186,595
License Fee Revenue – 7 Years			**$47,186,595**

Sources: RCG Economics, MPG, IMPLAN, NV Department of Taxation. Numbers may not calculate exactly due to rounding.

Business Licenses and Application Fee Assumptions

The following assumptions and calculations were used in the analysis:

- License Approvals for Retail Stores: Section 10.5(d) (1)-(4) sets the maximum number of approvable retail marijuana licenses, based on county population levels. "A retail license may be granted if there are not more than:

  - 80 licenses already issued in a county with a population greater than 700,000 people;
  - 20 licenses already issued in a county with a population that is less than 700,000 but more than 100,000;
  - Four licenses already issued in a county with a population that is less than 100,000 but more than 55,000;
  - Two licenses already issued in a county with a population that is less than 55,000."

Upon request of a county government, Nevada may issue additional retail marijuana store licenses in that county. We have assumed that additional retail marijuana licenses are not granted within the seven-year period of our analysis.

- License Approvals for Manufacturing and Cultivation: The Initiative does not restrict the number of licenses that may be issued for marijuana manufacturing nor marijuana cultivation.

- License Demand: The Consultant Team has analyzed the ratio of issued licenses to the population of individual 21+ years of age in the State of Washington ("Washington"). There are currently (as of June 28, 2016) 390 issued licenses for retail stores, 410 licenses issued for manufacturing facilities and 910 licenses issued for cultivation facilities in the state.[2] The estimated 21+ population in Washington as of July 1, 2016 is 5,332,611. We assume:

  - One license for a retail store will be issued for every 13,673 people that are 21+ years of age;
  - One license will be issued for manufacturing for every 13,006 people that are 21+ years of age; and
  - One license for cultivation will be issued for every 5,860 people that are 21+ years of age.

  Based on the expected population in each of Nevada' counties, the Consultant Team has estimated that demand for retail store licenses will exceed the maximum allowable licenses under Section 10.5(d) of the Initiative. One hundred twenty seven (127) retail store licenses will be issued/renewed each year during the seven-year period of our analysis. The number of issued licenses for manufacturing and cultivation are not constrained.

- Application Fees: Under Section 12.1 of the Initiative, each applicant for a marijuana establishment license must pay a one-time application fee of $5,000.

- Business License Fees: Under Section 12.2 of the Initiative, annual licensing fees for retail stores are $20,000 for the first year and $6,600 for each annual renewal. Annual licensing fees for manufacturing facilities are $10,000 for the first year and $3,300 for each annual

[2] http://www.liq.wa.gov/publications/Public_Records/2016%20-%20MJ%20Applicants/MarijuanaApplicants06282016.xls.

renewal. Annual licensing fees cultivation facilities are $30,000 for the first year and $10,000 for each annual renewal.

E. COMMERCE TAX ESTIMATE

In Nevada, a commerce tax is required to be paid by a business entity engaging in business in the State. The commerce tax is applied to the "amount obtained by subtracting $4,000,000 from the Nevada gross revenue of the business entity for the taxable year and multiplying that amount by the rate set forth in NRS 363C.310 to 363C.550, inclusive, for the business category in which the business entity is primarily engaged" (NRS 363C.300). Under NRS 363C.097 "the business entity shall be deemed to be primarily engaged in the business category in which the highest percentage of its Nevada gross revenue is generated."

RCG's commerce tax analysis is focused on the revenue generated by marijuana business, business that are retailers, manufacturers, cultivators or a mix of the three types of marijuana businesses. Table IV-7 below lists the current applicable commerce taxes by industry in which the business entity may be primarily engaged.

Table IV-7: Applicable Commerce Tax Rates

Description	Tax Rate
Marijuana Retailers (NAICS: Retail Trade)	0.111%
Marijuana Manufacturers (NAICS: Manufacturing)	0.091%
Marijuana Cultivators (NAICS: Agriculture)	0.063%

Sources: NV Department of Taxation.

In summary, our analysis show that total potential commerce tax collections for the expected types of marijuana businesses will total $520,736 over the seven-year analysis period (see Table IV-8 below). Detailed results of the commerce tax revenue analysis are presented in Appendix D.

Table IV-8: Total Commerce Tax Revenue, by Type of Business

Business Types	Value
Commerce Tax Revenue Paid by Businesses with Only One License that is Retail	$57,628
Commerce Tax Revenue Paid by Businesses with Only One License that is Manufacturing	$0
Commerce Tax Revenue Paid by Businesses with Only One License that is Cultivation	$0
Commerce Tax Revenue Paid by Businesses with Multiple Licenses that are Only Retail	$460,880
Commerce Tax Revenue Paid by Businesses with Multiple Licenses that are Only Manufacturing	$0
Commerce Tax Revenue Paid by Businesses with Multiple Licenses that are Only Cultivation	$0
Commerce Tax Revenue Paid by Businesses with Retail and Cultivation Licenses	$2,228
Commerce Tax Revenue Paid by Businesses with Cultivation and Manufacturing Licenses	$0
Total Nevada Commerce Tax Revenue Collected – 7 Years	***$520,736***

Sources: RCG Economics, MPG, IMPLAN, Washington Liquor and Marijuana Board.

Commerce Tax Assumptions

The following assumptions and calculations were used in our analysis:

- Active Marijuana Licenses: Data[3] on marijuana licensing indicate that a minority of licenses issued under the Initiative will not actively generate revenue. Our analysis of license data in Washington indicated that we can expect 83 percent of licensed manufacturing facilities, and 80 percent of licensed cultivation facilities to actively generate revenue. For example, about 87 percent of retail licenses in Washington become active. After applying the 87 percent license activation rate to Nevada's individual counties, we estimate that, on average, 89 percent of retail licenses issued in Nevada will potentially be actively generating revenue. The estimate of issued licenses that become active under the Initiative is shown in Table IV-9 and Table IV-10 below.

Table IV-9: Active Marijuana Licenses

Marijuana License Types	Total Facilities Granted Licenses	Active License Rate	Total Active Granted Licenses
Retail Stores Licenses	127	89%	113
Manufacturing Facilities Licenses	177	83%	147
Cultivation Facilities Licenses	392	80%	314
Total Licenses	696	82%	574
Active Marijuana Business Licenses Granted			**574**

Sources: RCG Economics, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

[3] http://www.liq.wa.gov/publications/Public_Records/2016%20-%20MJ%20Applicants/MarijuanaApplicants06282016.xls.

Table IV-10: Active License by Nevada County and Nevada

County	Retail Licenses Issued	Percent Active	Active Retail Licenses
Carson City	3	87%	3
Churchill	1	87%	1
Clark	81	87%	70
Douglas	3	87%	3
Elko	3	87%	3
Esmeralda	1	87%	1
Eureka	1	87%	1
Humboldt	1	87%	1
Lander	1	87%	1
Lincoln	1	87%	1
Lyon	3	87%	3
Mineral	1	87%	1
Nye	3	87%	3
Pershing	1	87%	1
Storey	1	87%	1
Washoe	21	87%	18
White Pine	1	87%	1
Nevada	**127**	**89%**	**113**

Sources: RCG Economics, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

- "Integrated" Businesses: Marijuana businesses are often integrated.[4] In Washington, 25 percent of marijuana retail licenses are integrated; 98 percent with other retail stores and two percent with a cultivation facility. Ninety two (92) percent of marijuana manufacturing licenses are integrated; two percent with other manufacturing facilities and 98 percent with a cultivation facility. Ninety seven (97) percent of cultivation licenses are integrated; two percent with other cultivation facilities, one percent with a retail license and 97 percent with another cultivation facility. Table IV-11 and Table IV-12 show these percentages.

Table IV-11: Percentage of Active Licenses Integrated with Other License Types

Marijuana License Types	Percent of Licenses Held by Businesses Holding Multiple Licenses	Percent of Licenses Held by Businesses Holding a Single Licenses	Total
Retail Store Licenses	25%	75%	100%
Manufacturing Facility Licenses	92%	8%	100%
Cultivation Facility License	43%	57%	100%

Sources: RCG Economics, Washington Liquor and Marijuana Board.

[4] Ibid.

Table IV-12: Percent of Active Licenses Held by Single Businesses

Licenses, by Business Type	Percent by Type of License Held by a Single Business			
	Same Type of License	Retail and Cultivator	Manufacturer and Cultivator	Total
Retail Store Licenses	98%	2%	N/A	100%
Manufacturing Facility Licenses	2%	N/A	98%	100%
Cultivation Facility Licenses	2%	1%	97%	100%

Sources: RCG Economics, Washington Liquor and Marijuana Board.

When the same business hold only multiple retail business licenses, the average number of licenses held by the business is 2.1. When a business holds only multiple manufacturing business licenses, the average number of licenses held is 1.25. When a business holds multiple cultivation business licenses, the average number of licenses held is 1.2.

When a business holds active retail and active cultivation business licenses, it holds one of each license type, on average. When a business holds active manufacturing and active cultivation business licenses, it holds one of each license type, on average.

The data do not support the assumption that a business will hold retail and manufacturing licenses, nor do they support an assumption that a business will hold all three license types. Table IV-13 shows the license counts held by single businesses.

Table IV-13: Expected Number of Active Business Licenses Held by a Single Business

Licenses, By Type	Average Number of Integrated License Held by a Single Business		
	Same Type	Retail and Cultivator	Manufacturer and Cultivator
Retail Store Business Licenses	2.10	1.00	N/A
Manufacturing Facility Business Licenses	1.25	N/A	1.00
Cultivation Facility Business Licenses	1.20	1.00	1.00

Sources: RCG Economics, Washington Liquor and Marijuana Board.

F. MODIFIED BUSINESS TAX ESTIMATE

In Nevada, a modified business tax is required to be paid by a business entity engaging in a business in the State. The modified business tax is imposed "on each employer at the rate of 1.475 percent of the amount by which the sum of all the wages, as defined in NRS 612.190, paid by the employer during a calendar quarter with respect to employment in connection with the business

activities of the employer exceeds $50,000" (NRS 363B.110.1). Businesses are entitled to subtract modified business tax due an amount equal to 50 percent of the commerce tax paid in the preceding year, and the deduction may only be applied for any of the four calendar quarters following the end of the preceding for which the commerce tax was paid (NRS 363B.110.4).

