

## **STRONGER** by DEGREES



## **MEETING AGENDA**

### **Lung Cancer Research Governance Board**

Wednesday, November 18, 2015  
Conference Room A

The Council on Postsecondary Education is Kentucky's statewide postsecondary and adult education coordinating agency charged with leading the reform efforts envisioned by state policy leaders in the *Kentucky Postsecondary Education Improvement Act of 1997*. The Council does not discriminate on the basis of race, color, national origin, sex, religion, age, or disability in employment or the provision of services, and provides, upon request, reasonable accommodation, including auxiliary aids and services necessary to afford individuals with disabilities an equal opportunity to participate in all programs and activities.

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**AGENDA**  
Kentucky Lung Cancer Research Program  
Governance Board

Council on Postsecondary Education  
Wednesday, November 18, 2015  
2:00 PM  
Conference Room A

- 
- |  |   |
|--|---|
| 1. Welcome and Call of Roll                                      |   |
| 2. Review of Minutes - August 19, 2015                           | 3 |
| 3. Cash Activity Report  | 5 |
| 4. Economic Impact Study Discussion - Nicole Parker, TrippUmbach | 6 |
| 5. Other Business  |   |
| 6. Adjourn   |   |

# Kentucky Lung Cancer Research Program Governance Board

August 19, 2015  
Meeting Minutes

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The Kentucky Lung Cancer Research Program Governance Board met Wednesday, August 19, 2015, at 2:00 p.m., ET, at the Council on Postsecondary Education, Conference Room A, Frankfort, Kentucky. Chair James Roach presided.

## **WELCOME AND ROLL CALL**

The meeting of the KLCRP Governance Board was called to order by the Chairman, Dr. James Roach. Roll Call was taken and the following members were present: James Roach, (MAL and Chair), Jason Chesney (UofL), Mark Evers (UK), Joe Graviss (MAL), Amdullah Khan (MAL – by video conference), Rajan Joshi (MAL) and Tim Mullett (UK). Dan Flanagan (CPE) was absent. Others present were: Nathan Vanderford (UK), Kris Damron (UK, KCTN), Elisha Maxson (UK), Milton Pierson (UofL), Dianne Konzen (UofL), Travis Powell (CPE, General Counsel), Rebecca Bowman (CPE, Administrative Services), and Debbie Weakly (CPE staff to KLCRP).

## **APPROVAL OF MINUTES**

Chair Roach called for a motion to approve the minutes of the May 20, 2015 meeting. A motion was made by Don Miller and seconded by Jason Chesney. The minutes were approved.

## **CASH ACTIVITY REPORT**

Travis Powell referred to the Cash Activity Report in the Board packet. Rebecca Bowman stated the interest earnings are currently \$37,116.76 and the cash balance is \$644,214.13. One-half of the invoice for Tripp Umbach has been paid.

## **ECONOMIC IMPACT STUDY**

Travis Powell reminded the Board that up to \$20,000 had been authorized to pay a consulting firm for the Economic Impact Study and Tripp Umbach had been selected. Travis indicated that a report should be ready for review by the next meeting and Nicole Parker would be available for a conference call to answer any questions. Joe Graviss asked if they would be able to explain their formulas and Travis responded he would request they provide the methodology of how they arrived at the data.

## **MARKETING PLAN UPDATE**

Milton Pierson stated the committee had not met again since the last Board meeting and they were waiting on the Economic Impact Study to be finalized. They want to make sure that all information from the study is integrated in the brochure.

**KLCRP PROGRAM COORDINATOR**

Travis referred to page 15 of the meeting materials which outlined some hiring scenarios and timeline. Nathan Vanderford stated a job description had already been drafted and copies were made available to those attending the meeting. Discussion centered around the questions of how the position would be funded since the interest earnings were not sufficient to fund the position, whether or not the position is actually needed if additional funding could not be generated by that person, and the value of using funds for this position that could otherwise be used for research or center operations. At the conclusion of the discussion, Chair Roach stated that he felt the consensus was to hold off on any additional work or discussion related to the position until program funding for the next biennium has been set.

**OTHER BUSINESS**

There was no other business for discussion. Travis stated he will find out when Tripp Umbach will have the final report before setting the next meeting date. An e-mail will be sent to Board members for available dates in November.

The meeting was adjourned at 2:30 pm.

