

**MISSOURI STATE AUDITOR'S OFFICE  
FISCAL NOTE (07-16)**

**Subject**

Initiative petition from Lori Buffa regarding a proposed constitutional amendment to be known as Article III, Section 38(e). (Received September 5, 2007)

**Date**

September 25, 2007

**Description**

This proposal would amend Article III of the Constitution of Missouri by adding Section 38(e). This new section makes it unlawful to clone or attempt to clone a human being as defined in the section. In addition, this section prohibits the use of tax payer dollars for cloning or attempting to clone a human being or to research or experiment using human embryos derived from cloning or attempting to clone a human being.

The amendment is to be voted on in November, 2008.

**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/Office of Administration**, the **Missouri House of Representatives**, the **Department of Conservation**, the **Office of State Courts Administrator**, the **Department of Transportation**, the **Missouri Senate**, the **Secretary of State's Office**, the **Office of the State Public Defender**, the **State Tax Commission**, the **State Treasurer's Office**, Cole County, Greene County, Jackson County, St. Louis County, the City of Columbia, the City of Jefferson, the City of Kansas City, the City of St. Louis, Cape Girardeau 63 School District, Hannibal School District #60, Rockwood R-VI School District, Linn State Technical College, Metropolitan Community Colleges, the University of Missouri, St. Louis Community College, the University of Central Missouri, Harris-Stowe State University, Lincoln University, Missouri State University, Missouri Southern State University, Missouri Western State University, Northwest Missouri State University, Southeast Missouri State University, Truman State University, the Missouri Technology Corporation, and the Missouri Life Sciences Research Board.

**Brad Ketcher of the Ketcher Law Firm, LLC** provided information to the State Auditor's Office.

### **Assumptions**

Officials from the **Attorney General's Office** indicated that any potential costs arising from the implementation of this proposal can be absorbed with existing resources. However, they assumed that because this proposal has the potential to be the subject of state and federal litigation, potential costs are unknown.

Officials from the **Department of Economic Development** indicated this proposal would have a significant negative impact on General Revenue, federal funds and local funds. The department anticipates a negative impact on public and private research institutions as well as on economic development efforts of local and regional government. In addition, they indicate that the passage of this constitutional amendment could have significant impact on small technology business growth and development.

The department assumes that placing the issue on the ballot by initiative petition will have no impact on General Revenue. However, they indicate that passage of the ballot initiative could have impact on the general revenue of this state. While the department did not make any fiscal projections, they do anticipate that this could have a significant economic impact and therefore impact general revenue.

This bill should have no known direct administrative or fiscal impact on the department. However, they do indicate there is a possibility that impact on the state general revenue could impact their agency to an unknown extent. If passed, this proposal could impact the department's mission to attract and retain business as well as grow business within the state.

The department also indicated that passage of the constitutional amendment could have significant economic impact on future research, entrepreneurship, and business development within Missouri. The department did not conduct any specific fiscal or economic projections on the impact of the constitutional amendment. However, they do anticipate that future projects and opportunities could be put at risk by passage of this amendment.

The **Department of Health and Senior Services** indicated no impact as a result of this initiative petition.

The **Department of Insurance, Financial Institutions and Professional Registration** indicated this proposed amendment will have no cost to the department.

The **Department of Public Safety** indicated there is no fiscal impact for this petition on the director's office.

Officials from the **Governor's Office/Office of Administration** indicated passage of this proposal should not result in additional costs or savings to their agencies.

Officials from the **Missouri House of Representatives** anticipates no fiscal impact as a result of the initiative petition.

The **Department of Conservation** indicated no fiscal impact expected to their agency as a result of proposal.

The **Office of the State Courts Administrator** indicated that the proposed initiative petition should not have a fiscal impact on the judiciary.

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. The Secretary of State's 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 \$1.6 million historically appropriated in even numbered fiscal years and \$100,000 appropriated in odd numbered fiscal years to meet these requirements. The appropriation has 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 2007, at the August and November elections, there were 6 statewide Constitutional Amendments or ballot propositions that cost \$1.2 million to publish (an average of \$193,000 per issue). Therefore, the Secretary of State's office assumes, for the purposes of this fiscal note, that it should have the full appropriation authority it needs to meet the publishing requirements.

Officials from the **Office of the State Public Defender** indicated this proposed constitutional amendment will have no significant impact on their office.

The **State Tax Commission** indicated this petition will not impact their organization.

Officials from the **State Treasurer's Office** indicated that there is no fiscal impact on their office as a result of this petition.

The **City of Jefferson** indicated that they do not anticipate any fiscal impact should this petition become law.