Our analysis has shown that total modified business tax revenue for the expected types of marijuana businesses will potentially total $8,279,702 over the seven-year analysis period (see Table IV-14 below).

Table IV-14: Total Nevada Modified Business Tax Revenue

Business Types	Value
Total Modified Business Taxes Due by Businesses with Only One License that is Retail	$4,100,753
Modified Business Taxes Paid by Businesses with Only One License that is Manufacturing	$80,596
Modified Business Taxes Paid by Businesses with Only One License that is Cultivation	$0
Modified Business Taxes Paid by Businesses with Multiple Licenses that are Only Retail	$1,440,503
Modified Business Taxes Paid by Businesses with Multiple Licenses that are Only Manufacturing	$29,670
Modified Business Taxes Paid by Businesses with Multiple Licenses that are Only Cultivation	$0
Modified Business Taxes Paid by Businesses with Retails and Cultivation Licenses	$33,704
Modified Business Taxes Paid by Businesses with Cultivation and Manufacturing Licenses	$2,594,476
Total Nevada Modified Business Taxes Paid – 7 Years	***$8,279,702***

Sources: RCG Economics, MPG, IMPLAN, Washington Liquor and Marijuana Board.

Modified Business Tax Assumptions

The following assumptions and calculations were used in RCG's analysis:

- Deduction for Commerce Taxes Paid: For the purpose of our analysis, we deduct 50 percent of the annual commerce tax paid from the modified business tax due pursuant to NRS 363B.110.1. This deduction is made at the bottom of the calculations shown in the tables in Appendix D. Pursuant to NRS 363B.110.2, the deduction is only applied to the last six years of the seven-year analysis period. In the first year of the analysis there are no prior commerce tax payments made by business for which deductions may be made against the modified business tax during the second year of the analysis.

A. APPENDIX A: PRICE ANALYSIS DETAILS

A. PRICE ANALYSIS

In order to determine the price premium for marijuana in Colorado tourist areas, MPG examined the online menus of four dispensaries in tourist areas with the menus of six recreational dispensaries in the Front Range region of the state. It compared the average price for a single gram of bud across all strains, pre-roll joints, and marijuana-infused edibles containing 10mg of THC. MPG also examined transaction data from the Colorado Department of Revenue, comparing the average price per gram in tourist counties to the price in Front Range counties[1].

Figure A-1: Total (New & Rehab) Economic Benefits from FRI: 2017-2027

Location	Avg Menu Price for 1 Gram (All Bud Types)	Avg Menu Price for Pre-Roll Joints	Avg. Menu Price for 10mg Edibles	Avg 2015 Per Gram Transaction Price
Front Range Location #1	$13.20	$10.00	$5.80	-
Front Range Location #2	$17.10	$10.00	$7.00	-
Front Range Location #3	$17.30	$15.00	$6.70	-
Front Range Location #4	$15.80	-	$7.30	-
Front Range Location #5	$16.60	$10.00	$5.00	-
Front Range Location #6	$15.60	$10.00	$6.80	-
Average Non-Tourist Location Prices	**$15.93**	**$11.00**	**$6.43**	**$9.43**
Tourist Location #1	$20.50	$15.00	$7.50	-
Tourist Location #2	$24.90	$15.00	$6.70	-
Tourist Location #3	$22.00	$7.00	$9.00	-
Tourist Location #4	$20.40	$15.00	$7.90	-
Average Tourist Location Prices	**$21.95**	**$13.00**	**$7.78**	**$11.11**
Tourism Premium	**37.8%**	**18.2%**	**20.9%**	**17.8%**
			AVERAGE	23.7%

###

[1] Tourist counties include Archuleta, Eagle, Grand, Gunnison, La Plata, Pitkin, Routt, San Miguel, and Summit. Front Range counties include Adams, Arapahoe, Boulder, Denver, El Paso, Jefferson, Larimer, Pueblo, and Weld.

B. APPENDIX B: EBA MODEL TECHNICAL DESCRIPTION

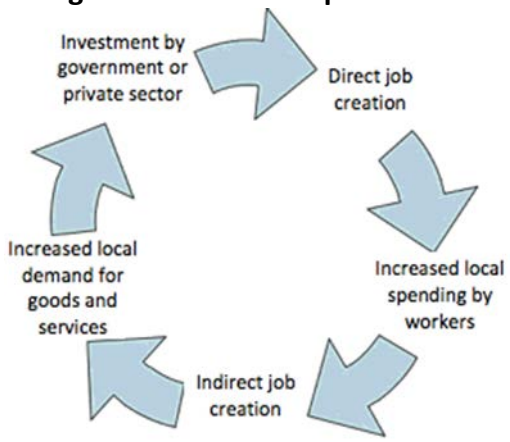
A. THE MARIJUANA IMPACT MODEL ("MIM") – TECHNICAL DESCRIPTION

The marijuana impact model is an economic Input-Output model that incorporates the marijuana industry's size, structure, and unique employment characteristics into the state economy. Input-Output models are used to link each sector in an economy to other sectors, through purchases of intermediate inputs and final demand spending. This interconnected spending creates a multiplicative effect, where spending upon a specific sector creates an "output multiplier" where total state output is increased by more than the original spending amount. The relative size and nature of a legalized marijuana market will significantly influence its overall impact on the state economy.

Nevada-Specific Output and Employment Multipliers

An output multiplier shows how much the state economy grows in response to a change in spending for a particular economic activity, product or service. The notion of a multiplier comes from Leontief Input-Output analysis, which shows how spending flows from the customer purchase (called the direct impact), through intermediate suppliers (called the indirect impact), and finally through the hands of employees from that sector, who spend their money on general goods and services (called the induced effect). When combined, these three impacts represent the "economic multiplier" for a particular industry in Nevada.

Figure B-1: The Multiplier Effect



Source: MPG.

This impact is different for every industry. Products that are imported do not generate large output multipliers, because most of the spending is remitted to the out-of-state producer.

The marijuana industry is unique because sales of marijuana are exclusive to in-state producers. Retailers and manufacturers are required to purchase all of their marijuana inputs from in-state suppliers. For this reason, the marijuana industry in Colorado has a relatively large multiplier[1].

The marijuana industry profile is based upon the most refined market in the country – Colorado. The current law in Colorado requires all licensees, owners and workers to be state residents[2]. Therefore, all profits and wages generated by the industry are remitted entirely to state residents. The fact that proprietors and employees are in-state residents shifts up the "induced" portion of the multiplier for all three segments.

New Colorado legislation passed in 2016 will waive this requirement. The industry profile will be re-structured for subsequent years, as needed. The original in-state requirement was intended to help small marijuana businesses, but it ended up limiting funding options for them by restricting the supply of potential investors.

Table 3 shows the estimated direct, indirect, and induced impact multipliers for Nevada. The multiplier can be compared to other industries in the state. The aggregate output multiplier for marijuana retailing equals 2.33, which likely ranks relatively high in Nevada. The driving factor is a high RPC, and a large induced effect.

Table B-1: Direct, Indirect, and Induced Effects for the Marijuana Industry

Nevada Output Multipliers	Direct	Indirect	Induced	Total
Marijuana Retailing	1.00	0.78	0.55	2.33
Marijuana Cultivation	1.00	0.32	0.53	1.85
Marijuana Infused Products	1.00	0.65	0.46	2.12

Source: MPG calculations and comparative IMPLAN sector multipliers.

[1] More technically, the "Regional Purchase Coefficient" for this industry is close to one, because the main ingredient for retail stores and manufacturers (marijuana flower and trim) must be purchased exclusively within the state of Colorado.
[2] This requirement will be relaxed and Colorado will allow out-of-state ownership of minority stakes in businesses.

The multiplier is smallest for cultivators. This is because all of their intermediate demand is for regular goods and services. On the other hand, the largest input for retailers and infused manufacturers is the cultivated marijuana, which is obtained 100 percent in state.

Input-Output Table Construction

In order to compute the output multipliers above, the specific linkages for Nevada must be constructed using an Input-Output table. The Nevada Input-Output dataset has been extended by the MPG to include the marijuana industry. An aggregated version of the so-called "direct requirements" table is shown below, in order to highlight that both the size of the industry, and the production structure, are needed in order to construct a true and accurate model. Note that retailing, cultivation, and manufacturing for marijuana must be combined with all other sectors in the economy. But at the same time, the outputs from marijuana cultivations and manufacturers are sold exclusively to marijuana retailers.

Table B-2: Marijuana-Based Input-Output Table -- Aggregated from 120 sectors for Exposition Purposes