Council on Postsecondary Education  
 Lung Cancer Research, Tobacco Settlement Fund (6349 fund)  
 FY16 Cash Activity Report as of October 31, 2015

Date	Description	Interest	Ovarian	Combined LC Pool	UK Lung Cancer		UofL Cancer		Total Allocation (Calculated)	comment	CASH
					Grants	Programs	Grants	Programs			
	Final FY15 carryforward balances	44,405.31	-	-	607,096.44	-	-	0.93			651,502.68
	YTD Interest Earnings as of 10.31.15	165.70							-		651,502.68
7/25/2015	APA annual audit fee	(7,344.00)									651,668.38
	FY16 appropriation - yet to be received	4,972,500.00									644,324.38
	FY16 appropriation - JV2T will be completed near FY year end		800,000.00		750,000.00	1,550,050.00	750,000.00	1,122,450.00	4,972,500.00		
	Cash Balance	37,227.01	-	-	607,096.44	-	-	0.93			644,324.38



# THE ECONOMIC IMPACT OF THE KENTUCKY LUNG CANCER RESEARCH PROGRAM

NOVEMBER 2015

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## KENTUCKY LUNG CANCER RESEARCH PROGRAM (KLCRP) KEY FINDINGS

The economic impact of dedicated tobacco funding for KLCRP has resulted in significant impacts for the Commonwealth of Kentucky. The report looks at the current and cumulative impacts of tobacco funding for KLCRP's two institutions – University of Kentucky (UK) and University of Louisville (UofL). These impacts and investments into the research enterprise at both institutions have provided each university with the ability to recruit and retain top research talent which further grows the impact. Dedicated funds for cancer research have allowed each institution to work on expanding access to cutting edge cures for cancer, clinical care close to home, and top research talent.

### CURRENT IMPACT OF KLCRP

**\$6.5 million in impact**

**64 Jobs**

**\$200,000 in state and local taxes**

In 2014, funding for KLCRP generated **\$6.5 million** in economic impact, supported **64 jobs**, and over **\$200,000** in state and local government revenue.

### CUMULATIVE IMPACT OF KLCRP

**\$103.7 million in impact**

**1,000 Jobs**

**\$3.4 million in state and local taxes**

State funding allocated for lung cancer research to KLCRP has generated **\$103.7 million** in impact since the start of the program. The support of lung cancer research returned **nearly two dollars to the state's economy for every one dollar invested**.

State tobacco funding allocated to KLCRP has supported and sustained over **1,000 jobs** since its inception. This is the equivalent of 71 jobs per year since 2001.

State and local government revenue has totaled **\$3.4 million** since the development of KLCRP.

### CUMULATIVE IMPACT OF LEVERAGED RESEARCH FUNDING

**\$603.7 million in impact**

**4,426 Jobs**

**\$20.6 million in state and local taxes**

Since the inception of KLCRP, UK and UL faculty who have been awarded an investigator-initiated KLCRP grant have brought in significant research dollars resulting in an economic impact of **\$603.7 million**. These dollars are in addition to the state tobacco funds allocated to KLCRP. These grants support an additional **4,426 jobs** and generate **\$20.6 million** in state and local taxes.

### COMBINED IMPACT OF KLCRP AND LEVERAGED RESEARCH FUNDING

**\$707.4 million in impact**

**5,426 Jobs**

**\$24 million in state and local taxes**

The combined impact of state tobacco funds with KLCRP investigator-initiated research projects totaled **\$707.4 million**, **5,426 jobs**, and **\$24.0 million** in state and local government revenue. The combined return on investment as a result of dedicated funding support of KLCRP researchers is \$11.34 per dollar invested or leveraged.



## EXECUTIVE SUMMARY

### INTRODUCTION

The Kentucky Lung Cancer Research Program (KLCRP) was established in 2000 by a legislative act to be financed by Tobacco Master Settlement Agreement (MSA) funds. The primary goal of the KLCRP has been to “...reduce the mortality and morbidity of lung cancer in Kentucky”. This 20-year initiative mandates the combined efforts of the University of Kentucky and the University of Louisville in lung cancer translation and clinical research, early detection and epidemiology initiatives, and the development of the Kentucky Clinical Trials Network. When mature, these initiatives and programs will identify Kentucky as a leader in lung cancer epidemiology, diagnosis, and treatment.

In order to administer the KLRP, the legislation created a research consortium between the University of Kentucky and the University of Louisville known as the Governance Board of the Lung Cancer Research Project. This 9-member Governance Board consists of representatives from both institutions, members of the Council on Postsecondary Education (CPE), and members-at-large. Use of the Tobacco MSA funds for a cancer research initiative was relatively unprecedented, with only a few other states on record using state tobacco funds funds in this way.