Officials from the **City of Kansas City** indicated this proposal will restrict the medical research performed in Kansas City by forbidding certain stem cell research, including somatic cell nuclear transfer.

It is estimated that the City received earnings taxes of almost \$171,000 in 2006 just from the work force at the Stowers Institute for Medical Research/Stowers Institute for Resource Development. It is also estimated that the State of Missouri earned almost

\$763,000 in state income taxes. The Greater Kansas City Community Foundation reported in 2005 that the Stowers Institute for Medical Research is projected to increase funding each year by 20% to 25%, so that by 2015 it will be conducting \$300 million of research annually. That represents a continuous significant increase in earnings tax receipts (1% of gross salary). The Stowers Institute has doubled in personnel since 2005 and is estimated to increase again by another 50%, to about 550 scientists, researchers, staff support and other employees.

Although not pinpointed by city, but rather by the Kansas City, Missouri-Kansas area, the Kansas City Area Life Sciences Institute has estimated that 58% of the life science companies will increase employment over the next 36 months - assuming no change in the regulatory environment for this research. The Kansas City Area Life Sciences Institute reports that three dozen of the 145 companies or private organizations - one in four - involved in human life science research in the region are located within Kansas City.

The Kansas City Area Life Sciences Institute estimates that the counties in which Kansas City is located contain over 8,000 jobs in the life sciences. Of course, not all of those jobs relate to research involving SCNT, but the important fact is that there is in the Kansas City, Missouri - Kansas area significant life sciences jobs. That these jobs can be clustered sustains the larger growth in this field of medical research. Eliminating research using SCNT will erode the cluster effect of the remaining jobs and increase the adverse financial impacts felt by the area. Therefore, the loss of earnings tax should be considered the lowest amount of adverse financial impact since adoption of the proposed Constitutional Amendment will result in a reduced cluster of jobs.

The lost of employment represented by earnings tax of \$171,000 is roughly \$17.1 million in gross earnings. The loss of sales tax from the transfer of those jobs to another state where SCNT research would be lawful is significant. The City of Kansas City estimates in its current budget earnings tax receipts of \$199,250,000 and sales tax receipts of \$157,781,250, or about 79% of the earnings tax. If that ratio remained constant, the loss of \$171,000 in earnings tax represents an additional loss of about \$135,000 in sales tax just from the loss of the Stowers Institute for Medical Research / Stowers Institute for Resource Development and all of its jobs. Again, these estimates are the lowest estimates because of the planned expansion of the Stowers Institute - if the legal environment for stem cell research as guaranteed by current law is continued.

The financial impact of these jobs leaving the Kansas City area also will include the loss of the multiplier affect as payroll is recirculated within a local economy.

The **City of St. Louis** indicated that the fiscal impact of the proposed constitutional amendment will be both extremely serious and extremely negative with \$14.3 million in annual lost revenue as a conservative estimate of this negative impact on the city.

The new initiative petition filed by opponents of stem cell research purports to ban “human cloning.” In addition to what is commonly thought of as “human cloning”—a

practice already banned by the Missouri Constitution—the amendment will ban one of the most promising new types of stem cell research, somatic cell nuclear transfer or “SCNT,” a procedure for medical research or for treating disease that involves replicating (or “cloning”) a patient’s own skin cell in a lab dish in order to create healthy new cells to help treat his or her disease. This process is currently permitted by the Missouri Constitution but would be banned if the proposed amendment is passed. SCNT is also sometimes referred to as “therapeutic cloning” because the cells are copied for the purpose of providing or developing a therapy for a patient’s disease or injury.

The economy of the City of St. Louis is closely tied to the City’s image as a cutting edge center for medical research. The City of St. Louis ranks 12th in a listing of the Top 100 Cities for grants from the National Institutes of Health, with \$441 million in grants flowing into the City in 2005 from NIH sources. This \$444 million represents 85% of all NIH support flowing into the State of Missouri. These grants support our hospitals and medical schools (Washington University School of Medicine, St. Louis University, Barnes-Jewish Hospital, and St. Louis Children’s Hospital), and, assuming that 60% of the funding pays salaries, account for approximately 5,300 jobs in the City. If only half of these jobs are lost—and it is a given that many of these jobs will be lost over time if this amendment is passed—the City will lose \$1.3 million in revenue each year—\$50,000 x 5,300 x 50% x .01 City earnings tax.

As the following table shows, the City’s hospitals alone account for nearly 19,000 jobs in the City, and other medical, professional and scientific and technical occupations account for an additional 15,000 jobs. Thus, 34,000 of the City’s 221,000 jobs—nearly 17%—are related to medical research and treatment and related professional occupations. Many additional jobs reside in the City’s colleges and universities—because colleges and universities do not report their employment data in the same manner as other places of business, detailed job and wage data for colleges and is not available from the U. S. Bureau of Labor Statistics.