	Traditional Economic Sectors					Marijuana Industires			Traditional Economic Sectors				
	Financial Services	Agriculture, Forestry, Livestock	Oil, Mining, Gas &	Construction	Food & Beverage	Marijuana Retailing	Marijuana Cultivation	Marijuana Manufacturing	Light & Heavy Manufact	Communications & Post	Transport & Distribution	Other Services	Government and Non-Profits
Financial Services	28.2%	4.6%	1.5%	1.5%	0.7%	X.X%	3.2%	3.4%	0.7%	1.2%	3.7%	2.7%	15.7%
Agriculture	0.0%	13.8%	0.1%	0.2%	5.4%	X.X%	X.X%	x.x%	0.1%	0.0%	0.0%	0.0%	0.0%
Livestock	0.0%	0.5%	0.0%	0.0%	24.9%	X.X%	X.X%	x.x%	0.0%	0.0%	0.0%	0.0%	0.0%
Forestry	0.0%	0.0%	0.0%	0.0%	0.1%	X.X%	X.X%	x.x%	12.7%	0.0%	0.0%	0.0%	0.0%
Fishing	0.0%	0.0%	0.0%	0.0%	0.2%	X.X%	X.X%	x.x%	0.0%	0.0%	0.0%	0.0%	0.0%
Agriculture, Forestry,	0.0%	14.3%	0.1%	0.2%	30.6%	X.X%	X.X%	x.x%	12.8%	0.0%	0.0%	0.0%	0.0%
Oil-Gas Min	0.0%	0.0%	4.8%	0.0%	0.0%	X.X%	X.X%	x.x%	0.0%	0.0%	0.4%	0.0%	0.0%
Mining	0.0%	0.4%	0.2%	0.9%	0.1%	X.X%	X.X%	x.x%	0.0%	0.0%	0.0%	0.0%	0.0%
Power Gen	0.2%	1.6%	0.5%	0.4%	1.1%	X.X%	X.X%	x.x%	1.2%	0.2%	0.3%	0.1%	0.4%
Gas Distri	0.0%	0.5%	0.5%	0.1%	1.0%	X.X%	X.X%	x.x%	0.4%	0.2%	0.2%	0.0%	0.2%
Water Svc	0.0%	0.9%	0.0%	0.1%	0.1%	X.X%	X.X%	x.x%	0.1%	0.1%	0.1%	0.0%	0.2%
Oil, Mining, Gas & Water	0.2%	3.3%	6.0%	1.4%	2.3%	X.X%	X.X%	x.x%	1.6%	0.6%	1.0%	0.2%	0.8%
Construction	0.6%	0.5%	2.7%	0.1%	0.5%	X.X%	X.X%	x.x%	0.6%	1.1%	1.1%	0.2%	1.2%
Food Process	0.0%	0.1%	0.0%	0.0%	22.2%	X.X%	X.X%	x.x%	0.0%	0.0%	0.0%	0.0%	0.2%
Beverages	0.0%	0.0%	0.0%	0.0%	0.8%	X.X%	X.X%	x.x%	0.0%	0.0%	0.0%	0.0%	0.1%
Food & Beverage	0.0%	0.1%	0.0%	0.0%	23.0%	X.X%	X.X%	x.x%	0.0%	0.0%	0.0%	0.0%	0.3%
Marijuana Retail						X.X%							
Marijuana Grow						X.X%		X.X%					
Marijuana Manu						X.X%							
Textiles	0.0%	0.2%	0.0%	0.3%	0.1%	0.0%	0.4%	0.1%	0.8%	0.0%	0.0%	0.0%	0.4%
Wood Manu	0.0%	0.2%	0.0%	2.2%	0.0%	X.X%	X.X%	x.x%	19.3%	0.1%	0.1%	0.1%	0.1%
Paper-Print-Pub	0.4%	0.1%	0.2%	0.3%	3.1%	X.X%	X.X%	x.x%	0.6%	0.1%	0.1%	2.5%	1.0%
Chemical Refine	0.1%	16.5%	2.1%	5.5%	1.3%	X.X%	X.X%	x.x%	1.9%	0.4%	9.5%	0.5%	0.5%
Manufacturing	0.0%	1.4%	4.7%	14.4%	2.6%	X.X%	X.X%	x.x%	5.4%	1.0%	1.8%	1.1%	0.6%
Electrical Goods	0.2%	0.1%	0.1%	3.2%	0.2%	X.X%	X.X%	x.x%	2.0%	2.6%	0.3%	1.5%	0.2%
Transport Goods	0.0%	0.3%	0.4%	0.9%	0.1%	X.X%	X.X%	x.x%	0.5%	0.1%	2.6%	0.1%	0.5%
Furniture	0.0%	0.0%	0.0%	1.4%	0.0%	X.X%	X.X%	x.x%	1.3%	0.0%	0.0%	0.0%	0.0%
Light & Heavy	0.8%	18.8%	7.6%	28.2%	7.4%	X.X%	X.X%	x.x%	31.7%	4.3%	14.4%	5.8%	3.3%
Communications	2.8%	0.1%	0.3%	1.1%	0.4%	X.X%	X.X%	x.x%	0.9%	12.4%	0.9%	1.5%	1.6%
Transport Svc	0.8%	2.1%	0.7%	1.6%	4.2%	X.X%	X.X%	x.x%	4.9%	0.6%	8.2%	1.7%	1.9%
Whsl/Retail	0.1%	2.3%	0.7%	5.4%	4.0%	X.X%	X.X%	x.x%	4.7%	0.3%	1.0%	1.1%	0.5%
Transport & Distribution	0.9%	4.4%	1.4%	7.1%	8.2%	X.X%	X.X%	x.x%	9.6%	1.0%	9.2%	2.8%	2.4%
Information Process	0.2%	0.0%	0.0%	0.0%	0.0%	X.X%	X.X%	x.x%	0.0%	4.7%	0.0%	7.5%	0.8%
Recreation Act.	0.5%	0.0%	0.1%	0.1%	0.2%	X.X%	X.X%	x.x%	0.3%	0.3%	0.0%	0.6%	0.4%
Other Svc	15.2%	11.9%	11.9%	13.8%	9.3%	X.X%	X.X%	x.x%	9.4%	13.0%	11.1%	22.7%	15.9%
Other Services	15.9%	11.9%	12.0%	13.9%	9.5%	X.X%	X.X%	x.x%	9.7%	18.0%	11.2%	30.8%	17.0%
Non-prof Org	0.6%	0.1%	0.1%	0.3%	0.1%	X.X%	X.X%	x.x%	0.1%	0.3%	1.1%	0.5%	0.7%
State-Fed Gov	0.7%	0.0%	0.0%	0.0%	0.0%	X.X%	X.X%	x.x%	0.0%	0.0%	0.0%	0.0%	0.0%
Government & Non-	1.3%	0.1%	0.1%	0.3%	0.1%	X.X%	X.X%	x.x%	0.2%	0.3%	1.1%	0.5%	0.7%
Bus Taxes	1.7%	1.8%	8.4%	0.6%	0.3%	X.X%	X.X%	x.x%	0.7%	5.8%	3.9%	1.1%	0.0%
Payrolls	24.5%	11.2%	15.4%	27.3%	9.3%	X.X%	X.X%	x.x%	11.9%	16.7%	33.9%	23.8%	46.6%
Dwellings	3.9%	-23.9%	17.2%	-32.9%	-73.2%	X.X%	X.X%	x.x%	-46.2%	14.5%	-17.5%	-9.7%	-14.5%
Rent and Cost of Capital	20.9%	28.9%	43.9%	18.2%	7.6%	X.X%	X.X%	x.x%	19.4%	37.2%	16.7%	29.1%	10.2%
Misc. Expenses	2.2%	0.0%	0.5%	0.0%	0.2%	X.X%	X.X%	x.x%	0.0%	1.4%	2.8%	1.3%	0.0%
Total Spending:	100%	100%	100%	100%	100%	100.0%	100.0%	100.0%	100%	100%	100%	100%	100%

Source: MPG.

The unique production structure for each sector in an economy is derived from data that is collected by the federal, state, and local government. The primary data source for the non-marijuana data is the US Bureau of Economic Affairs ("BEA"). The BEA constructs highly detailed Input-Output tables for each sector of the economy. Economists use these Input-Output tables to perform regional input-output modeling across a wide variety of activities.

However, since marijuana is a federally illegal "Schedule 1" narcotic, the BEA does not collect or construct data related to its cultivation, processing, or distribution. Until 2014, the market for marijuana was restricted to medical patients, and inventories were not consistently monitored using a standardized seed-to-sale tracking system. Due to this lack of data, it was impossible to estimate how the medical marijuana industry impacted the state economy. At the same time, all

registered businesses must have a federally-assigned "EIN" (Employer Identification Number) and must register to pay unemployment insurance and workers' compensation insurance. This data can be combined with private-side data in order to construct the model.

Calculation of Output and Employment Multipliers

Once the marijuana-specific tables are constructed, the industry-specific multipliers can be computed using standard I-O techniques. This process is described next.

- The Input-Output table is combined with a table of Regional Purchase Coefficients ("RPCs") that have been originally constructed by the BEA. These RPCs indicate the share of each intermediate input that is purchased from within the state of Nevada, versus inputs that are purchased from outside of Nevada. For example, the RPC for most manufactured goods is approximately 12 percent. This indicates that approximately 88 percent of manufactured goods that are purchased by business and residents in Nevada come from outside of the state. Of course, all purchases of marijuana inputs have an RPC of 100 percent. However, intermediate inputs for marijuana cultivators, and for non-marijuana products can be purchased normally. Thus, the non-marijuana purchases utilize standard RPCs for the rest of the economy.

- The output multiplier is computed by using the standard I-O formula. This formula reflects the share of spending for each intermediate input, or household purchase. Subsequent spending by intermediate suppliers and by employees are included as well. The culmination of this spending can be represented using an infinite-series. The sum of this series can be concisely written using the equation below:

$$X = [I - A]^{-1} Y$$

  Each element of the equation is a matrix or vector. X represents the total change in output, the symbol I is the Identity matrix, A is the Direct Requirements Table and Y is a vector representing the change in spending for different sectors. For example, if Y = $1.00 of spending on marijuana retailing, then X would equal $2.33 dollars, using the current model. This is the sum of changes in output for all sectors in the economy, in addition to the original $1 dollar of spending.

- The employment multiplier is computed by combining the output multiplier together with sector-level employment ratios. The change in output for each sector is computed using the infinite series described above. Once the total change in output is computed for each sector, then the employment ratios are applied. A hypothetical example shows this process below.

Table B-3: Conversion of Output Impact into Employment Changes, Full-Time Equivalent (FTE)

	Change in Output	Employees per $1 Million	Change in FTE Employment
Finance	$260,000,000	2.4	624
Agriculture	$14,000,000	1.9	27
Marijuana Retail	$200,000,000	5.7	1,140
Services	$100,000,000	4.4	440
Total:	$574,000,000	N/A	2,231

Source: MPG.
Note: Figures are for expositional purposes only and are not actual changes or ratios.

Table B-3 shows how changes in output are converted into changes in employment. Notice that each sector has a specific ratio of employment per dollar of output. Some sectors are more labor intensive than others, and therefore reflect a higher employment ratio. Marijuana retailing is relatively labor-intensive, and has a relatively high employment ratio compared to the state average. However, most of these positions are typical sales positions, which have below-average wages and few non-payroll benefits[3].

Comparison of MPG Results with Other Recent Studies

Because this topic is important, a number other studies have attempted to quantify the impact of legalization. This section considers selected studies and compares their results to those produced by the MPG.

Each study was forced to make simplifying assumptions, due to a lack of data. As a result, some studies tended to over-estimate the impact of legal marijuana, while other studies under-estimated the impact.

