

**MISSOURI STATE AUDITOR'S OFFICE
FISCAL NOTE (16-128)**

Subject

Initiative petition from Brad Bradshaw regarding a proposed constitutional amendment to Article XV of the Constitution of Missouri. (Received October 20, 2015)

Date

November 9, 2015

Description

This proposal would create a new Article XV of the Constitution of Missouri.

The amendment is to be voted on in November 2016.

Public comments and other input

The State Auditor's office requested input from the **Attorney General's office**, the **Department of Agriculture**, the **Department of Economic Development**, the **Department of Elementary and Secondary Education**, the **Department of Higher Education**, the **Department of Health and Senior Services**, the **Department of Insurance, Financial Institutions and Professional Registration**, the **Department of Mental Health**, the **Department of Natural Resources**, the **Department of Corrections**, the **Department of Labor and Industrial Relations**, the **Department of Revenue**, the **Department of Public Safety**, the **Department of Social Services**, the **Governor's office**, the **Missouri House of Representatives**, the **Department of Conservation**, the **Department of Transportation**, the **Office of Administration**, the **Office of State Courts Administrator**, the **Missouri Senate**, the **Secretary of State's office**, the **Office of the State Public Defender**, the **State Treasurer's office**, **Adair County**, **Boone County**, **Callaway County**, **Cass County**, **Clay County**, **Cole County**, **Greene County**, **Jackson County Legislators**, **Jasper County**, **St. Charles County**, **St. Louis County**, **Taney County**, the **City of Cape Girardeau**, the **City of Columbia**, the **City of Jefferson**, the **City of Joplin**, the **City of Kansas City**, the **City of Kirksville**, the **City of Mexico**, the **City of Raymore**, the **City of St. Joseph**, the **City of St. Louis**, the **City of Springfield**, the **City of Union**, the **City of Wentzville**, the **City of West Plains**, **Cape Girardeau 63 School District**, **Hannibal 60 School District**, **State Technical College of Missouri**, **Metropolitan Community College**, **University of Missouri**, **St. Louis Community College**, and the **Lieutenant Governor's Office**.

Brad Bradshaw provided information as a proponent of the proposal to the State Auditor's office.

Assumptions

Officials from the **Attorney General's office** indicated they assume that any potential costs arising from the adoption of this proposal can be absorbed with existing resources.

Officials from the **Department of Economic Development** indicated no impact for their department.

Officials from the **Department of Elementary and Secondary Education** indicated through collection of a tax imposed on each wholesale and each retail sale of medical marijuana, this proposal has the potential to significantly impact the revenue stream of state and local governments.

In addition, when participating research entities develop cures or treatments, a portion of profits or contractual amounts shall be paid to the state of Missouri. Moneys received shall be distributed among various purposes, two of which are the funding of public pre-school programs and public elementary and secondary school programs.

Their department has no means to calculate such impact from either tax, nor can they determine the likelihood that developed cures and treatments will result in profits.

Officials from the **Department of Higher Education** indicated:

In Section 4(c)i., “state institutions of higher education governed by **section 174.020 to 174.500 Revised Statutes of Missouri and chapter 172 Revised Statutes of Missouri** shall be granted, without charge, ten (10) licenses per institution per year to grow marijuana.” That description of institutions leaves out Lincoln University, Truman State University, State Technical College of Missouri, and all the community colleges (with the exception of Missouri State University – West Plains). Should any of those institutions wish to grow marijuana for educational or research purposes, they would have to purchase licenses each year at a significant expense (up to \$200,000). In addition, Section 10(f)ii.b) would provide grants to students to attend the same institutions described above, thus leaving out in-state Missouri students who wish to attend Lincoln, Truman, State Tech, and community colleges.

Section 10(f)ii.b) could have a fiscal impact on the department as well, depending on how the funds would be disbursed by the legislature. If the funds are to be distributed with one of our already existing grants and scholarships, the cost to administer the funds would be minimal. However, if an additional grant or scholarship program were to be created through appropriations, there could be significant costs involved in developing an application, hiring staff to review and approve applications, etc. Either way, the amount of aid that students could expect to receive is impossible to calculate.

Officials from the **Department of Health and Senior Services** indicated no fiscal impact on their department.

Officials from the **Department of Insurance, Financial Institutions and Professional Registration** indicated this petition, if passed, will have no cost or savings to their department.

Officials from the **Department of Mental Health** indicated this proposal creates no direct obligations or requirements to their department that would result in a fiscal impact. However, the impact on the demand for substance use disorder treatment is unknown. Their department sees the legalization of marijuana as a broader public health issue, especially for children.

Officials from the **Department of Natural Resources** indicated their department would not anticipate a direct fiscal impact from this proposal.

Officials from the **Department of Corrections** indicated no impact.

Officials from the **Department of Labor and Industrial Relations** indicated no fiscal impact on their department.

Officials from the **Department of Revenue** indicated the total estimated costs for salaries, fringe benefits, and expense and equipment will be \$232,421 for fiscal year 2017, \$84,086 for fiscal year 2018, and \$84,960 for fiscal year 2019, which includes information technology (IT) related costs of \$150,012 for fiscal year 2017 for IT consultants.

The petition allows for the creation of cultivation, dispensary, and marijuana-infused products manufacturing facilities. These entities will create jobs and be required to collect taxes on the sale of medical marijuana products.

The tax on medical marijuana creates increased revenues for identified entities, but will not be included in Total State Revenues per Section 3(t). However, Section 10(f) allows 25 percent of revenues from leases to research entities to be deposited into General Revenue.