A threat to ban and criminalize any type of medical research puts a black cloud over our entire state. Scientists in general will view Missouri as a regressive and unfriendly place for life sciences research, and those who make careers of cutting-edge research will not locate in Missouri. In recruiting scientists and companies, perception of the research environment is very important. Some scientists have already said that they would not come to Missouri due to threats to overturn Amendment 2 and potentially criminalize research. The initiative petition now proposed will have a drastic impact on our universities and medical schools. These schools are the engines that drive both our existing medical and research facilities and the promise of a thriving concentration of young and mature science-based companies, like those who are beginning to occupy the CORTEX campus.

The proposed amendment will not only discourage growth in the institutions and businesses directly impacted by the amendment—the deleterious impact on health care over time will also impact the quality and size of our hospitals and our City’s ability to attract and retain talent and employers from any industry. Quality of life, in particular

quality of available medical care, has become a top issue in the selection of company locations. St. Louis enjoys access to some of the world's premier health care facilities in Washington University, the BJC Medical Center, and Saint Louis University, all of which are teaching hospitals. The regressive negative intellectual environment created by opposition to the newest medical research and treatments will certainly erode this quality of care as it will no longer be possible to attract top students for these schools and top professionals to staff the hospitals. This proposed Constitutional Amendment banning promising forms of stem cell research would also criminalize any patient who might one day get a cure from such a procedure, thus costing these hospitals patients. Again, restricted access to the newest areas of medicine erodes the quality of life we take for granted from the great medical institutions available to us now.

#### RESEARCH-RELATED JOBS AND WAGES IN THE CITY OF ST. LOUIS

Source: U. S. Bureau of Labor Statistics--2006

TYPE	BUSINESSES	JOBs	TOTAL ANNUAL WAGES	% OF TOTAL BUSINESSES	% OF TOTAL JOBS	% OF TOTAL WAGE BASE
Medical Equipment & Supplies Manufacturing	15	516	19,613,949	0.19%	0.23%	0.19%
Professional, Scientific & Technical Services	889	14,642	952,212,500	11.11%	6.63%	9.12%
Hospitals	13	18,634	769,206,410	0.16%	8.43%	7.37%
<b>TOTALS--LIFE SCIENCES RELATED:</b>	<b>917</b>	<b>33,792</b>	<b>1,741,032,859</b>	<b>11.46%</b>	<b>15.29%</b>	<b>16.67%</b>
<b>City of St. Louis Totals:</b>	<b>8,000</b>	<b>221,000</b>	<b>10,442,455,000</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

A 10% loss of jobs in the three categories shown in the above table will cost the City more than \$10 million each year in direct loss of the 1% City earnings tax from these employees. It is also safe to say that this 10% loss will have a similar ripple effect in the thousands of other employees who serve the needs of the hospitals—laundry services, transportation, construction, wholesale food sales, and others.

In addition, passage of the proposed amendment will cost the City growth. The Battelle Institute of Cincinnati has already predicted that if current trends (absent this amendment) continue, Missouri will be eclipsed as a life science-driven economy by other states and regions. On the other hand, Battelle also predicts that if the state aggressively pursues the life sciences and makes the necessary investments over the next ten years in the research capacity and technology commercialization areas, the state would add more than 21,000 permanent jobs in life science industries, for the most part well-paid, quality employment. Conservatively assuming that one fourth of these jobs would be located in the City, given the City's predominance as a center for medical research, further assuming conservatively that each new job had a salary of \$50,000 per year, and further assuming that this salary grew by 3% each year, the loss of these new jobs to the City would cost the City an average of \$3 million per year once these jobs were fully situated. Again, it is also safe to say that this loss will have a similar ripple effect in the thousands of other employees who could be hired to serve the needs of the growing hospitals and

research/development businesses—laundry services, transportation, construction, wholesale food sales, and others.

In summary, we therefore conservatively estimate that the proposed amendment will cost the City of St. Louis a minimum of \$14.3 million per year in direct general revenue—approximately 3.5% of the City’s general revenue budget—and countless millions more in indirect revenue. This is a loss that the City cannot tolerate in the face of rising costs and rising service needs.