Priority initiatives stipulated in the enabling legislation include:

- Early detection and epidemiology of lung cancer
- NCI designation as a cancer center
- Investigator-initiated lung cancer research

*In the Commonwealth of Kentucky, mortality from lung cancer exceeds deaths from breast, colorectal, prostate and pancreatic cancer, combined. In an effort to improve survival of Kentuckians with lung cancer.*

*In an effort to raise awareness and improve survival of Kentuckians with lung cancer, the Kentucky General Assembly of 2000 established the Lung Cancer Research Fund. This 20-year initiative serves as an impetus for the combined efforts of the University of Kentucky and the University of Louisville to become nationally recognized as leaders in lung cancer epidemiology, diagnosis and treatment.*

*(from <http://www.cancer-rates.info/ky>)*

The aim of this report is to illustrate in detail the positive economic impact that KLCRP dollars have on Kentucky’s economy; it is important to note that these impacts have been **annual** since the KLCRP’s inception. Through expanding the state economy, creating jobs, generating tax revenue, encouraging scientific collaboration, and leveraging federal research funds, these dollars have provided a significant benefit to the State of Kentucky. The Kentucky Lung Cancer Research Fund (Fund) was established in 2000 by a legislative act with Tobacco Master Settlement Agreement (MSA) funds to finance the Kentucky Lung Cancer Research Project (KLCRP).

Economic impacts presented in this report are broken out into two categories: 1) State tobacco funds allocated for KLCRP research; and 2) Operational Impacts associated with spending by the University of Louisville and the University of Kentucky on lung cancer research and related activities. These impacts are calculated both cumulatively and for the current year.

### 1. IMPACT OF STATE TOBACCO FUNDS ALLOCATED TO KLCRP RESEARCH ACTIVITIES

- Cumulative Impact of State Tobacco Funds allocated to KLCRP Research Activities
- Current Impact of State Tobacco Funds allocated to KLCRP Research Activities

### 2. OPERATIONAL IMPACT OF STATE TOBACCO FUNDS SPENT ON KLCRP RESEARCH ACTIVITIES

- Cumulative Operational Impact of University of Louisville and University of Kentucky Research Expenditures
- Current Operational Impact of University of Louisville and University of Kentucky Research Expenditures

### 3. CUMULATIVE IMPACT OF KLCRP-INVESTIGATOR LEVERAGED RESEARCH FUNDING

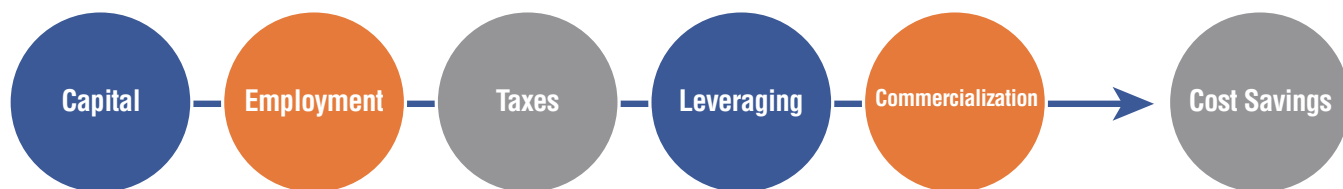
- Cumulative impact of UK and UofL KLCRP grant funding recipients who have obtained additional research funding as a result of KLCRP tobacco funding support.

## IMPACTS OF COMMONWEALTH OF KENTUCKY TOBACCO FUNDING

The impact of research and the funding of research has both short- and long-term impacts. Therefore, any discussion of the economic impact of these state tobacco funds must be predicated on an understanding that research investments, by their nature, have a multitude of impacts on a state’s economy, both in the present and in the future. The impact of research takes time to be realized in the economy.

Short-term impacts include capital and non-capital investment, employment growth supported by the funds, and new medical research funding leveraged by Kentucky’s funds that expand the state’s economy. Longer term impacts include a strengthened ability to compete nationally for funding and to attract world-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)