The legislation increases state revenues from research entity leases.

Section 4

The provisions of this section impose a 10 percent tax on each wholesale sale by:

1. Cultivation Facilities to Marijuana-Infused Products Manufacturing Facilities;
2. Cultivation Facilities to Dispensary Facilities; or,
3. Marijuana-Infused Products Manufacturing Facilities to Dispensary Facilities.

If the sale involves the exchange of property, a tax equivalent to 10 percent of the consideration paid or charged, including the fair market value of the property exchanged at the time and place of the exchange.

The legislation imposes a tax on each retail sale by a Dispensary Facility at 75 percent of the purchase price paid or charged. If the sale involves the exchange of property, a tax equivalent to 75 percent of the consideration paid or charged, including the fair market value of the property exchanged at the time and place of the exchange.

The taxes imposed by this section are in addition to any general state and local sales and use taxes imposed on retail sales of tangible personal property.

Section 10

The legislation distributes revenues from leases to research entities with 25 percent going to General Revenue (GR). The legislation then divides the 25 percent going to GR into thirds and allocates the funds to:

- 1) Funding Missouri state roads and bridges infrastructure repairs;
- 2) Funding public pre-school programs, public elementary, and secondary school programs, and provide grants to in-state Missouri students to attend state institutions of higher education; and
- 3) Funding medical care for Missouri residents.

Administrative Impact:

Sales Tax:

The appropriate facility pays the tax to the Department, requiring the Department to develop a form for reporting purposes and programming to track the payments. The Department would implement this as a new item tax.

Collections & Tax Assistance:

Collections & Tax Assistance will see additional registrations, registration phone calls, business tax account update requests, and delinquent phone contacts from the additional business registering to collect sales tax on medical marijuana. The section requires two (2) Revenue Processing Technicians I (Range 10, Step L) per 24,000 additional contacts annually to the registration section and every additional 15,000 contacts annually on the delinquent tax line. Each technician requires CARES equipment and license.

Officials from the **Department of Public Safety - Missouri State Highway Patrol** indicated no fiscal impact on their department but submitted the following comments.

Section 9 prohibits employment with or ownership of a Medical Marijuana Cultivation Facility, Medical Marijuana Dispensary Facility or Medical Marijuana-Infused Products Manufacturing Facility by any individual with a disqualifying felony offense. A "disqualifying felony offense" is a violation of, and conviction or guilty plea to, a state or federal crime that is, or would have been, a felony under Missouri law, regardless of the sentence imposed, unless the Research Board determines that:

- i. The person's conviction was for the medical use of marijuana or assisting in the medical use of marijuana; or

ii. The person's conviction was for a non-violent crime that is more than ten (10) years old and for which the person was not incarcerated in the Missouri Department of Corrections, or its equivalent in other jurisdictions; or

iii. The person's conviction was for a non-violent crime for which the person was incarcerated in the Missouri Department of Corrections, or its equivalent in other jurisdictions, that is more than fifteen (15) years old; provided that at least ten (10) years has elapsed since that person's release from incarceration.

While there is a prohibition against ownership or employment with a Medical Marijuana Cultivation Facility, Medical Marijuana Dispensary Facility or Medical Marijuana-Infused Products Manufacturing Facility for a person with a "disqualifying felony offense," there is no requirement for a criminal background check to identify those individuals with a "disqualifying felony offense."

As the Constitutional amendment is currently written, a state and federal fingerprint-based criminal background check would be required to obtain the necessary criminal history record information to identify individuals with a "federal crime that is or would be a felony under Missouri law, regardless of the sentence imposed."

To authorize a state and federal fingerprint-based criminal background check, language in the Constitutional amendment must meet Public Law 92-544 criteria.

Public Law 92-544 criteria is as follows:

The authority for the FBI to conduct a criminal record check for a noncriminal justice licensing or employment purpose is based upon Public Law 92-544. Pursuant to Public Law 92-544, the FBI is empowered to exchange identification records with officials of state and local governments for the purposes of licensing and employment if authorized by a state statute which has been approved by the Attorney General of the United States. The Attorney General's authority to approve the statute is delegated to the FBI by Title 28, Code of Federal Regulations, Section 0.85(j). The standards employed by the FBI in approving Public Law 92-544 authorizations have been established by a series of memoranda issued by the Office of Legal Counsel, Department of Justice. The standards are:

1. The authorization must exist as the result of legislative enactment (or its functional equivalent);
2. The authorization must require fingerprinting of the applicant;
3. The authorization must, expressly or by implication, authorize use of FBI records for screening of the applicant;
4. The authorization must not be against public policy;
5. The authorization must not be overly broad in its scope; it must identify the specific category of applicants/licensees.

Fingerprint card submissions to the FBI under Public Law 92-544 must be forwarded through the SIB. The state must also designate an authorized governmental agency to be responsible for receiving and screening the results of the record check to determine an applicant's suitability for employment or licensing.

To meet Public Law 92-544, the following wording must be included:

Applicants licensed pursuant to this section shall submit fingerprints to the Missouri state highway patrol for the purpose of conducting a state and federal fingerprint-based criminal background check. The Missouri state highway patrol, if necessary, shall forward the fingerprints to the Federal Bureau of Investigation for the purpose of conducting a fingerprint-based criminal background check. Fingerprints shall be submitted pursuant to 43.543 and fees shall be paid pursuant to 43.530.

Officials from the **Department of Social Services** indicated no fiscal impact on their department.

Officials from the **Governor's Office** indicated there should be no fiscal impact to their office.

Officials from the **House of Representatives** indicated no fiscal impact to their office.