[3] These calculations implicitly assume that there are no economies of scale, and that the ratio of workers to output does not change as spending grows. This is a general limitation of linear-type Input-Output models. A more sophisticated employment model could use more realistic non-linear assumptions.

- Study #1, written by a Denver-area consultancy in 2014, uses the IMPLAN model (a popular I-O model and dataset). Because "marijuana sales" does not exist in the IMPLAN dataset, the authors used the general retail sector as a proxy industry. The results of this study therefore under-estimated the output and employment caused by marijuana sales, by approximately 40 percent.

- Study #2, written by New Frontier, a financial services company that serves the marijuana industry, did not use an Input-Output model at all. Instead, the study combines anecdotal observations together with official sales figures, and then assumes that they are fundamental relationships. For example, the New Frontier authors state that "the market in 2020 will be $80 Billion USD" for adult-use and medical marijuana. However, this declaration incorrectly assumes that the US market growth is inherent demand, rather than a shift between black markets and regulated markets. As a result, their projections grossly over-estimate potential sales over the medium term.

- Study #3, by New Economy, a consulting services firm based in Portland, Oregon, estimates the total employment caused by marijuana legalization in the state. This study is focused upon employment, rather than output, and therefore does not rely upon an I-O model to generate results. Instead, the study relies upon a survey of existing marijuana dispensaries that asks questions about their employee count, and whether new employees were hired after adult-use marijuana was legalized. The report findings represent a summary of those results, and a linear projection of employment if sales grow further in the state. The last chapter of this study mentions use of the IMPLAN model, but does not supply specific details regarding the inputs or outputs of that exercise.

- Study #4, by First Bank of Canada, reflects the lack of official data and the inability to discern credible research apart from blind speculation. The study uses a combination of data pieces from Colorado, Victoria BC and Statistics Canada to estimate potential sales and tax revenues when adult-use cannabis is legalized in Canada. In doing so, the authors over-estimated potential tax revenues by a gross margin -- approximately 500 percent. During the first year of legalization, tax revenues in Colorado, Washington, and Oregon were approximately $23, $18, and $6 per resident.4 In contrast the First Bank study suggests

[4] Indicates total excise and sales tax revenues for the first "representative" 12 months after legal markets were opened, divided by the total population of the state. Oregon's estimate is extrapolated from the first 2 months of taxation in 2016.

that tax revenues will equal CA$5 Billion after legalization, or more than CA$200 per resident.

The study findings were released and published by all major newspapers in Canada and among the marijuana-specific publications in the United States.

This survey of alternative studies reveals two important issues related to marijuana legalization. First, there is a clear need for economic studies that can clearly explain how marijuana legalization impacts state budgets, employment, and output. Second, the marijuana industry and press should be cognizant of how erroneous or misleading reports are so easily published and accepted, due to a lack of credible and transparent quantitative research in the field of marijuana economics. Inaccurate or misleading information can lead to poor policy choices or industry performance and would be generally harmful to the image of the marijuana industry overall.

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C. APPENDIX C: EBA DETAILED RESULTS

A. ECONOMIC BENEFITS ANALYSIS RESULTS

The results for the economic benefits analysis are presented here for each year of the seven-year study period, as well as the total benefits and the average annual benefits for the first seven years of the regulated market.

Table C-1: Total Economic Benefits from Adult-Use Marijuana Industry: 2018-2024

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$3,201,391,017	21,769	$736,319,934
Indirect Benefit	$2,497,084,993	13,766	$406,578,602
Induced Benefit	$1,760,765,059	5,442	$578,085,530
Total Benefits	**$7,459,241,070**	**40,978**	**$1,720,984,066**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

Table C-2: Average Annual Economic Benefits from Adult-Use Marijuana Industry: 2018-2024

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$457,341,574	3,110	$105,188,562
Indirect Benefit	$356,726,428	1,967	$58,082,657
Induced Benefit	$251,537,866	777	$82,583,647
Total Benefits	**$1,065,605,867**	**5,854**	**$245,854,867**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

Table C-3: Total Economic Benefits from Adult-Use Marijuana Industry: 2018

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$393,711,027	2,677	$90,553,536
Indirect Benefit	$307,094,601	1,693	$50,001,539
Induced Benefit	$216,541,065	669	$71,093,674
Total Benefits	**$917,346,693**	**5,040**	**$211,648,749**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

Table C-4: Total Economic Benefits from Adult-Use Marijuana Industry: 2019

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$442,726,263	3,011	$101,827,040
Indirect Benefit	$345,326,485	1,904	$56,226,504
Induced Benefit	$243,499,445	753	$79,944,513
Total Benefits	**$1,031,552,192**	**5,667**	**$237,998,058**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

Table C-5: Total Economic Benefits from Adult-Use Marijuana Industry: 2020

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$460,362,806	3,130	$105,883,445
Indirect Benefit	$359,082,989	1,980	$58,466,356
Induced Benefit	$253,199,543	783	$83,129,201
Total Benefits	**$1,072,645,338**	**5,893**	**$247,479,002**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

Table C-6: Total Economic Benefits from Adult-Use Marijuana Industry: 2021

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$467,092,679	3,176	$107,431,316
Indirect Benefit	$364,332,289	2,008	$59,321,054
Induced Benefit	$256,900,973	794	$84,344,436
Total Benefits	**$1,088,325,941**	**5,979**	**$251,096,805**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

Table C-7: Total Economic Benefits from Adult-Use Marijuana Industry: 2022

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$473,286,530	3,218	$108,855,902
Indirect Benefit	$369,163,493	2,035	$60,107,677
Induced Benefit	$260,307,591	805	$85,462,879
Total Benefits	**$1,102,757,614**	**6,058**	**$254,426,458**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

Table C-8: Total Economic Benefits from Adult-Use Marijuana Industry: 2023

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$479,195,187	3,259	$110,214,893
Indirect Benefit	$373,772,246	2,061	$60,858,080
Induced Benefit	$263,557,353	815	$86,529,825
Total Benefits	**$1,116,524,786**	**6,134**	**$257,602,798**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

Table C-9: Total Economic Benefits from Adult-Use Marijuana Industry: 2024

Impact Type	Spending/Output	Employment	Labor Income
Direct Benefit	$485,016,525	3,298	$111,553,801
Indirect Benefit	$378,312,890	2,086	$61,597,393
Induced Benefit	$266,759,089	825	$87,581,003
Total Benefits	**$1,130,088,504**	**6,208**	**$260,732,197**
Multipliers	***2.33***	***1.88***	***2.34***

Sources: MPG, IMPLAN, RCG Economics.

# # #

D. APPENDIX D: FBA DETAILED RESULTS

A. COMMERCE TAX ESTIMATE

Our fiscal benefits analysis assumes that there are eight business types that will potentially generate revenue in Nevada:

1. Businesses with only one license that is retail;
2. Businesses with only one license that is manufacturing;
3. Businesses with only one license that is cultivation;
4. Businesses with multiple licenses that are retail only;
5. Businesses with multiple licenses that are manufacturing only;
6. Businesses with multiple licenses that are cultivation only;
7. Businesses with retail and cultivation licenses; and
8. Businesses with cultivation and manufacturing licenses.

- Retail Sales per Store: For the purpose of our analysis, we assume that retail stores that operate independently of either other retail stores, cultivation facilities or manufacturing facilities will earn an annual revenue equal to the average annual retail sales per store for the county in which it operates. For a marijuana retail store that operates with either another retail store or a cultivation facility, we used the statewide annual average revenue per store. This assumption has been made to allow for the possibility that businesses holding multiple retail licenses have stores in different counties. Table D-1 shows the annual retail sales per store, by Nevada county, and the State.

Table D-1: Retail Revenue per Store by Nevada County and for the State

County	Total Retail Sales	Years	Active Retail Licenses	Annual Retail Sales per Store
Carson City	$39,602,697	7	3	$1,885,843
Churchill	$17,088,538	7	1	$2,441,220
Clark	$2,652,227,135	7	70	$5,412,708
Douglas	$36,979,926	7	3	$1,760,949
Elko	$36,723,775	7	3	$1,748,751
Esmeralda	$773,544	7	1	$110,506
Eureka	$1,510,804	7	1	$215,829
Humboldt	$10,690,326	7	1	$1,527,189
Lander	$4,004,026	7	1	$572,004
Lincoln	$3,366,996	7	1	$480,999
Lyon	$40,600,787	7	3	$1,933,371
Mineral	$3,509,593	7	1	$501,370
Nye	$32,843,952	7	3	$1,563,998
Pershing	$5,082,281	7	1	$726,040
Storey	$3,553,078	7	1	$507,583
Washoe	$306,327,185	7	18	$2,431,168
White Pine	$6,506,375	7	1	$929,482
Nevada	**$3,201,391,017**	**7**	**113**	**$4,047,271**

Sources: RCG, MPG, IMPLAN.

- Annual Marijuana Manufacturer Revenue: For the purpose of our analysis, we used statewide annual revenue average applied to each manufacturing facility. This assumption was made because manufacturing facilities may supply retail stores across county lines. RCG's research comparing retail store revenue to manufacturing facility revenue in Washington has indicated that, on average, manufacturing facility revenue equals 48 percent of retail store revenue. We assume annual revenue per manufacturing facilities will potentially equal $1,542,839 (see Table D-2).

Table D-2: Manufacturing Facility Revenue per Year

	Value
Total Retail Revenue for 7-Year Period	$3,201,391,017
Divide by: Years in Analysis Period	7
Annual Retail Revenue in Nevada	$457,341,574
Times: Estimated Ratio of Manufacturer-to-Retailer Revenue	48%
Annual Manufacturing Revenue	$219,523,955
Divide by: Average Active Manufacturing Licenses per Year	142
Annual Manufacturing Revenue per Facility	***$1,542,839***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

- Annual Cultivation Revenue: For the purpose of our analysis, we used statewide annual revenue average applied to each cultivation facility. We make the assumption because cultivation facilities may supply retail stores and/or manufacturing facilities across county lines. We have assumed annual revenue per cultivation facility will equal $460,206 (see Table D-3).