**FIGURE 1: RESEARCH RETURN ON INVESTMENT TIMELINE**



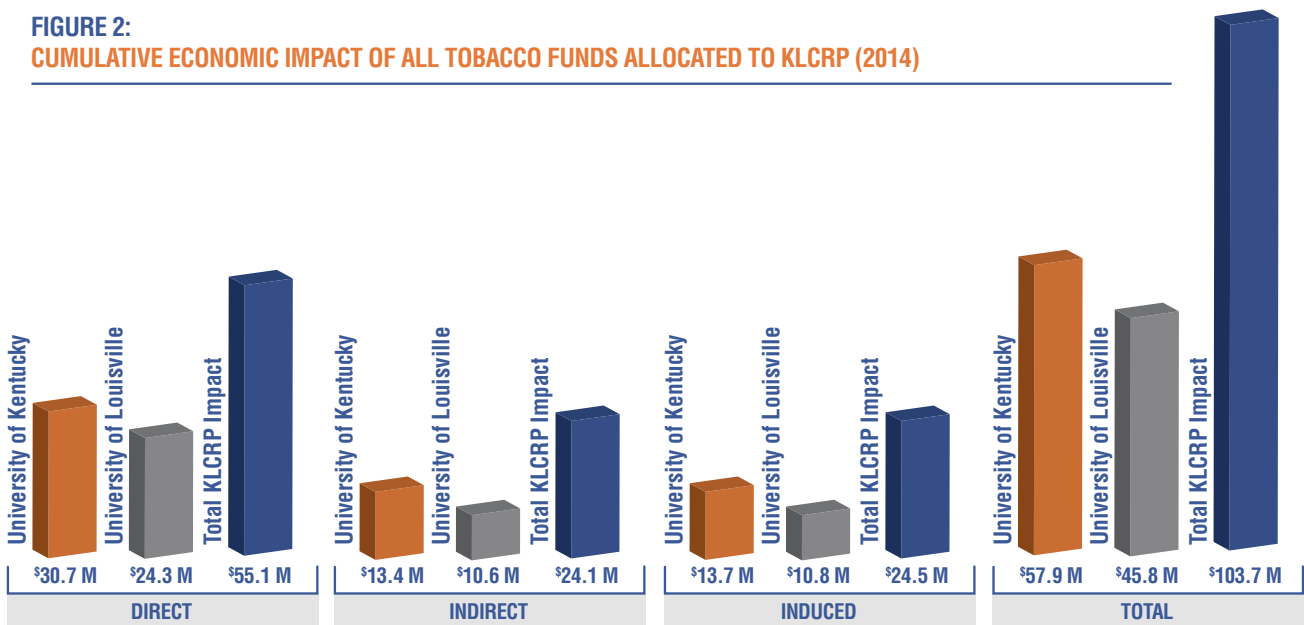
## CUMULATIVE ECONOMIC IMPACT OF TOBACCO FUNDS ALLOCATED AND SPENT BY KLCRP

Tripp Umbach’s economic impact analysis indicates that state tobacco funding allocated for lung cancer research at the University of Kentucky and University of Louisville since program inception has generated **\$103.7 million** in impact (\$55.1 million direct). The support of lung cancer research initiates **returned nearly two dollars to the state’s economy for every one dollar invested**.

Operational expenditures of the University of Kentucky and University of Louisville as a part of their participation in KLCRP have generated **\$86.1 million** (\$47.1 direct). Spending attributable to the fund can be divided into three parts: direct, indirect, and induced impact.

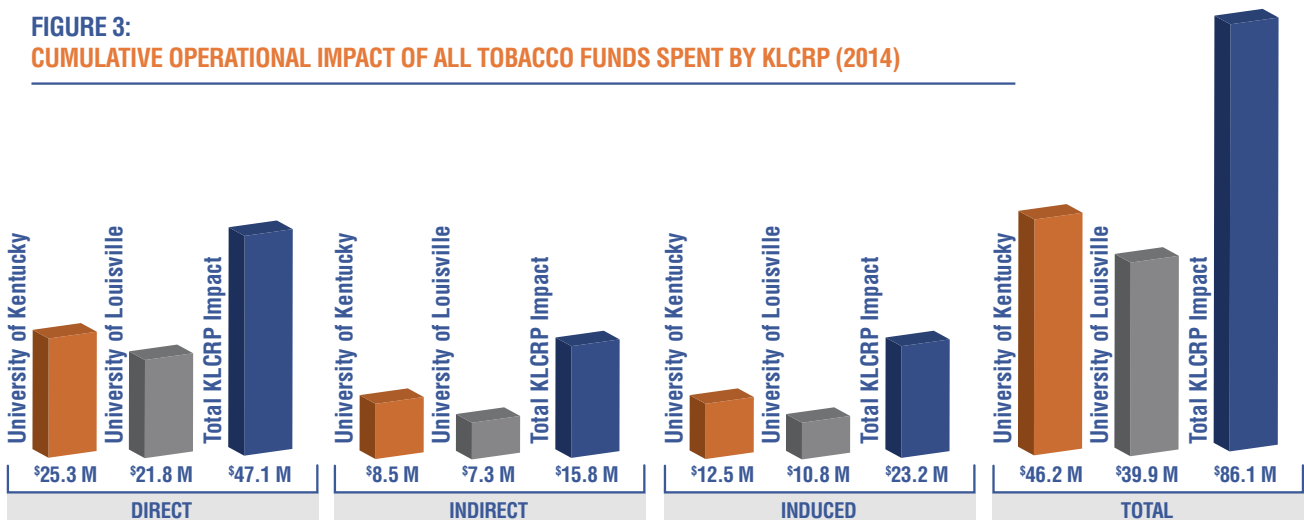
The direct impacts include institutional expenditures for capital improvements, goods and services. The indirect impacts of these funds result from the direct, first-round expenditures, which are received as income by businesses (supply chain/local vendors) and the induced impact includes the employee households of the University of Louisville, the University of Kentucky, and area suppliers who spend their money on goods and services within the state. The end result is a multiplied economic impact that is a linear result of the state’s investment in research.