Officials from the **Department of Conservation** indicated that no adverse fiscal impact to their department would be expected as a result of this initiative petition.

Officials from the **Department of Transportation** indicated no fiscal impact to their department.

Officials from the **Office of Administration** (OA) indicated the proposal adds Article XV, Sections 1-11 to the Missouri Constitution, relating to marijuana usage for medical purposes.

The following provisions are included:

- Research and Drug Development Institute, a body corporate and politic is created to provide research to find cures for presently incurable diseases.
- Board of Research and Drug Development created to govern the Research and Drug Development Institute, to find cures for currently incurable diseases and to the extent practicable, generate income to the state with such cures. It is under the direction of the Lt. Governor. If the Board is eventually transferred to a department, it will be assigned to the Department of Health and Senior Services. The Lt. Governor selects members of the Board. Members of the Board, except for the Lt. Governor will receive compensation and reimbursement for their expenses as soon as funds are available. The Lt. Governor and the Governor must approve the compensation amounts.
- The Board is assigned various duties to regulate the use of marijuana for the specified purposes and is allowed to acquire real and personal property and issue/sell revenue

bonds to fund authorized purposes. The Research and Drug Development Institute Trust Fund is created for the Board's use, with subaccounts to be used for general purpose, land acquisition and targeted diseases (for research). The language specifically prohibits use of funds for human cloning and embryonic stem cell research.

- A Land Acquisition Board is created as a subcommittee of the Research Board. Members are selected by the Lt. Governor. This board is tasked with finding 3-5 potential locations for a research campus. The board is given eminent domain power.
- The Board shall charge license fees for medical Marijuana Cultivation Facilities, Medical Marijuana Dispensaries, and Medical Marijuana-Infused Products Manufacturing Facilities.
- A 10% wholesale sales tax is imposed on sales Manufacturing Facilities and Dispensary facilities.
- A 75% retail sales tax is imposed on the sales at Medical Marijuana Dispensary Facilities.
- A tax is also imposed on the licenses for cultivation facilities, dispensary facilities, manufacturing facilities, qualifying patient identification cards and designated primary caregiver identification cards.
- The proposal declares the medical use of marijuana is legal and provides criminal and civil liability protection for the parties involved. However, there are restrictions as to where the marijuana may be used and what the patient may do while under the influence (i.e. They may not operate a motor vehicle).
- Localities may restrict the location of these facilities, but may not limit the number of or presence of these facilities. That is determined by the Board.
- Other research entities may enter into contracts for joint ventures and collaborative efforts at the research campuses. Those contracts will include provisions for the entities to pay the state the greater or 3% of gross revenues or 17% of all profits derived from the participating research entities cures or treatments. These monies will be used for:
 - 25% - to the Research and Drug Development Institute Trust Fund.
 - 25% - road/bridge infrastructure repairs, public pre-school programs public elementary and secondary school programs and grants to in-state Missouri students to attend state institutions of higher education, and medical care for Missouri residents.
 - 50% - refunded to MO state income tax paying citizens who have paid more than \$500 of state income taxes.
- The provisions will be effective January 26, 2017.

Summary of Fiscal Impact

The Department of Revenue is given additional responsibilities to collect, which could result in a fiscal impact for that agency. The Department of Health and Senior Services could also have additional duties which could result in a fiscal impact for that agency.

The revenue generated from the application and license fees and the taxes would be deposited into the state treasury, with a portion deposited to the state's General Revenue

Fund. OA does not have the data available to provide an estimate of the amount of additional revenue from the application fees, license fees or taxes.

It is unclear if the board members and related staff would be state employees and part of the state employee retirement system. For the purposes of this fiscal response, we assume the employees would not be state employees. If they were to be state employees, there would likely be a fiscal impact to the Office of Administration for the costs of administering the payroll and associated fringe benefits. Also, the proposal would allow retrospective payroll expenditures for the board members if sufficient funding was not immediately available to pay salaries. The state accounting system is not designed to handle such payroll expenditures; therefore, if the state was responsible for the payroll of these individuals, there would be some unknown added cost for system changes necessary to accommodate the changes. In addition, if the Office of Administration was responsible for the bond issuances there would be a cost to the Office of Administration. In addition, there is no specific guidance on how the bonds would be repaid.

There are several inconsistencies in this proposal's language that lead to confusion on how the provisions would be implemented.

- As mentioned above, there is no clear direction on if the staff would be state employees and participate in the state retirement system.
- The proposal is inconsistent with regards to distribution of the revenues in the newly created "Research and Drug Development Institute Trust Fund". Section 5 (b) provides instructions for allocating the funds between three accounts. Section 10 provides different instructions for allocating the funds.
- Section 3 directs bond proceeds to the Research and Drug Development Institute Trust Fund – General Purpose Account. Section 5(c) lists allowable uses for the General Purpose Account and debt service for bonds is not mentioned as an allowable use. This presents the question of how the bonds are to be repaid.

Officials from the **Office of State Courts Administrator** indicated there is no fiscal impact to the courts.