Table D-3: Cultivation Facility Revenue per Year

	Value
Total Cultivation Revenue for 7-Year Period	$980,699,157
Divide by: Years in Analysis Period	7
Annual Cultivation Revenue	$140,099,880
Divide by: Average Active Cultivation Licenses per Year	304
Annual Cultivation Revenue per Facility	***$460,206***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

Businesses with only one license that is retail

Our analysis of retail stores, by county, shows that Clark County is the only county where a business with only one retail license will potentially earn annual revenue in excess of the minimum Nevada gross revenue of $4,000,000 set forth in NRS 363C.300. It has been estimated that business with only one retail license will generate $5,412,708, annually. These stores will potentially generate $57,628 in commerce tax revenue over the seven-year analysis period (see Table D-4 below).

Table D-4: Commerce Tax Revenue Generated by Businesses with Only One Retail License, Clark County: 2018-2024

	Value
Annual Commerce Tax Collections per Retail Business in Clark County	
Annual Sales per Retailer Store in Clark County (Table D-1)	$5,412,708
Less: Minimum Nevada Gross Revenue	$4,000,000
Annual Taxable Retail Sales per Store	$1,412,708
Times: Retail Commerce Tax	0.111%
Annual Commerce Tax Collected per Business with Only One Retail License	$1,568
Taxable Active Businesses with Only One Retail License	
Active Retail Licenses in Clark County	7
Times: % of Active Retail Licenses Held by a Business with Only One Retail License	75%
Taxable Active Businesses with Only One Retail License	5
Total Commerce Tax Revenue for Businesses with Only One Retail License	
Annual Commerce Tax Collected per Business with Only One Retail License	$1,568
Taxable Active Businesses with Only One Retail License	5
Times: Years in Analysis Period	7
Commerce Tax Revenue Generated by Businesses with Only One Retail License	***$57,628***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

Businesses with only one license that is manufacturing

We estimate that businesses with only one manufacturing license will be small businesses that does not earn revenue in excess of the minimum Nevada $4,000,000 in gross revenue set forth in NRS 363C.300. RCG has estimated that these business will potentially generate $1,542,839, annually. These facilities will generate $0 in commerce tax revenue over the seven-year analysis period (see Table D-5 below).

Table D-5: Commerce Tax Revenue Generated by Businesses with Only One Manufacturing License

	Value
Annual Commerce Tax Collections per Manufacturing Business	
Annual Manufacturing Revenue per Facility	$1,542,839
Less: Minimum Nevada Gross Revenue	$4,000,000
Annual Taxable Manufacturing Revenue per Facility	$0
Times: Manufacturing Commerce Tax	0.091%
Annual Commerce Tax Collected per Business with Only One Manufacturing License	$0
Taxable Active Businesses with Only One Manufacturing License	
Active Manufacturer Licenses	147
Times: % of Active Manufacturer Licenses Held by Business with Only One Manufacturing License	8%
Active Taxable Businesses with Only a Single Manufacturing License	12
Total Commerce Tax Revenue for Businesses with Only One Manufacturing License	
Annual Commerce Tax Collected per Business with Only One Manufacturing License	$0
Active Taxable Businesses with Only One Manufacturing License	12
Times: Years in Analysis Period	7
Commerce Tax Revenue Generated by Businesses with Only One Manufacturing License	***$0***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

Businesses with only one license that is cultivation

Our analysis estimates that businesses with only one cultivation license will be small businesses that do not earn revenue in excess of the minimum Nevada gross revenue of $4,000,000 set forth in NRS 363C.300. We have estimated that these business will potentially generate $460,206, annually. These businesses will generate $0 in commerce tax revenue over the seven-year analysis period (see Table D-6 below).

Table D-6: Commerce Tax Revenue Generated by Businesses with Only One Cultivation License

	Value
Annual Commerce Tax Collections per Cultivation Business	
Annual Revenue per Cultivation Facility	$460,206
Less: Minimum Nevada Gross Revenue	$4,000,000
Annual Taxable Cultivation Revenue per Facility	$0
Times: Agriculture Commerce Tax	0.063%
Annual Commerce Tax Collected per Business with Only One Cultivation License	$0
Taxable Active Businesses with Only One Cultivation License	
Active Cultivator Licenses	314
Times: % of Active Cultivator Licenses Held by Business with Only One Cultivation License	57%
Active Taxable Businesses with Only One Cultivation License	179
Total Commerce Tax Revenue for Businesses with One Cultivation License	
Annual Commerce Tax Collections per Business with One Cultivation License	$0
Active Taxable Businesses with Only One Cultivation License	179
Times: Years in Analysis Period	7
Commerce Tax Revenue Generated by Businesses with Only One Cultivation License	***$0***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

Businesses with multiple licenses that are retail only

We estimate that businesses with multiple retail licenses will earn revenue in excess of the minimum of $4,000,000 in Nevada gross revenue set forth in NRS 363C.300. We have estimated that these businesses will potentially generate $8,499,268, annually. They will potentially generate $460,880 in commerce tax revenue over the seven-year analysis period (see Table D-7 below).

Table D-7: Commerce Tax Revenue Generated by Businesses with Multiple Retail-Only Licenses

	Value
Businesses with Multiple Retail-Only Licenses	
Total Active Retail Licenses	113
Times: % of Active Retail Licenses Held by a Business with Multiple Licenses	25%
Times: % of Licenses Held by a Business with Multiple Retail-Only Licenses	98%
Divide by: Average Number of Retail Licenses per Business with Multiple Retail-Only Licenses	2.10
Number of Business with Multiple Retail-Only Licenses	13
Annual Commerce Tax Collections per Business with Multiple Retail-Only Licenses	
Annual Retail Revenue per Retail Store (Nevada)	$4,047,271
Times: Average Number of Retail Licenses per Business with Multiple Retail-Only Licenses	2.10
Annual Revenue per Business with Multiple Retail-Only Licenses	$8,499,268
Less: Minimum Nevada Gross Revenue	$4,000,000
Times: Retail Commerce Tax	0.111%
Annual Commerce Tax Collections per Business with Multiple Retail-Only Licenses	$4,994
Total Commerce Tax Revenue for Businesses with Multiple Retail-Only Licenses	
Annual Commerce Tax Collections per Business with Multiple Retail-Only Licenses	$4,994
Times: Number of Business with Multiple Retail-Only Licenses	13
Times: Years in Analysis Period	7
Commerce Tax Revenue Generated by Businesses with Multiple Retail-Only Licenses	***$460,880***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

Businesses with Multiple Manufacturing-Only Licenses

Our analysis estimates that businesses with multiple manufacturing licenses that will not earn revenue in excess of the minimum $4,000,000 in Nevada gross revenue set forth in NRS 363C.300. We have estimated that these businesses that are only will potentially generate $1,928,549, annually. These stores will not generate commerce tax revenue over the seven-year analysis period (see Table D-8 below).

Table D-8: Commerce Tax Revenue Generated by Businesses with Multiple Manufacturing Licenses

	Value
Businesses with Multiple Manufacturing Licenses	
Total Active Manufacturing Licenses	147
Times: % of Active Manufacturing Licenses Held by a Business with Multiple Licenses	92%
Times: % of Licenses Held by a Business with Multiple Manufacturing Licenses	2%
Divide by: Avg. Number of Manufacturing Licenses per Business with Multiple Manufacturing Licenses	1.25
Number of Business with Multiple Manufacturing Licenses	2
Annual Commerce Tax Collections per Business with Multiple Manufacturing Licenses	
Annual Manufacturing Revenue per Manufacturing Facility	$1,542,839
Times: Average Number of Manufacturing Licenses per Business with Multiple Manufacturing Licenses	1.25
Annual Revenue per Business with Multiple Manufacturing Licenses	$1,928,549
Less: Minimum Nevada Gross Revenue	$4,000,000
Times: Manufacturing Commerce Tax	0.091%
Annual Commerce Tax Collections per Business with Multiple Manufacturing Licenses	$0
Total Commerce Tax Revenue for Businesses with Multiple Manufacturing Licenses	
Annual Commerce Tax Collections per Business with Multiple Manufacturing Licenses	$0
Times: Number of Business with Multiple Manufacturing Licenses	2
Times: Years in Analysis Period	7
Commerce Tax Revenue Paid by Businesses with Multiple Manufacturing Licenses	***$0***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

Businesses with Multiple Cultivation-Only Licenses

We estimate that businesses with multiple cultivation-only licenses will not earn revenue in excess of the minimum $4,000,000 in Nevada gross revenue set forth in NRS 363C.300. We have estimated that these businesses will potentially generate $552,247, annually. Accordingly, these facilities will not generate commerce tax revenue over the seven-year analysis period (see Table D-9 below).

Table D-9: Commerce Tax Revenue Generated by Businesses with Multiple Cultivation Licenses

	Value
Businesses with Multiple Cultivation Licenses	
Total Active Cultivation Licenses	314
Times: % of Active Cultivation Licenses Held by a Business with Multiple Licenses	43%
Times: % of Licenses Held by a Business with Multiple Cultivation Licenses	2%
Divide by: Average Number of Cultivation Licenses per Business with Multiple Cultivation Licenses	1.20
Number of Business with Multiple Cultivation Licenses	2
Annual Commerce Tax Collections per Business with Multiple Cultivation Licenses	
Annual Cultivation Revenue per Cultivation Facility	$460,206
Times: Average Number of Cultivation Licenses per Business with Multiple Cultivation Licenses	1.20
Annual Revenue per Business with Multiple Cultivation Licenses	$552,247
Less: Minimum Nevada Gross Revenue	$4,000,000
Times: Cultivation Commerce Tax	0.063%
Annual Commerce Tax Collections per Business with Multiple Cultivation Licenses	$0
Total Commerce Tax Revenue for Businesses with Multiple Cultivation Licenses	
Annual Commerce Tax Collections per Business with Multiple Cultivation Licenses	$0
Times: Number of Business with Multiple Cultivation Licenses	2
Times: Years in Analysis Period	7
Commerce Tax Revenue Paid by Businesses with Multiple Cultivation Licenses	***$0***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

Businesses with Retail and Cultivation Licenses

Our analysis estimates that businesses with retail and cultivation licenses will potentially earn revenue in excess of the minimum $4,000,000 in Nevada gross revenue set forth in NRS 363C.300. We have estimated that these businesses will potentially generate $4,507,477, annually. These businesses will generate $2,228 in commerce tax revenue over the seven-year analysis period (see Table D-10).