**FIGURE 2:**  
CUMULATIVE ECONOMIC IMPACT OF ALL TOBACCO FUNDS ALLOCATED TO KLCRP (2014)



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**FIGURE 3:**  
CUMULATIVE OPERATIONAL IMPACT OF ALL TOBACCO FUNDS SPENT BY KLCRP (2014)



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**TABLE 1:**

<b>CUMULATIVE ECONOMIC IMPACT OF ALL TOBACCO FUNDS ALLOCATED TO KLCRP (2014)</b>				
	<b>DIRECT</b>	<b>INDIRECT</b>	<b>INDUCED</b>	<b>TOTAL</b>
<b>University of Kentucky</b>	<b>\$30,742,472</b>	<b>\$13,430,580</b>	<b>\$13,700,732</b>	<b>\$57,873,783</b>
<b>University of Louisville</b>	<b>\$24,332,383</b>	<b>\$10,630,180</b>	<b>\$10,844,003</b>	<b>\$45,806,566</b>
<b>TOTAL IMPACT KLCRP</b>	<b>\$55,074,854</b>	<b>\$24,060,759</b>	<b>\$24,544,735</b>	<b>\$103,680,349</b>

Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**TABLE 2:**

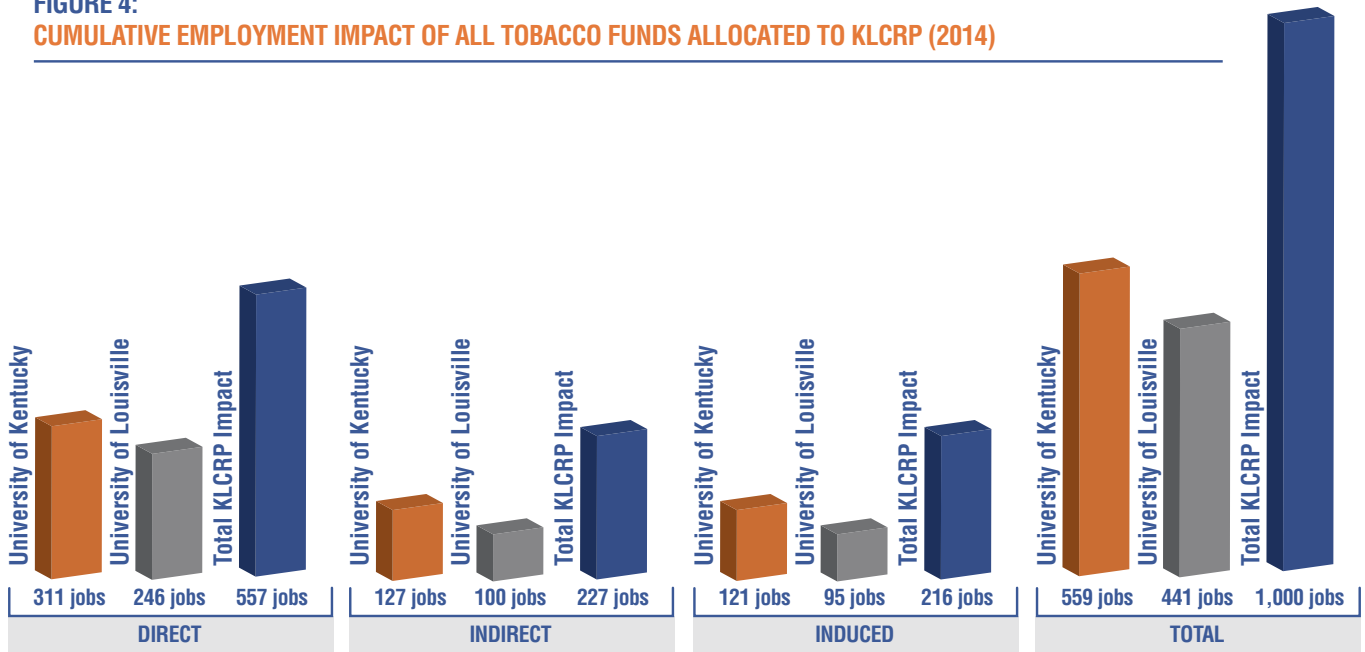
<b>CUMULATIVE OPERATIONAL IMPACT OF ALL TOBACCO FUNDS SPENT BY KLCRP (2014)</b>				
	<b>DIRECT</b>	<b>INDIRECT</b>	<b>INDUCED</b>	<b>TOTAL</b>
<b>University of Kentucky</b>	<b>\$25,275,125</b>	<b>\$8,485,815</b>	<b>\$12,469,752</b>	<b>\$46,230,692</b>
<b>University of Louisville</b>	<b>\$21,802,728</b>	<b>\$7,320,000</b>	<b>\$10,756,608</b>	<b>\$39,879,336</b>
<b>TOTAL IMPACT KLCRP</b>	<b>\$47,077,853</b>	<b>\$15,805,816</b>	<b>\$23,226,360</b>	<b>\$86,110,029</b>

Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

## CUMULATIVE EMPLOYMENT IMPACT OF FUNDS ALLOCATED TO AND SPENT BY KLCRP

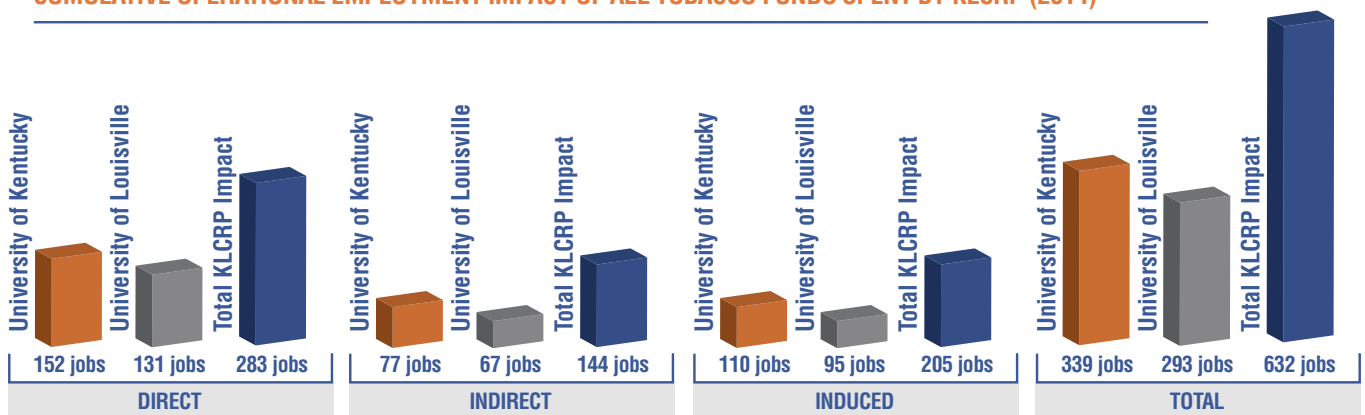
Tripp Umbach estimates that since the program started, KLCRP dollars allocated for lung cancer research have created and sustained **1,000 jobs** (557 direct jobs) throughout the Commonwealth of Kentucky. This means that each year since program inception, 71 jobs have been supported or sustained in the Kentucky economy. The operational impact alone created by the funds spent by the University of Kentucky and the University of Louisville totaled **632 jobs** (283 direct jobs). (See Figure 4 and 5).

**FIGURE 4:**  
CUMULATIVE EMPLOYMENT IMPACT OF ALL TOBACCO FUNDS ALLOCATED TO KLCRP (2014)



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**FIGURE 5:**  
CUMULATIVE OPERATIONAL EMPLOYMENT IMPACT OF ALL TOBACCO FUNDS SPENT BY KLCRP (2014)



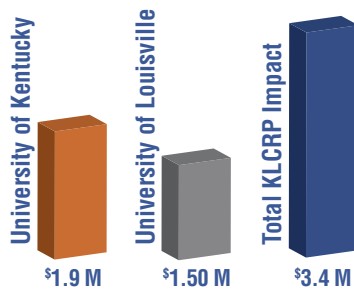
Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

## CUMULATIVE STATE AND LOCAL GOVERNMENT REVENUE IMPACT OF FUNDS ALLOCATED TO AND SPENT BY KLCRP

Tripp Umbach estimates that funds allocated since program inception have resulted in nearly **\$3.4 million** in tax revenues to the Commonwealth of Kentucky. In-state spending by the recipient organizations have a significant impact on state tax revenue. Taxes created as a result of spending in the state’s economy, and attraction of fresh dollars from outside of the state, are expected to grow as the organization matures and grows.