Officials from the **Secretary of State's office** indicated their office is required to pay for publishing in local newspapers the full text of each statewide ballot measure as directed by Article XII, Section 2(b) of the Missouri Constitution and Section 116.230-116.290, RSMo. Their office is provided with core funding to handle a certain amount of normal activity resulting from each year's legislative session. Funding for this item is adjusted each year depending upon the election cycle with \$1.3 million historically appropriated in odd numbered fiscal years and \$100,000 appropriated in even numbered fiscal years to meet these requirements. Through FY (fiscal year) 2013, the appropriation had historically been an estimated appropriation because the final cost is dependent upon the number of ballot measures approved by the General Assembly and the initiative petitions certified for the ballot. In FY 2013, at the August and November elections, there were 5 statewide Constitutional Amendments or ballot propositions that cost \$2.17 million to publish (an average of \$434,000 per issue). In FY 2015, the General Assembly changed the appropriation so that it was no longer an estimated appropriation and their office was

appropriated \$1.19 million to publish the full text of the measures. Due to this reduced funding, their office reduced the scope of the publication of these measures. In FY 2015, at the August and November elections, there were 9 statewide Constitutional Amendments or ballot propositions that cost \$1.1 million to publish (an average of \$122,000 per issue). Despite the FY 2015 reduction, their office will continue to assume, for the purposes of this fiscal note, that it should have the full appropriation authority it needs to meet the publishing requirements. Because these requirements are mandatory, they reserve the right to request funding to meet the cost of their publishing requirements if the Governor and the General Assembly again change the amount or continue to not designate it as an estimated appropriation.

Officials from the **Office of the State Public Defender** indicated this initiative petition will not have any substantial impact on their office.

Officials from **Greene County** indicated there are no estimated costs or savings to report from their county for this initiative petition.

Officials from the **City of Columbia** indicated their initial take is that Sec. 8 still leaves the city with the regulatory authority to define the uses and locations of facilities covered by Article XV. The city may not, however, have regulatory authority over land development on the campus developed by the Research Board. This would be similar to the arrangement that exists with the University of Missouri campus in Columbia.

If so, this would mean a loss of revenue, inability to ensure code compliant construction, and compliance with environmental regulations.

Furthermore, is a local business license going to be required in addition to that issued by the state? Will local taxes be able to be collected on the sale of goods sold/manufactured in dispensary or manufacturing facilities? The Article does not appear to speak to these issues. If not, they stand to lose money and may have additional costs incurred in public safety enforcement and utility provision.

It is unclear how many facilities covered by the Article could be licensed. If only a handful of retail establishments or manufacturing facilities are permitted, that may not have significant resource impact. However, if flooded with growers, retail/manufacturing establishments and dispensaries, there could be significant ramifications to service delivery as well as community reputation/image.

If the legislation is passed, it appears as though the city would have approximately two months to prepare their code to address the new uses. This period of time is not sufficient to prepare text changes, hold required hearings with the Planning and Zoning Commission and then have Council take action. A minimum of 90, if not 180 days, would be needed to properly revise the zoning code.

Officials from the **City of Kansas City** indicated no fiscal impact is anticipated if this proposal is adopted.

Officials from **University of Missouri** indicated the University of Missouri Health Care (MUHC) has reviewed the proposed initiative petition and should not incur costs that exceed \$100,000 annually. This is due primarily to the fact that MUHC would have potential conflicts with the U.S. Drug Enforcement Agency (DEA) in the implementation of these proposals and could not implement these services in the facilities.

Brad Bradshaw provided the following information as a proponent of this initiative petition.

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816-606-5324

October 26, 2015

Honorable Nicole Galloway
State Auditor's Office
Truman Building, 301 West High Street
Jefferson City, Missouri 65101

RE: Fiscal Impact Information--- Missouri Medical Marijuana Initiative Petition

Dear Auditor Galloway:

On October 19, 2015, I filed the above-referenced initiative petition with the Secretary of State.

I am submitting the attached fiscal information in support of the initiative petition. In summary, and as detailed in the attached report, using the most conservative data the proposed initiative will generate, via the new medical marijuana tax revenue alone, over \$45 million (45,000,000) annually.

This amendment will be completely self-funded and will not cost any money to the State of Missouri, see amendment Section 4(g), 5(a) - 5(h). The "except as otherwise stated" of 5(f) is in reference to 6(l), which taken together, makes this institute, its development, and the board, completely self-funded by the revenue generated from the medical marijuana tax.

This conservative data shows over 700 permanent high paying new jobs will be initially created, and over 6,600 jobs will be created during the campus development phase, taking the total number of jobs directly created from this amendment to over 7,000. The state's economy will expand by over \$80 million annually.

The attached economic impact study provides a summary on page three, and additional information throughout the document, such as, even the most conservative estimates show an initial yield of two dollars to Missouri for every dollar of investment, page 5-6, and between one and four dollars in private and federal funds for every dollar of investment, page 8.

Please contact me at the address or phone number listed above if you have any questions or comments. I will remain the primary contact on this matter.

Very truly yours,



Brad Bradshaw

THE IMPACTS OF MEDICAL MARIJUANA SALES TAX FOR MISSOURI'S RESEARCH AND DRUG DEVELOPMENT TRUST FUND

October, 2015



Brad Bradshaw MD JD Plan

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Executive Summary

Currently, there is an initiative petition in Missouri that should approve the sale and taxation of medical marijuana to fund medical research. The initiative petition process gives Missouri citizens the chance to take part in shaping the laws of their state. Throughout this process, citizens of Missouri may initiate legislation by either a state statute or a constitutional amendment. The citizens also have the power to repeal active legislation by introducing a veto referendum. The process begins with a citizen introducing an initiative petition, which is then certified by the secretary of state's office, and after the remaining procedures are followed, the secretary of state's office will then approve the petition for the ballot. Following all of the process, the petition would be voted on in the next general election.

The purpose of this report is to examine the impacts of two varying levels of sale of medical marijuana and the sales taxes levied on the sale of the medical marijuana (at both a conservative and an aggressive sales level), and what the impact of the generated tax revenue for a medical research fund would provide to Missouri.