Table D-10 Commerce Tax Revenue Generated by Businesses with Retail and Cultivation Licenses

	Value
Retail Licenses Held by a Business Also Holding Cultivation Licenses	
Active Retail Licenses	113
Times: % of Active Retail Licenses Held by Business with Multiple Licenses	25%
Times: % of Active Retail Licenses Held by Businesses Also Holding Active Cultivation Licenses	2%
Number of Retail Licenses Held by Businesses Also Holding Cultivation Licenses	1
Cultivation Licenses Held by a Business Also Holding Retail Licenses	
Active Cultivation Licenses	314
Times: % of Active Cultivation Licenses Held by Businesses with Multiple License Types	43%
Times: % of Active Cultivation Licenses Held by Businesses Also Holding Active Retail Licenses	1%
Number of Cultivation Licenses Held by Businesses Also Holding Retail Licenses	1
Annual Commerce Tax Paid by a Business with Retail and Cultivation Licenses	
Annual Revenue per Retail Store (Nevada Average)	$4,047,271
Plus: Annual Revenue per Cultivation Facility	$460,206
Annual Revenue for Businesses with One Retail License and One Cultivation License	$4,507,477
Less: Minimum Nevada Gross Revenue	$4,000,000
Times: Retail Commerce Tax	0.111%
Annual Commerce Tax Paid by Businesses with Retail and Cultivation Licenses	$563
Total Commerce Tax Revenue Paid by Businesses with Retail and Cultivation Licenses	
Annual Commerce Tax Paid by Businesses with Retail and Cultivation Licenses	$563
Times: Number of Businesses with Retail and Cultivation Licenses	1
Times: Years in Analysis Period	7
Commerce Tax Revenue Paid by Businesses with Retail and Cultivation Licenses	***$2,228***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

Businesses with Cultivation and Manufacturing Licenses

We estimate that businesses with cultivation and manufacturing licenses will be small businesses that will not earn revenue in excess of the $4,000,000 minimum Nevada gross revenue set forth in NRS 363C.300. We have estimated that these businesses will potentially generate $2,003,045, annually. These businesses will generate $0 in over the 7-year analysis period (see Table D-11).

Table D-11: Commerce Tax Revenue Generated by Businesses with Cultivation and Manufacturing Licenses

	Value
Manufacturer Licenses Held by a Business with Cultivation Licenses	
Active Manufacturer Licenses	147
Times: Percent of Active Manufacturer Licenses Held by Businesses with Multiple Licenses	92%
Times: Percent of Active Manufacturer Licenses Held by Businesses Also Holding Active Cultivation Licenses	98%
Number of Manufacturing Licenses Held by Businesses Also Holding Cultivation Licenses	133
Cultivation Licenses held by a Business with Manufacturing Licenses	
Active Cultivation Licenses	314
Times: Percent of Active Cultivation Licenses Held by Businesses with Multiple Licenses	43%
Times: Percent of Active Cultivation Licenses Held by Businesses Also Holding Active Manufacturing Licenses	97%
Number of Cultivation Licenses Held by Businesses Also Holding Manufacturing Licenses	131
Annual Commerce Tax Paid by a Business with Cultivation and Manufacturing License	
Annual Revenue per Manufacturing Facility	$1,542,839
Plus: Annual Revenue per Cultivation Facility	$460,206
Annual Revenue for Businesses with One Cultivation License and One Manufacturing License	$2,003,045
Less: Minimum Nevada Gross Revenue	$4,000,000
Times: Manufacturing Commerce Tax	0.091%
Annual Commerce Tax Paid by Businesses with Cultivation and Manufacturing Licenses	$0
Total Commerce Tax Revenue Paid by Business with Cultivation and Manufacturing Licenses	
Annual Commerce Tax Paid by Businesses with Cultivation and Manufacturing Licenses	$0
Times: Number of Businesses with Cultivation and Manufacturing Licenses	131
Times: Years in Analysis Period	7
Commerce Tax Revenue for Businesses with Cultivation and Manufacturing Licenses	***$0***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

B. MODIFIED BUSINESS TAX ESTIMATE

In Nevada, a modified business tax is required to be paid by a business entity engaging in a business in the State. The modified business tax is imposed "on each employer at the rate of 1.475 percent of the amount by which the sum of all the wages, as defined in NRS 612.190, paid by the employer during a calendar quarter with respect to employment in connection with the business activities of the employer exceeds $50,000" (NRS 363B.110.1). Businesses are entitled to subtract modified business tax due an amount equal to 50 percent of the commerce tax paid in the preceding year, and the deduction may only be applied for any of the four calendar quarters following the end of the preceding for which the commerce tax was paid (NRS 363B.110.4).

Modified Business Tax Assumptions

The results of the modified business tax analysis herein are presented in Table D-12 through Table D-20 below.

The following assumptions and calculations were used in RCG's analysis:

- Deduction for Commerce Taxes Paid: For the purpose of our analysis, we deduct 50 percent of the annual commerce tax paid from the modified business tax due pursuant to NRS 363B.110.1. This deduction is made at the bottom of the calculations shown in Tables D-12 through D-19. Pursuant to NRS 363B.110.2, the deduction is only applied to the last six years of the seven-year analysis period. In the first year of the analysis there are no prior commerce tax payments made by business for which deductions may be made against the modified business tax during the second year of the analysis.

Businesses with only one license that is retail

Our analysis of retail stores shows that all active licensed retail stores will pay quarterly wages in excess of the minimum quarterly wages set forth in NRS 363B.110.1 - $50,000. RCG has estimated that business with only one retail license will pay $167,557 in quarterly wages. These wages, after deducting 50 percent of commerce taxes paid for the previous tax year, will potentially generate $4,076,055 in modified business tax revenue over the seven-year analysis period (see Table D-12 below).

Table D-12: Modified Business Taxes Paid by Businesses with Only One Retail License

	Value
Quarterly Wages Paid by Businesses with Only One Retail License	
Annual Revenue per Business with Only One Retail License	$4,047,271
Times: % of Revenue paid Towards Labor and Proprietors Income	23%
Annual Labor and Proprietors' Income per Retail Store	$930,872
Times: % of Labor and Proprietors' Income Paid Towards Wages[1]	72%
Annual Wages Paid per Business with Only One Retail License l	$670,228
Divide by: Quarters per Year	4
Quarterly Wages Paid per Business with Only One Retail License l	$167,557
Annual Modified Business Taxes Paid by Businesses with Only One Retail License	
Quarterly Wages Paid per Business with Only One Retail License	$167,557
Less: Minimum Quarterly Wages	$50,000
Taxable Quarterly Wages per Business with Only One Retail License	$117,557
Times: Modified Business Tax Rate	1.47%
Quarterly Modified Business Taxes Paid by Businesses with Only One Retail License	$1,728
Times: Quarters per Year	4
Annual Modified Business Taxes Paid by Businesses with Only One Retail License	$6,912
Number of Businesses with Only One Retail License	
Number of Active Retail Stores	113
Times: % of Retail Licenses Held by a Business with Only One Retail License	75%
Number of Businesses with Only One Retail License	85
Total Modified Business Taxes Paid by Businesses with Only One Retail License l	
Annual Modified Business Taxes Due by Businesses with Only One Retail License	$6,912
Times: Number of Businesses with Only One Retail License	85
Times: Years in Analysis Period	7
Total Modified Business Taxes Due by Businesses with Only One Retail License	$4,100,753
Less: 50% of Commerce Taxes Paid for 6 Years in the analysis Period	$24,698
Modified Business Taxes Paid by Businesses with Only One License that is Retail	***$4,076,055***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.
(1) Bureau of Economic Analysis, Table SA5N: Personal Income by Major Component and Earnings by NAICS Industry.

Businesses with only one license that is manufacturing

We estimate that businesses with only one manufacturing license will pay quarterly wages in excess of the minimum quarterly wages set forth in NRS 363B.110.1 - $50,000. We have estimated that these business will potentially pay $66,651 in quarterly wages. These wages, after deducting 50 percent of commerce taxes paid for the previous tax year, will generate $80,596 in modified business tax revenue over the seven-year analysis period (see Table D-13).

Table D-13: Modified Business Taxes Paid by Businesses with Only One Manufacturing License

	Value
Quarterly Modified Business Taxes Paid by Businesses with Only One Manufacturing License	
Annual Manufacturing Revenue per Business with Only One Manufacturing License	$1,542,839
Times: % of Revenue paid Towards Labor and Proprietors Income	24%
Annual Labor and Proprietors' Income per Manufacturing Facility	$370,281
Times: % of Labor and Proprietors' Income Paid Towards Wages[1]	72%
Annual Wages Paid per Business with Only One Manufacturing License g	$266,603
Divide by: Quarters per Year	4
Quarterly Wages Paid per Business with Only One Manufacturing License	$66,651
Annual Modified Business Taxes Paid by Businesses with Only One Manufacturing License	
Quarterly Wages Paid per Business with Only One Manufacturing License	$66,651
Less: Minimum Quarterly Wages	$50,000
Taxable Quarterly Wages per Business with Only One Manufacturing License	$16,651
Times: Modified Business Tax Rate	1.47%
Quarterly Modified Business Taxes Paid by Businesses with Only One Manufacturing License	$245
Times: Quarters per Year	4
Annual Modified Business Taxes Paid by Businesses with Only One Manufacturing License	$979
Number of Businesses with Only One Manufacturing License	
Number of Active Manufacturing Facilities	147
Times: % of Manufacturing Licenses Held by a Business with Only One Manufacturing License	8%
Number of Businesses with Only One Manufacturing License	12
Total Modified Business Taxes Paid by Businesses with Only One Manufacturing License	
Annual Modified Business Taxes Paid by Businesses with Only One Manufacturing License	$979
Times: Number of Businesses with Only One Manufacturing License	12
Times: Years in Analysis Period	7
Total Modified Business Taxes Due by Businesses with Only One Manufacturing License	$80,596
Less: 50% of Commerce Taxes Paid for 6 Years in the analysis Period	$0
Modified Business Taxes Paid by Businesses with Only One License that is Manufacturing	***$80,596***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.
(1) Bureau of Economic Analysis, Table SA5N: Personal Income by Major Component and Earnings by NAICS Industry.