As the Battelle Institute report stated in 2003, “If Missouri does not choose its ‘fork in the road’ consciously, deliberately, and with full knowledge of the consequences, it may take a fork that neither it nor its citizenry chooses. ...one fork may take Missouri to 21,000 additional well-paying jobs, \$7.2 billion in additional gross regional product, and more than \$3.9 billion in real disposable income over the next decade. The other fork may not only cost the state these jobs, but, if the state and the private sector simply continue existing trends, it may also mean further significant job and economic losses in key life science industries such as drugs and pharmaceuticals and medical devices.”

A ban on SCNT will seriously harm the Missouri economy and its life science industry, in particular that industry in the City of St. Louis. The threat of such a ban has already caused harm in Kansas City, where the noted Stowers Institute has been unable to recruit the scientists necessary to carry out the Institute’s work. If the Institute expands in another state, Missouri will lose millions of dollars in economic benefit directly related to stem cell research that is not “human cloning.” Human cloning is currently banned by the Missouri Constitution. Opponents of stem cell research have falsely claimed that human cloning is not banned, because they also want to forbid promising medical procedures that require the copying of cells. However, the terminology, the concepts, and the distinction used in the Missouri Constitution are the same as used by America’s most respected doctors and scientists.

America’s most respected doctors and scientists believe that “reproductive cloning” should be banned, but that “therapeutic cloning” should be encouraged because it holds great medical promise to lead to cures for debilitating diseases—this is also the current philosophy espoused in the Missouri Constitution. In 2002, forty Nobel Prize Winners sent a letter to members of the U.S. Senate making this important distinction. Nobel Prize-winning Scientist Paul Berg has stated that “cloning humans and ‘therapeutic cloning’ are fundamentally different. The cloning of a human being should be prohibited. Therapeutic cloning, on the other hand, is meant to produce stem cells, not babies.” What the proposed amendment would ban is the same procedure that stem cell research opponents have tried unsuccessfully to ban in the legislature for the past five years. The passage of the “Stem Cell Amendment” in late 2006 ended the legislative battle. That battle has now moved to the voting booth with the proposal for this amendment.

In an effort to help quantify the economic impact of a new effort to undo Missouri’s constitutional research and cures protections, the Coalition for Plant and Life Sciences, the Center for Emerging Technologies, and the Nidus Center for Scientific Enterprise

collaborated on a survey of St. Louis science and technology-based companies and St. Louis investment firms and organizations that specialize in investments with science-based companies. This survey sought to measure the potential impact of this new proposal.

Responses were received from eleven science and technology companies. The results, summarized below, clearly demonstrate that an overwhelming majority of the leaders of these companies would find the amendment to be a severe impediment to growing their companies in Missouri, that a majority of respondents would consider moving their companies out of Missouri if the amendment passes, and that a majority of respondents believe that the amendment would be perceived as an anti-research initiative that would make Missouri an unattractive location for the high growth science-based companies that have become a major part of the City's bread and butter.

- 55% said the new amendment would make them less likely to keep their company in Missouri
- 45% said it would have no effect
- 0% said it would make them more likely to remain in Missouri
- 73% said the new amendment would make it more difficult to recruit scientists and other talent to Missouri
- 18% said it would have no effect
- 9% said it would make it easier to recruit scientists and other talent to Missouri
- 73% said the new amendment would make it more difficult to attract investors and capital to their company in Missouri
- 27% said it would have no effect
- 0% said it would make it easier to attract investors
- 73% said the new amendment would increase the pressure to relocate their company to another state
- 27% said it would have no effect
- 0% said it would decrease the pressure to relocate
- 73% said the new amendment would increase the likelihood that existing companies would avoid Missouri when considering whether to locate here
- 18% said it would help attract companies to Missouri
- 9% said it would have no effect
- 82% said the new amendment would make entrepreneurs considering starting a company in Missouri more likely to start their company in another state
- 18% said it would have no effect
- 0% said it would make entrepreneurs more likely to start their company in Missouri

The seven Missouri-based venture capital firm and investor organization respondents were unanimous in their agreement that this newly proposed amendment would harm Missouri's business climate by overturning our current protections for science and research.

- 100% said the new amendment would make it more difficult to relocate existing companies to Missouri
- 0% said it would be easier to relocate companies to Missouri
  
- 100% said the new amendment would make it more difficult to establish new companies in Missouri.
- 0% said it would be easier to establish companies in Missouri

It is important to note that none of the surveyed companies or investors is involved in stem cell research. That being the case, these results are evidence of the serious harm that this proposed amendment would wreak, not just on companies involved in stem cell research but on the wide variety of companies in Missouri that depend on scientific research for their survival and growth. Any threat to science of any type creates a chilling environment and negatively affects our business climate.