- ✓ Tripp Umbach estimated based on the medical marijuana sales in other similarly-sized states. On average, this industry could generate between **\$45.4 million (conservative)** and **\$58.7 million (aggressive)** in tax revenue in the first year of full operations, which could then be used to conduct medical research within the state of Missouri
- ✓ A conservative estimate of taxes generated in Missouri if medical marijuana is approved would be **\$45.4 million**. Once collected, this tax revenue would be passed through to Missouri's Research and Drug Development Institute, and would generate **\$84.9 million** in business volume impact, supporting above-average paying jobs for a majority of the **548 jobs created or sustained**, and generate more than **\$2.7 million** in new additional state and local tax revenues within Missouri.
- ✓ If the sales of the newly approved medical marijuana in Missouri reach the more aggressive estimate, this would increase the impact seen by Missouri even more. The additional **\$58.7 million** in tax revenue received from the sale of medical marijuana would generate **\$109.9 million** in economic impact for Missouri, through being invested into medical research. This business volume increase would create or sustain **708 jobs** and **\$3.6 million** in state and local taxes.
- ✓ The construction of a **\$1 billion** biomedical research campus to house the research activities would generate nearly an additional **\$1.4 billion** of economic activity through

the development of the construction project. This project would also create or sustain **6,672 jobs** during this period and generate **\$30 million** in state and local taxes.

- ✓ This Missouri Research and Drug Development Institute could also be used to leverage federal medical research funds, dramatically improve the health care in Missouri, and create additional business volume in the state by spinning off thousands of biomedical discoveries, expanding the biomedical research sector in the Missouri economy. Tripp Umbach estimates from other benchmark studies that between \$1 and \$4 for every dollar provided by the state can be leveraged from additional sources such as federal and private sources.
- ✓ Finally, once the research fund and research campus are up and running, the commercialization of this campus will generate massive impact in Missouri. On average, between the conservative and aggressive models, this commercialization is expected to generate \$247.9 million in additional economic activity annually once the fund is successfully conducting research for approximately 10 years. This would also mean 1,652 additional jobs supported in the state and an additional \$8.25 million in state and local government revenue annually once the commercialization of research takes place.
- ✓ Additional impacts could be realized with the donation of charitable funds as well as with a realization of a top 10 drug but this research is not currently available.
- ✓ Finally, this study does not focus on the impact this research could have on the health care cost-savings, however research conducted by Silverstein et al. (1995) shows that NIH-supported research returns seven dollars in health care cost-savings for every dollar invested in NIH supported research.

Each of these impacts, unless stated otherwise, are annual impacts which are expected to remain consistent or grow over time.

The assumptions made in this report are based on the current level of spending on medical marijuana within states where it is legal, the current population of Missouri, the projected tax revenue collected at two levels, and the current IMPLAN multipliers for the biomedical research industry in Missouri. It is important to note that as the industry sectors impacted grow and change, the results of this spending may also grow proportionately.

Taxing Sales of Medical Marijuana

Missouri is looking to approve the use of marijuana as medicine for those citizens who would benefit from access. The initiative petition currently being crafted suggests that the state tax revenues generated from the purchase of any property or services, which fall under the taxable guidelines, be passed through the Missouri Research and Drugs Development Trust Fund to Missouri's Research and Drug Development Institute. The research in this document makes assumptions on the sales rate of medical marijuana as based on current wording in the initiative petition and based on the sales rate in states similar in size who also have passed medical marijuana laws and currently tax this medication¹².

The model this study is based on is that once medical marijuana is legalized, Missouri will take the additional state tax revenue generated and create the a Research and Drug Development Trust Fund. This report estimates the additional tax revenue, which would be collected by this revenue stream at both a conservative level and an aggressive level as it is uncertain the exact number of individuals who would sell or be prescribed the substance, as well as the quantity which would be used throughout the state. The study follows the conservative and aggressive scenarios through the biomedical research spending in state economy and quantifies the economic impact, the jobs created and how this biomedical research spending will help to generate additional government revenue.

Tripp Umbach estimated based on the medical marijuana sales in other similarly-sized states. On average, this industry could generate between **\$45.4 million (conservative)** and **\$58.7 million (aggressive)** in tax revenue, which could then be used to conduct biomedical research within the state of Missouri. Throughout this report the analysis will talk about the conservative scenario impacts³ which is the impact at a lower end of the use scale and a lower

¹ The research is based on a 10% wholesale to retail tax, 75% point of sale tax, \$20,000 cultivation license tax yearly for every 100 square meters (1076.39 square feet) of canopy for harvesting with up to 10 licenses per person, \$50,000 one-time dispensary licenses fee with roughly 300 dispensaries across the state (in subsequent years this fee would change to \$15,000 annually), sales price points ranging from \$7 per gram on the low end to \$30 per gram on the high end.

² Arizona, Colorado, Connecticut, Michigan, and Washington were used as the peer group of states who both have similar populations as Missouri but who also tax medical marijuana to determine baseline averages for these states in their medical marijuana sales and state taxes generated.

³ The conservative scenario factors in a 0.11 gram per capita and a lower price point at \$7 per gram.