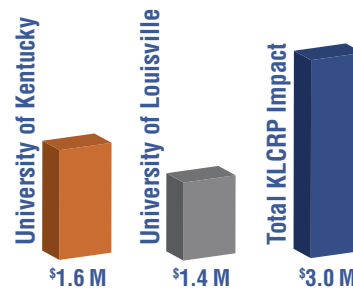
### TOTAL CUMULATIVE STATE AND LOCAL GOVERNMENT REVENUE IMPACT OF ALL ALLOCATED AND SPENT TOBACCO FUNDS

**FIGURE 6:**  
**CUMULATIVE IMPACT OF ALLOCATED TOBACCO FUNDS**



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**FIGURE 7:**  
**CUMULATIVE IMPACT OF SPENT TOBACCO FUNDS**



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**TABLE 3:  
TOTAL CUMULATIVE STATE AND LOCAL GOVERNMENT REVENUE IMPACT OF ALL ALLOCATED TOBACCO FUNDS (2014)**

DESCRIPTION	EMPLOYEE COMPENSATION	TAX ON PRODUCTION AND IMPORTS	HOUSEHOLDS	CORPORATIONS	TOTAL
Dividends				\$4,648	\$4,648
Social Ins Tax- Employee Contribution	\$24,806				\$24,806
Social Ins Tax- Employer Contribution	\$57,472				\$57,472
Tax on Production and Imports: Sales Tax		\$1,140,232			\$1,140,232
Tax on Production and Imports: Property Tax		\$629,946			\$629,946
Tax on Production and Imports: Motor Vehicle Licenses		\$22,902			\$22,902
Tax on Production and Imports: Severance Tax		\$39,313			\$39,313
Tax on Production and Imports: Other Taxes		\$65,076			\$65,076
Tax on Production and Imports: S/L Non-Taxes		\$101,310			\$101,310
Corporate Profits Tax				\$102,236	\$102,236
Personal Tax: Income Tax			\$1,034,697		\$1,034,697
Personal Tax: Non-Taxes (Fines- Fees)			\$88,394		\$88,394
Personal Tax: Motor Vehicle License			\$39,349		\$39,349
Personal Tax: Property Taxes			\$12,358		\$12,358
Personal Tax: Other Tax (Fish/Hunt)			\$27,184		\$27,184
<b>TOTAL STATE AND LOCAL TAX</b>	<b>\$82,278</b>	<b>\$1,998,779</b>	<b>\$1,201,982</b>	<b>\$106,884</b>	<b>\$3,389,923</b>

Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**TABLE 4:  
TOTAL CUMULATIVE STATE AND LOCAL GOVERNMENT REVENUE IMPACT OF OPERATIONAL (2014)**

DESCRIPTION	EMPLOYEE COMPENSATION	TAX ON PRODUCTION AND IMPORTS	HOUSEHOLDS	CORPORATIONS	TOTAL
Dividends				\$4,277	\$4,277
Social Ins Tax- Employee Contribution	\$19,170				\$19,170
Social Ins Tax- Employer Contribution	\$44,414				\$44,414
Tax on Production and Imports: Sales Tax		\$930,904			\$930,904
Tax on Production and Imports: Property Tax		\$514,298			\$514,298
Tax on Production and Imports: Motor Vehicle Licenses		\$18,698			\$18,698
Tax on Production and Imports: Severance Tax		\$32,096			\$32,096
Tax on Production and Imports: Other Taxes		\$53,129			\$53,129
Tax on Production and Imports: S/L Non-Taxes		\$89,711			\$82,711
Corporate Profits Tax				\$94,061	\$94,061
Personal Tax: Income Tax			\$988,806		\$988,806
Personal Tax: Non-Taxes (Fines- Fees)			\$84,474		\$84,474
Personal Tax: Motor Vehicle License			\$37,604		\$37,604
Personal Tax: Property Taxes			\$11,809		\$11,809
Personal Tax: Other Tax (Fish/Hunt)			\$25,978		\$25,978
<b>TOTAL STATE AND LOCAL TAX</b>	<b>\$63,584</b>	<b>\$1,631,836</b>	<b>\$1,148,670</b>	<b>\$98,338</b>	<b>\$2,942,428</b>