While it is not possible to quantify the results of this survey in terms of specific economic impact on the City of St. Louis, we believe these results clearly support the above assertions that if the amendment passes the City will lose both existing jobs and new opportunities, and as a result will lose, at a minimum, the \$14 million per year in revenue referenced above.

In summary, the negative impact on the amount of research and the consequential economic development emerging from the scientific research that would result from the proposed amendment would impact the City of St. Louis disproportionately: the City would suffer a very substantial reduction in scientific and medical activity and the sacrifice of significant future growth potential. As the chart above shows, medical research and treatment are extremely significant parts of St. Louis's current economy; as the CORTEX initiative and the Battelle report demonstrate, these economies are also very important parts of our future. As the survey results demonstrate, businesses involved in scientific research of all types and the businesses involved in raising capital for these research businesses would seriously question their futures in Missouri. Given the negative attitudes of businesses already ensconced in Missouri to the passage of this amendment, it is also obvious that businesses outside Missouri would have equally if not more strongly negative attitudes and would not locate in the City of St. Louis or Missouri.

Officials from **Linn State Technical College** indicated there appears to be no fiscal impact on their organization as a result of this initiative petition.

**Metropolitan Community College** indicated this proposed amendment would have no significant fiscal impact on their organization.

The **University of Missouri** indicated the proposed amendment's greatest potential impact is on the University's ability to retain and recruit top researchers who will contribute to the research enterprise to the ultimate benefit of the state's economy. The perception that a state has a hostile attitude toward research can have a dampening effect on recruitment and retention of faculty. Legal restrictions on research, such as those this amendment would impose, will have a deleterious effect on faculty perceptions and a negative impact on the University's ability to conduct cutting edge research.

Competition to retain and attract research faculty is exceedingly high. Faculty consider many factors when deciding whether to stay in current positions or accept offers in other states include: supportive environment for research, level of state and private support, institutional reputation, and availability of modern research facilities. However, a faculty member's career decisions are personal in nature. Thus it is not possible to determine with any precision the costs in terms of lost productivity, grants, human capital, and subsequent impact on the state economy.

The **University of Central Missouri** indicated this initiative will not affect their organization as they do not engage in stem cell research or medical research involving human organisms.

Officials from **Lincoln University** indicated the proposed amendment will not have a cost impact on their organization as they are not engaged in research activities relative to human cloning.

Officials from **Missouri State University** indicated that they do not perceive there to be any fiscal impact on their organization as a result of this proposed constitutional amendment.

**Missouri Southern State University** has determined that the proposed constitutional amendment would not have any fiscal impact on their operations.

**Missouri Western State University** does not anticipate any direct fiscal impact as a result of this initiative petition.

Officials from **Northwest Missouri State University** determined that this measure would have no estimated costs or savings impact on their organization.

**Truman State University** indicated no fiscal impact on their organization.

**Mr. Brad Ketcher of the Ketcher Law Firm, LLC** provided fiscal impact information related to the proposal which is summarized as follows:

**STATE IMPACT**

	<u>FY 2009</u>	<u>FY 2010</u>	<u>FY 2011</u>
GSP Reduction	\$280m	\$403m	\$386m
Loss of Stowers Phase II			
State Tax Revenue	\$10.6m	\$15.3m	\$14.7m
Lose of Stowers Phase II (3.8% of GSP)			
GSP Reduction	\$1.7b	\$2.1b	\$2.5b
10% Chilling Effect on R&D			
TOTAL LOSS OF STATE TAX REVENUE (Phase II + chill)	\$64.6m	\$79.8m	\$95m

**LOCAL GOVT IMPACT**

	<u>Annual</u>
KC Loss of Stowers Phase II	\$339k
Personal Income	
KC Loss of Stowers Phase II	\$113k
Earnings Tax	
KC Loss of Personal Income	\$154m
10% Chilling Effect on R&D	
St. Louis Loss of Personal Income	\$331m
10% Chilling Effect on R&D	
Boone Co. Loss of Personal Income	\$20m

The State Auditor's Office did not receive a response from the **Department of Agriculture**, **Department of Elementary and Secondary Education**, the **Department of Higher Education**, 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 Social Services**, the **Department of Transportation**, the **Missouri Senate**, Cole County, Greene County, Jackson County, St. Louis County, the **City of Columbia**, Cape Girardeau 63 School District, Hannibal 60 School District, Rockwood R-VI School District, St. Louis Community College, Harris-Stowe State University, Southeast Missouri State University, the **Missouri Technology Corporation**, and the **Missouri Life Sciences Research Board**.

### **Fiscal Note Summary**

This proposal could have a significant negative fiscal impact on state and local governmental entities due to its prohibition of certain research activities. However, the total costs to state and local governmental entities are unknown.