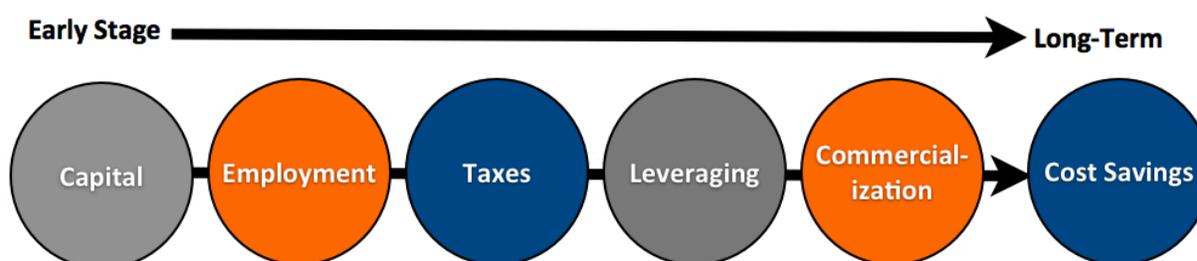
price point and also an aggressive scenario impact⁴ which is the impact a higher end of the use scale as well as a higher level price point.⁵

It is important to note that any discussion of the economic impact of the Missouri Research and Drug Development Institute must be based on an understanding that research investments, by their nature, have a multitude of impacts on any state's economy, both in the present and in the future. Short-term impacts include capital and non-capital investment, employment growth supported by the funds, and new federal medical research funding leveraged by Missouri's funds that expand the state's economy. Longer-term impacts include a strengthened ability to compete nationally for funding and to attract exceptional first-class scientists; the economic and employment advances that will be achieved when medical research and innovation are translated into commercial products and services; and health care cost-savings to the state as a result of innovation (see Figure 1):

Early-Stage Economic Impact of Funding

These tax dollars, once invested in research, will result in an expansion of the state's economy by an estimated **\$84.9 million on the conservative side and \$109.9 million on the aggressive side** within the first year the investment is made into the biomedical research sector in Missouri. Tripp Umbach's economic impact analysis indicates that even in the very early stage, program investments in capital and human resources return nearly two dollars to the state's economy for every one dollar invested. As this research fund matures, this government revenue impact amount will rise to provide even higher levels of return for every dollar

Figure 1: Research Return on Investment Timeline



invested. Spending attributable to the fund is divided into three parts: direct, indirect, and induced impacts⁶.

⁴ The aggressive scenario factors in a 0.88 gram per capita and a higher-level price point at \$30 per gram.

⁵ In order to keep this research at a conservative end of the scale the dispensary number remains static at 300 within the state of Missouri.

⁶ IMPLAN Group, LLC, 16905 North Cross Drive, Suite 120 Huntersville, NC 28078

The direct impacts of program funding include institutional expenditures for capital improvements, goods and services, as well as the spending by researchers, research staff, subcontractors, and visitors who come to these institutions for conferences and meetings. The indirect impacts of these funds result from the direct, first-round expenditures, which are received as income by businesses and individuals in the state and recirculate through the economy in successive rounds of spending. The end result is a multiplied economic impact that is a linear result of the state's investment in research.

Early-Stage Impact of Fund on Employment

Tripp Umbach estimates that in the first year, the Missouri Research and Drug Development Trust Fund will create or sustain between 548 (conservative) and 708 (aggressive) jobs of which, more than half would be high-paying research-related jobs throughout Missouri. These are jobs for which the average pay is 156% of the average pay of an employee in Missouri.⁷ The economic expansion created by the funds allocated to the fund will, in turn, bring about demand for additional employment in the state's economy.

Early- and Later-Stage State Tax Impacts

Tripp Umbach estimates that funds provided in the initial year will result in between \$2.7 million (conservative) and \$3.6 million (aggressive) in tax revenues to Missouri. This is separate from the individual local municipalities which will also generate between \$48 thousand (conservative) and \$844.5 thousand (aggressive) in additional taxes if they kept the sales tax on medical marijuana the same as their local sales tax.⁸ In-state spending by the recipient organizations and spending in the state by out-of-state parties have a significant impact on state tax revenue. Taxes created as a result of spending in the state's biomedical research sector would increase the impact within the Missouri economy, and generation of fresh dollars from outside of the state are expected to grow as early-stage research is commercialized.

Biomedical Research Campus Construction Impact

Across the globe, the biomedical and bioscience fields are growing and innovating at astounding rates. It is a popular economic development strategy for cities to encourage biomedical/bioscience innovation districts to form. Innovation districts can come in a variety of

⁷ According to the IMPLAN data for Missouri the average employee makes \$43,237 annually.

⁸ Based upon the assumption that the average municipality adds an additional 3.085% to the Missouri state sales tax collected.

shapes and sizes, such as bioscience, information sciences, research and manufacturing, etc. Specifically looking at biomedical/bioscience innovation districts, they can be an area of land or a grouping of buildings where research, education, outreach, and health care organizations put down their roots in order to work closely and collaboratively on the most exciting developments in the field. The districts lend themselves to collaboration by allowing researchers, students, doctors, professors, and others to work in the same buildings or spaces to find solutions to shared problems. Start-up companies and commercialization of new ideas and products are common outcomes of innovation districts. The rise in the number of innovation districts within the U.S. has been substantial.⁹

It is a part of the Tripp Umbach assumptions that if this research fund is developed there would be capital funds generated to develop a substantial research campus. With the funds generated from this revenue stream, a large full-scale biomedical research campus in Missouri can be built.

Over the course of this expected capital plan, from the start of the initial development of this campus to the end of Phase 1 the fund is expected to invest \$1 billion in this phase of the capital development project. Over the project period, this spending would translate to an economic impact of nearly \$1.4 billion dollars in statewide economic output, 6,672 jobs and an additional \$30 million dollars in state and local tax revenues. This is in addition to the start-up and annual operational impacts that this campus would have on Missouri as well as separate from the impacts of the tax revenues of the medical marijuana legalization. Additionally, the initial phase is over one-fifth of a square mile on the proposed two square mile campus.