Businesses with only one license that is cultivation

Our analysis estimates that businesses with only one cultivation license will not pay quarterly wages in excess of the minimum quarterly wages set forth in NRS 363B.110. - $50,000. We have estimated that these business will potentially pay $31,478 in quarterly wages. These wages will not generate modified business tax revenue over the seven-year analysis period (see Table D-14 below).

Table D-14: Modified Business Taxes Paid by Businesses with Only One Cultivation License

	Value
Quarterly Modified Business Taxes Paid by Businesses with Only One Cultivation License	
Annual Cultivation Revenue per Business with Only One Cultivation License	$460,206
Times: % of Revenue paid Towards Labor and Proprietors Income	38%
Annual Labor and Proprietors' Income per Cultivation Facility	$174,878
Times: % of Labor and Proprietors' Income Paid Towards Wages[1]	72%
Annual Wages Paid per Business with Only One Cultivation License	$125,912
Divide by: Quarters per Year	4
Quarterly Wages Paid per Business with Only One Cultivation License	$31,478
Annual Modified Business Taxes Paid by Businesses with Only One Cultivation License	
Quarterly Wages Paid per Business with Only One Cultivation License	$31,478
Less: Minimum Quarterly Wages	$50,000
Taxable Quarterly Wages per Business with Only One Cultivation License	$0
Times: Modified Business Tax Rate	1.47%
Quarterly Modified Business Taxes Paid by Businesses with Only One Cultivation License	$0
Times: Quarters per Year	4
Annual Modified Business Taxes Paid by Businesses with Only One Cultivation License	$0
Number of Businesses with Only One Cultivation License	
Number of Active Cultivation Facilities	314
Times: % of Cultivation Licenses Held by a Business with Only One Cultivation License	57%
Number of Businesses with Only One Cultivation License	179
Total Modified Business Taxes Paid by Businesses with Only One Cultivation License	
Annual Modified Business Taxes Paid by Businesses with Only One Cultivation License	$0
Times: Number of Businesses with Only One Cultivation License	179
Times: Years in Analysis Period	7
Total Modified Business Taxes Due by Businesses with Only One Cultivation License	$0
Less: 50% of Commerce Taxes Paid for 6 Years in the analysis Period	$0
Modified Business Taxes Paid by Businesses with Only One License that is Cultivation	***$0***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

(1) Bureau of Economic Analysis, Table SA5N: Personal Income by Major Component and Earnings by NAICS Industry.

Businesses with multiple licenses that are retail only

We estimate that businesses with multiple retail-only licenses will likely pay quarterly wages in excess of the minimum quarterly wages set forth in NRS 363B.110.1 - $50,000. We have also estimated that these businesses will potentially pay $351,870 in quarterly wages. These wages, after deducting 50 percent of commerce taxes paid for the previous tax year, will potentially generate $1,440,503 in modified business tax revenue during the seven-year analysis period (see Table D-15 below).

Table D-15: Modified Business Taxes Paid by Businesses with Multiple Retail-Only Licenses

	Value
Quarterly Wages Paid by Businesses with Multiple Retail-Only Licenses	
Annual Retail Revenue per Retail Store (Nevada Average)	$4,047,271
Times: Average Number of Retail Licenses per Business with Multiple Retail-Only Licenses	2.10
Annual Revenue per Business with Multiple Retail-Only Licenses	$8,499,268
Times: % of Revenue paid Towards Labor and Proprietors Income	23%
Annual Labor and Proprietors' Income per Business with Multiple Retail-Only Licenses	$1,954,832
Times:% of Labor and Proprietors' Income Paid Towards Wages[1]	72%
Annual Wages Paid per Business with Multiple Retail-Only Licenses	$1,407,479
Divide by: Quarters per Year	4
Quarterly Wages Paid per Business with Multiple Retail-Only Licenses l	$351,870
Annual Modified Business Taxes Paid by Businesses with Multiple Retail-Only Licenses	
Quarterly Wages Paid per Business with Multiple Retail-Only Licenses	$351,870
Less: Minimum Quarterly Wages	$50,000
Taxable Quarterly Wages per Business with Multiple Retail-Only Licenses	$301,870
Times: Modified Business Tax Rate	1.47%
Quarterly Modified Business Taxes Paid by Businesses with Multiple Retail-Only Licenses	$4,437
Times: Quarters per Year	4
Annual Modified Business Taxes Paid by Businesses with Multiple Retail-Only Licenses	$17,750
Number of Businesses with Multiple Retail-Only Licenses	
Number of Active Retail Stores	113
Times: % of Active Retail Licenses Held by a Business with Multiple Licenses	25%
Times: % of Active Retail Licenses Held by a Business with Multiple Retail-Only Licenses	98%
Divide by: Avg. Number of Retail Licenses per Business with Mu Multiple Retail-Only Licenses	2.10
Number of Business with Multiple Retail-Only Licenses	13
Total Modified Business Taxes Paid by Businesses with Multiple Retail-Only Licenses	
Annual Modified Business Taxes Paid by Businesses with Multiple Retail-Only Licenses	$17,750
Times: Number of Businesses with Multiple Retail-Only Licenses l	13
Times: Years in Analysis Period	7
Total Modified Business Taxes Due by Businesses with Multiple Retail-Only Licenses	$1,638,023
Less: 50% of Commerce Taxes Paid for 6 Years in the analysis Period	$197,520
Modified Business Taxes Paid by Businesses with Multiple Retail-Only Licenses	*$1,440,503*

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.
(1) Bureau of Economic Analysis, Table SA5N: Personal Income by Major Component and Earnings by NAICS Industry.

Businesses with multiple licenses that are manufacturing only

Our analysis estimates that businesses with multiple manufacturing-only licenses that will potentially pay quarterly wages in excess of the minimum quarterly wages set forth in NRS 363B.110.1 - $50,000. We have estimated that these businesses will potentially pay $83,313 in quarterly wages. These wages, after deducting 50 percent of commerce taxes paid for the previous tax year, will potentially generate $26,670 in modified business tax revenue over the seven-year analysis period (see Table D-16 below).

Table D-16: Modified Business Taxes Paid by Businesses with Multiple Manufacturing-Only Licenses

	Value
Quarterly Wages Paid by Businesses with Multiple Manufacturing-Only Licenses	
Annual Manufacturing Revenue per Manufacturing Facility	$1,542,839
Times: Average Number of Manufacturing Licenses per Business with Multiple Mfg.-Only Licenses	1.25
Annual Revenue per Business with Multiple Manufacturing-Only Licenses	$1,928,549
Times: % of Revenue paid Towards Labor and Proprietors Income	24%
Annual Labor and Proprietors' Income per Business with Multiple Manufacturing-Only Licenses	$462,852
Times: % of Labor and Proprietors' Income Paid Towards Wages[1]	72%
Annual Wages Paid per Business with Multiple Manufacturing-Only Licenses	$333,253
Divide by: Quarters per Year	4
Quarterly Wages Paid per Business with Multiple Manufacturing-Only Licenses	$83,313
Annual Modified Business Taxes Paid by Businesses with Multiple Manufacturing-Only Licenses	
Quarterly Wages Paid per Business with Multiple Manufacturing-Only Licenses	$83,313
Less: Minimum Quarterly Wages	$50,000
Taxable Quarterly Wages per Business with Multiple Manufacturing-Only Licenses	$33,313
Times: Modified Business Tax Rate	1.47%
Quarterly Modified Business Taxes Paid by Businesses with Multiple Manufacturing-Only Licenses	$490
Times: Quarters per Year	4
Annual Modified Business Taxes Paid by Businesses with Multiple Manufacturing-Only Licenses	$1,959
Number of Businesses with Multiple Manufacturing-Only Licenses	
Number of Active Manufacturing Facilities	147
Times: % of Active Manufacturing Licenses Held by a Business with Multiple Licenses	92%
Times: % of Active Manufacturing Licenses Held by a Business with Multiple Mfg.-Only Licenses	2%
Divide by: Average Number of Manufacturing Licenses per Business with Multiple Mfg.-Only Licenses	1.25
Number of Business with Multiple Manufacturing-Only Licenses	2
Total Modified Business Taxes Paid by Businesses with Multiple Manufacturing-Only Licenses	
Annual Modified Business Taxes Paid by Businesses with Multiple Manufacturing-Only Licenses	$1,959
Times: Number of Businesses with Multiple Manufacturing-Only Licenses	2
Times: Years in Analysis Period	7
Total Modified Business Taxes Due by Businesses with Multiple Manufacturing-Only Licenses	$29,670
Less: 50% of Commerce Taxes Paid for 6 Years in the analysis Period	$0
Modified Business Taxes Paid by Businesses with Multiple Manufacturing-Only Licenses	***$29,670***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.
(1) Bureau of Economic Analysis, Table SA5N: Personal Income by Major Component and Earnings by NAICS Industry.

Businesses with multiple licenses that are cultivation only

We estimate that businesses with multiple cultivation-only licenses will not pay quarterly wages in excess of the minimum quarterly wages set forth in NRS 363B.110.1 - $50,000. We estimate that these businesses will potentially pay $37,774 in quarterly wages. These wages will not generate modified business tax revenue over the seven-year analysis period (see Table D-17 below).