Not only is this a boost to the economy of the area while the construction project is taking place. Following the construction of the biomedical campus the operations of this research fund and other businesses attracted to the area and spin-off from this research are expected to increase economic impact as well.

Traditionally, people have looked at the number of patents in order to measure innovation whereas now we are steadily moving toward tracking the number of start-up companies and amount of venture capital drawn to an area. We can think of these places through the concept of the Innovation City.

⁹ Cities as a Lab: Designing the Innovation Economy. The American Institute of Architects.

Impacts Associated with Leveraged Federal Medical Research Funds

The Missouri academic medical industry and growing life sciences industry will be measurably enhanced by these state funds. This federal medical research funding will help fuel new or improve existing clinical enterprises. According to the Association of American Medical Colleges, Missouri's academic medical industry is among the top 13 nationally in total annual economic impact¹⁰. This points to a strength in the state with room to grow this business industry segment competing strongly alongside other peer states who are also looking to grow the research within their state. It is the experience of Tripp Umbach that once a strong research campus is developed the federal research funds will become attracted to the area. Tripp Umbach estimates that between \$1 and \$4 for every dollar provided by the state can be leveraged from federal and private coffers.¹¹

These funds will encourage researchers at the recipient organizations in the state to collaborate with other research centers, and to apply for and win highly competitive federal grants. These funds once received and used in the state to grow the biomedical research sector in the state will allow this Research and Drug Development Institute to leverage millions in federal health research funding.

Commercialization

Additional impacts which would be realized due to the Missouri Research and Drugs Development Institute are the levels of commercialization that occur when clusters of biotech professionals collaborate. The impacts listed below demonstrate the effects that will be realized as these collaborations and partnerships begin to develop and build a biotech/biomedical sector in the Missouri area. The research is likely to have impactful findings and the development of a top 10 drug or similar medical breakthrough is possible.

Tripp Umbach estimates that after ten years of funding and operations, the commercialization of the Research and Drug Development Institute will produce discoveries and spinoffs which will generate between \$135.1 million and \$297.4 million annually using the conservative level of funding generated by the medical marijuana tax in additional economic activity within Missouri. These activities will also create between an additional 901 and 1,983 jobs. These additional economic and employment impacts will translate into additional state and local government revenue of between \$4.7 million and \$9.7 million annually.

¹⁰ In 2012, Missouri ranked 13th in Academic Medical Impact of AAMC members and COH hospitals.

¹¹ Tripp Umbach has used a variety of research benchmarks from past clients including PA Cancer Alliance, UCRF, Kentucky Lung Cancer Foundation, and many other research university clients.

If the medical marijuana sales generates funds at the more aggressive level, these commercialization impacts will increase exponentially. The higher, more aggressive level for the Missouri Research and Drugs Development Institute. will produce discoveries and spinoffs which will generate between \$174.6 million and \$384.5 million in additional economic activity within Missouri annually. This will increase the employment impact to an additional 1,164 jobs and 2,563 jobs. These additional economic and employment impacts will also convert into additional state and local government revenue of between \$6.1 million and \$12.5 million annually after the initial start-up period and 10 years has passed.

It is important to note that these commercialization impacts are in addition to the annual operational impacts of the Research and Drug Development Institute. These are impacts that are realized after years of research once the breakthroughs or discoveries have been made and are marketed.

The difference with this research and development is that it will retain the intellectual property of the researchers as a part of this fund and the State of Missouri, and will continue to generate income through the discoveries in the form of patents and licensing. This income which is generated by the research conducted through the fund will come back to the state in the form of additional funding for the research fund, through general revenue for the state to be used to pay for pre-schools, elementary and secondary schools, and grants for higher education, roads and infrastructure in the state, medical care for state residents, as well as allotting half of all of the proceeds to provide a state income tax refund equally to all residents of the state paying over \$1,000 in state taxes.

Health Care Cost-Savings

While this study does not include detailed economic impact models that calculate the potential cost-savings attributable to research activities, a growing body of literature provides some potential insights. Breakthrough research by Silverstein et al. (1995) documented \$69 billion in annual economic savings resulted from NIH-supported research. The return on investment calculated by Silverstein was seven dollars in health care cost-savings for every dollar invested in NIH-sponsored research¹².

¹² Cost-Savings Resulting from NIH Research Support, NIH Publication No. 93. Silverstein, H.H. Garrison and S.J. Heinig, 1995.

Appendix A: Definition of Terms

Study Year

The research analysis is in 2015 dollars.

Total Impact

The total impact of an organization is a compilation of the direct impact, the indirect impact, and the induced impact generated in the economy because of the organization.

Direct Impact

Direct impact includes all direct effects the organization has on the regional area due to the organizational operations. These items include direct employees, organizational spending, employee spending, as well as spending by patients and visitors to the organization.

Indirect Impact

The indirect impact includes the impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain until all money leaks from the local economy, either through imports or by payments to value added. The impacts are calculated by applying direct effects to the Type I Multipliers.

Induced Impact

The response by an economy to an initial change (direct effect) that occurs through re-spending of income received by a component of value added. IMPLAN's default multiplier recognizes that labor income (employee compensation and proprietor income components of value added) is not leakage to the regional economy. This money is recirculated through the household spending patterns causing further local economic activity.

Multiplier Effect

The multiplier effect is the additional economic impact created as a result of the organization's direct economic impact. Local companies that provide goods and services to an organization increase their purchasing by creating a multiplier.