Table D-17: Modified Business Taxes Paid by Businesses with Multiple Cultivation-Only Licenses

	Value
Quarterly Wages Paid by Businesses with Multiple Cultivation-Only Licenses	
Annual Cultivation Revenue per Cultivation Facility	$460,206
Times: Average Number of Cultivation Licenses per Business with Multiple Cultivation-Only Licenses	1.20
Annual Revenue per Business with Multiple Cultivation-Only Licenses	$552,247
Times: % of Revenue paid Towards Labor and Proprietors Income	38%
Annual Labor and Proprietors' Income per Business with Multiple Cultivation-Only Licenses	$209,854
Times: % of Labor and Proprietors' Income Paid Towards Wages[1]	72%
Annual Wages Paid per Business with Multiple Cultivation-Only Licenses	$151,095
Divide by: Quarters per Year	4
Quarterly Wages Paid per Business with Multiple Cultivation-Only Licenses	$37,774
Annual Modified Business Taxes Paid by Businesses with Multiple Cultivation-Only Licenses	
Quarterly Wages Paid per Business with Multiple Cultivation-Only Licenses	$37,774
Less: Minimum Quarterly Wages	$50,000
Taxable Quarterly Wages per Business with Multiple Cultivation-Only Licenses	$0
Times: Modified Business Tax Rate	1.47%
Quarterly Modified Business Taxes Paid by Businesses with Multiple Cultivation-Only Licenses	$0
Times: Quarters per Year	4
Annual Modified Business Taxes Paid by Businesses with Multiple Cultivation-Only Licenses	$0
Multiple Cultivation-Only Licenses	
Number of Businesses with Multiple Cultivation-Only Licenses	
Number of Active Cultivation Facilities	314
Times: % of Active Cultivation Licenses Held by a Business with Multiple Licenses	43%
Times: % of Active Cultivation Licenses Held by a Business with Multiple Cultivation-Only Licenses	2%
Divide by: Average Number of Cultivation Licenses per Business with Multiple Cultivation-Only Licenses	1
Number of Business with Multiple Cultivation-Only Licenses	2
Total Modified Business Taxes Paid by Businesses with Multiple Cultivation-Only Licenses	
Annual Modified Business Taxes Paid by Businesses with Multiple Cultivation-Only Licenses	$0
Times: Number of Businesses with Multiple Cultivation-Only Licenses	2
Times: Years in Analysis Period	7
Total Modified Business Taxes Due by Businesses with Multiple Cultivation-Only Licenses	$0
Less: 50% of Commerce Taxes Paid for 6 Years in the analysis Period	$0
Modified Business Taxes Paid by Businesses with Multiple Cultivation-Only Licenses	***$0***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

(1) Bureau of Economic Analysis, Table SA5N: Personal Income by Major Component and Earnings by NAICS Industry.

Businesses with retail and cultivation licenses

Businesses with retail and cultivation licenses will potentially pay quarterly wages in excess of the minimum quarterly wages set forth in NRS 363B.110.1 - $50,000. We have estimated that these businesses will potentially pay $199,035 in quarterly wages. These wages, after deducting 50 percent of commerce taxes paid for the previous tax year, will potentially generate $33,704 in modified business tax revenue over the seven-year analysis period (see Table D-18).

Table D-18: Modified Business Taxes Paid by Businesses with Retail and Cultivation Licenses

	Value
Retail Licenses Held by Businesses Also Holding Cultivation Licenses	
Active Retail Licenses	113
Times: % of Active Retail Licenses Held by Business with Multiple Licenses	25%
Times: % of Active Retail Licenses Held by Businesses Also Holding Active Cultivation Licenses	2%
Number of Retail Licenses Held by Businesses Also Holding Cultivation Licenses	1
Cultivation Licenses Held by Businesses Also Holding Retail Licenses	
Active Cultivation Licenses	314
Times: % of Active Cultivation Licenses Held by Businesses with Multiple License Types	43%
Times: % of Active Cultivation Licenses Held by Businesses Also Holding Active Retail Licenses	1%
Number of Cultivation Licenses Held by Businesses Also Holding Retail Licenses	1
Quarterly Wages Paid by Businesses with Retail and Cultivation Licenses	
Annual Revenue per Retail Store (Nevada Average)	$4,047,271
Plus: Annual Revenue per Cultivation Facility	$460,206
Annual Revenue for a Businesses with One Retail License and One Cultivation License	$4,507,477
Times: % of Revenue paid Towards Labor and Proprietors' Income	25%
Annual Labor and Proprietors' Income per Business with Retail License and Cultivation License	$1,105,751
Times: Percent of Labor and Proprietors' Income Paid Towards Wages[1]	72%
Annual Wages Paid per Business with Retail Licenses and Cultivation License	$796,140
Divide by: Quarters per Year	4
Quarterly Wages Paid per Business with Retail Licenses and Cultivation License	$199,035
Annual Modified Business Taxes Paid by Businesses with Retail Licenses and Cultivation Licenses	
Quarterly Wages Paid per Business with Retail License and Cultivation Licenses	$199,035
Less: Minimum Quarterly Wages	$50,000
Taxable Quarterly Wages per Business with Retail Licenses and Cultivation Licenses	$149,035
Times: Modified Business Tax Rate	1.47%
Quarterly Modified Business Taxes Paid by Businesses with Retail Licenses and Cultivation Licenses	$2,191
Times: Quarters per Year	4
Annual Modified Business Taxes Paid by Businesses with Retail Licenses and Cultivation Licenses	$8,763
Total Modified Business Taxes Paid by Businesses with Retail Licenses and Cultivation Licenses	
Annual Commerce Tax Paid by a Business with Retail Licenses and Cultivation Licenses	$8,763
Times: Number of Businesses with Retail Licenses and Cultivation Licenses	1
Times: Years in Analysis Period	7
Total Modified Business Taxes Due by Business with Retail Licenses and Cultivation Licenses	$34,659
Less: 50% of Commerce Taxes Paid for 6 Years in the analysis Period	$955
Modified Business Taxes Paid by Businesses with Retails and Cultivation Licenses	***$33,704***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

(1) Bureau of Economic Analysis, Table SA5N: Personal Income by Major Component and Earnings by NAICS Industry.

Businesses with cultivation and manufacturing licenses

Businesses with cultivation and manufacturing licenses will likely pay quarterly wages in excess of the minimum quarterly wages set forth in NRS 363B.110.1 - $50,000. These business will potentially pay $98,129 in quarterly wages. Wages, after deducting 50 percent of commerce taxes paid for the previous tax year, will potentially generate $2,594,476 in modified business tax revenue during the seven-year analysis period (see Table D-19 below).

Table D-19: Modified Business Taxes Paid by Businesses with Cultivation and Manufacturing Licenses

Figure	Value
Manufacturer Licenses held by a business with cultivation licenses	
Active Manufacturer Licenses	147
Times: % of Active Manufacturer Licenses Held by Businesses with Multiple Licenses	92%
Times: % of Active Manufacturer Licenses Held by Businesses Also Holding Active Cultivation Licenses	98%
Number of Manufacturing Licenses Held by Businesses Also Holding Cultivation Licenses	133
Cultivation Licenses held by a Business with Manufacturing Licenses	
Active Cultivation Licenses	314
Times: % of Active Cultivation Licenses Held by a Business with Multiple Licenses	43%
Times: % of Active Cultivation Licenses Held by a Business Also Holding Active Manufacturing Licenses	97%
Number of Cultivation Licenses Held by a Business Also Holding Manufacturing Licenses	131
Quarterly Wages Paid by Businesses with Cultivation and Manufacturing Licenses	
Annual Revenue per Manufacturing Facility	$1,542,839
Plus: Annual Revenue per Cultivation Facility	$460,206
Annual Revenue for a Businesses with One Manufacturing License and One Cultivation License	$2,003,045
Times: % of Revenue paid Towards Labor and Proprietors Income	27%
Annual Labor and Proprietors' Income per Business with Cultivation and Manufacturing Licenses	$545,160
Times: % of Labor and Proprietors' Income Paid Towards Wages[1]	72%
Annual Wages Paid per Business with Cultivation and Manufacturing Licenses	$392,515
Divide by: Quarters per Year	4
Quarterly Wages Paid per Business with Cultivation and Manufacturing Licenses	$98,129
Annual Modified Business Taxes Paid by Businesses with Cultivation and Manufacturing Licenses	
Quarterly Wages Paid per Business with Cultivation and Manufacturing Licenses	$98,129
Less: Minimum Quarterly Wages	$50,000
Taxable Quarterly Wages per Business with Cultivation and Manufacturing Licenses	$48,129
Times: Modified Business Tax Rate	1.47%
Quarterly Modified Business Taxes Paid by Businesses with Cultivation and Manufacturing Licenses	$707
Times: Quarters per Year	4
Annual Modified Business Taxes Paid by Businesses with Cultivation and Manufacturing Licenses	$2,830
Total Modified Business Taxes Paid by Businesses with Cultivation and Manufacturing Licenses	
Annual Commerce Tax Paid by a Business with Cultivation and Manufacturing Licenses	$2,830
Times: Number of Businesses with Cultivation and Manufacturing Licenses	131
Times: Years in Analysis Period	7
Total Modified Business Taxes Due by Business with Cultivation and Manufacturing Licenses	$2,594,476
Less: 50% of Commerce Taxes Paid for 6 Years in the analysis Period	$0
Modified Business Taxes Paid by Businesses with Cultivation and Manufacturing Licenses	***$2,594,476***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board. Numbers may not calculate exactly due to rounding.

(1) Bureau of Economic Analysis, Table SA5N: Personal Income by Major Component and Earnings by NAICS Industry.

Finally, our analysis has shown that total modified business tax revenue for the expected types of marijuana businesses will potentially total $8,279,702 over the seven-year analysis period (see Table D-20 below).

Table D-20: Total Nevada Modified Business Tax Revenue

Business Types	Value
Total Modified Business Taxes Due by Businesses with Only One License that is Retail	$4,100,753
Modified Business Taxes Paid by Businesses with Only One License that is Manufacturing	$80,596
Modified Business Taxes Paid by Businesses with Only One License that is Cultivation	$0
Modified Business Taxes Paid by Businesses with Multiple Licenses that are Only Retail	$1,440,503
Modified Business Taxes Paid by Businesses with Multiple Licenses that are Only Manufacturing	$29,670
Modified Business Taxes Paid by Businesses with Multiple Licenses that are Only Cultivation	$0
Modified Business Taxes Paid by Businesses with Retails and Cultivation Licenses	$33,704
Modified Business Taxes Paid by Businesses with Cultivation and Manufacturing Licenses	$2,594,476
Total Nevada Modified Business Taxes Paid – 7 Years	***$8,279,702***

Sources: RCG, MPG, IMPLAN, Washington Liquor and Marijuana Board.

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