Appendix B: Consultant Qualifications

Tripp Umbach has performed more than 500 economic impact studies for medical schools, private corporations, higher education institutions, health care systems, tourist events, bodies of government, and other non-profit organizations. Sample clients include UW Medicine (University of Washington), Lake Erie College of Osteopathic Medicine, General Electric, Regions Bank, University of Minnesota, University at Buffalo, Pittsburgh Regatta, Race for the Cure, Pennsylvania Legislative Budget and Finance Committee, City of Tyler, Texas, PA Cancer Alliance, and National Cancer Institutes. The Tripp Umbach methodology generally employed in these studies is the industry standard methodology IMPLAN developed by the IMPLAN Group LLC.¹³

Tripp Umbach's projections are based on the national experience of peer academic medical centers that have implemented similar academic, clinical, research, and economic development plans over the past 20 years. Since 1995, Tripp Umbach has measured the economic impact of every U.S. academic medical center on behalf of the Association of American Medical Colleges (AAMC) and used historical trending data from this experience in making projections.

Questions and Contact Information:

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Appendix C: Methodology

Tripp Umbach determined that the use of the IMPLAN Pro economic impact model software was most appropriate for this analysis. The IMPLAN econometric model operates by estimating the direct impact, indirect impacts, and induced impacts of specific economic activity. Direct economic impacts, are those attributable to the initial economic activity. For example, an operation with 10 full-time employees creates 10 direct jobs. Indirect economic impacts are those economic activities undertaken by vendors and suppliers within the supply chain of the direct activity because of the initial economic activity. For example, suppliers of goods, materials, and services used in the direct activities produce indirect economic impacts. Induced economic impacts result from the spending of wages paid to employees in local industries involved in direct and indirect activities. Tripp Umbach selected the IMPLAN model due to its frequent use in economic impact, in addition to its development independent of local influences.

In this report, the impact was measured using IMPLAN datasets. The IMPLAN data files include information for 528 different industries (generally three- or four-digit SIC code breakdown) and 21 different economic variables. IMPLAN sources their employment data from ES202 employment security data supplemented by county business patterns and REIS data. Employment data utilized in the analysis includes full-time and part-time positions.

It should be noted that, at the time of performing this assessment, the most recent IMPLAN data files for the state of Missouri were for 2012. While the data is not current, it is unlikely that the fundamental economic structure of Missouri's economic fabric has changed to an extent that would invalidate the analysis. IMPLAN data and 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 and the rectangular format recommended by the United Nations.

Appendix D: Assumptions

Tripp Umbach used a standard set of assumptions to model the economic impacts in this research. The assumptions are based on both current trends in the medical marijuana market as well as the information laid out in the initiative petition.

The research is based details laid out in the initiative petition which state that there will be a 10% wholesale to retail tax, 75% point of sale tax, \$20,000 cultivation license tax yearly for every 100 square meters (1076.39 square feet) of canopy for harvesting with up to 10 licenses per person, \$50,000 one-time dispensary licenses fee with roughly 300 dispensaries across the state (in subsequent years this fee would change to \$15,000 annually), sales price points ranging from \$7 per gram on the low end to \$30 per gram on the high end.

Additionally Tripp Umbach looked at states where medical marijuana was already legal and where the population and state characteristics were similar to Missouri. These states were Arizona, Colorado, Connecticut, Michigan, and Washington were used as the peer group of states who both have similar populations as Missouri but who also tax medical marijuana to determine baseline averages for these states in their medical marijuana sales and state taxes generated. The data for Colorado was taken out as an outlier in sales per capita because it was much higher than the other peer states and the state also allows for sale of recreational marijuana. With these calculations the conservative scenario factors in a 0.11 gram per capita and a lower price point at \$7 per gram. Then the aggressive scenario factors in a 0.88 gram per capita and a higher-level price point at \$30 per gram. In order to keep this research at a conservative end of the scale the dispensary number remains static at 300 within the state of Missouri and there was an assumption of an average of 5 licenses per dispensary. Finally, using the Missouri current sales tax data as the model, there was also an assumption that the average municipality adds an additional 3.085% to the Missouri state sales tax collected.

The research facility data was modeled based on Tripp Umbach past experience modeling such research centers for clients such as PA Cancer Alliance, University Cancer Research Fund in North Carolina, Kentucky Lung Cancer Foundation, and many other research university clients.

It should also be noted that, this amendment will self-fund the agency, no cost to Missouri. This means that except where otherwise stated the entire amendment will completely self-fund or will operate at no cost to the state of Missouri. The only exception to this would be for land acquisition as noted in Section 4(g), 5(a) - 5(h), and 6(l) of the initiative petition.

The State Auditor's office did not receive a response from the **Department of Agriculture, the Missouri Senate, the State Treasurer's office, Adair County, Boone County, Callaway County, Cass County, Clay County, Cole County, Jackson County Legislators, Jasper County, St. Charles County, St. Louis County, Taney County, the City of Cape Girardeau, the City of Jefferson, the City of Joplin, the City of Kirksville, the City of Mexico, the City of Raymore, the City of St. Joseph, the City of St. Louis, the City of Springfield, the City of Union, the City of Wentzville, the City of West Plains, Cape Girardeau 63 School District, Hannibal 60 School District, State Technical College of Missouri, Metropolitan Community College, St. Louis Community College, and the Lieutenant Governor's Office.**

Fiscal Note Summary

This proposal is estimated to generate annual taxes and fees of \$45 million to \$58 million for medical research with state and local government implementation costs. Medical research job creation and other economic activity is likely to result in significant additional tax revenues to state and local governmental entities.