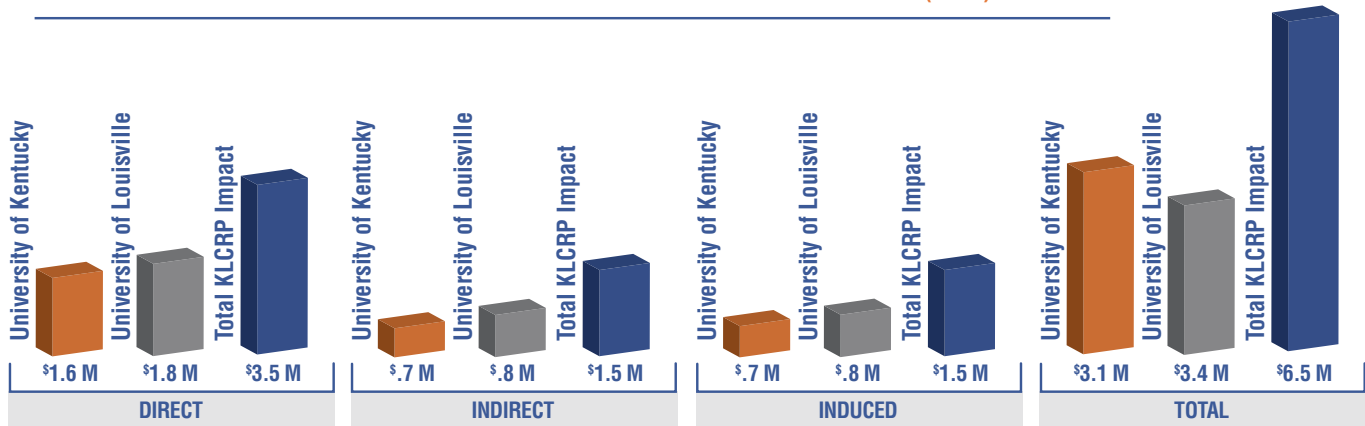
Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.



## CURRENT ECONOMIC IMPACT OF FUNDS ALLOCATED TO AND SPENT BY KLCRP

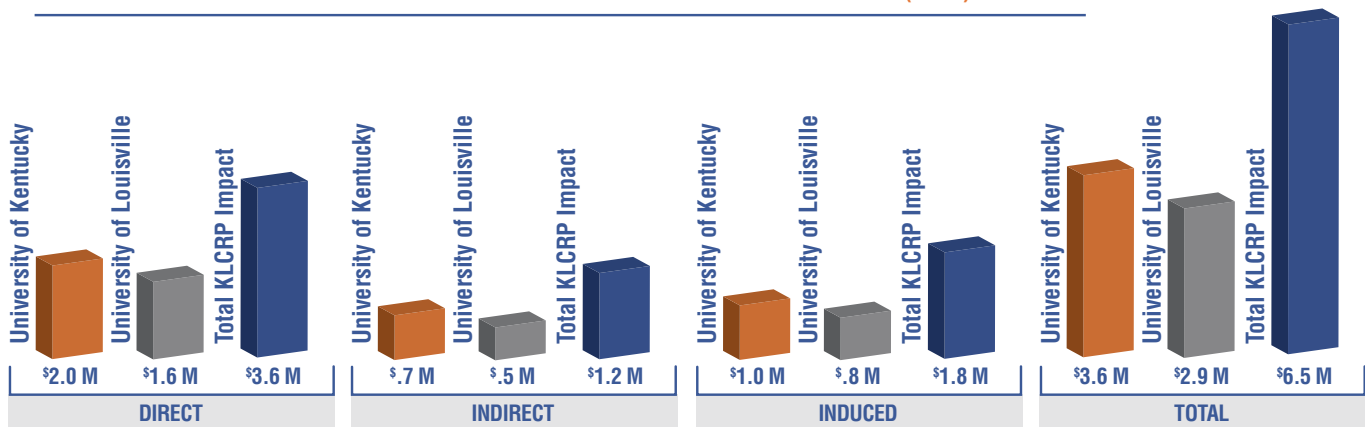
Tripp Umbach’s economic impact analysis indicates that state funding allocated to KLCRP for lung cancer research at the University of Kentucky and University of Louisville in 2014 has generated **\$6.5 million** in impact. Operational expenditures in 2014 of the University of Kentucky and University of Louisville as a part of their participation in KLCRP generated **\$6.5 million**.

**FIGURE 6:**  
CURRENT YEAR ECONOMIC IMPACT OF ALL TOBACCO FUNDS ALLOCATED TO KLCRP (2014)



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**FIGURE 7:**  
CURRENT YEAR OPERATIONAL IMPACT OF ALL TOBACCO FUNDS SPENT BY KLCRP (2014)



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**TABLE 5:**

<b>CURRENT YEAR IMPACT OF ALLOCATED TOBACCO FUNDS (2014)</b>				
	<b>DIRECT</b>	<b>INDIRECT</b>	<b>INDUCED</b>	<b>TOTAL</b>
<b>University of Kentucky</b>	<b>\$1,642,992</b>	<b>\$717,780</b>	<b>\$732,218</b>	<b>\$3,092,990</b>
<b>University of Louisville</b>	<b>\$1,818,537</b>	<b>\$794,471</b>	<b>\$810,451</b>	<b>\$3,423,459</b>
<b>TOTAL IMPACT KLCRP</b>	<b>\$3,461,529</b>	<b>\$1,512,251</b>	<b>\$1,542,669</b>	<b>\$6,516,449</b>

Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**TABLE 6:**

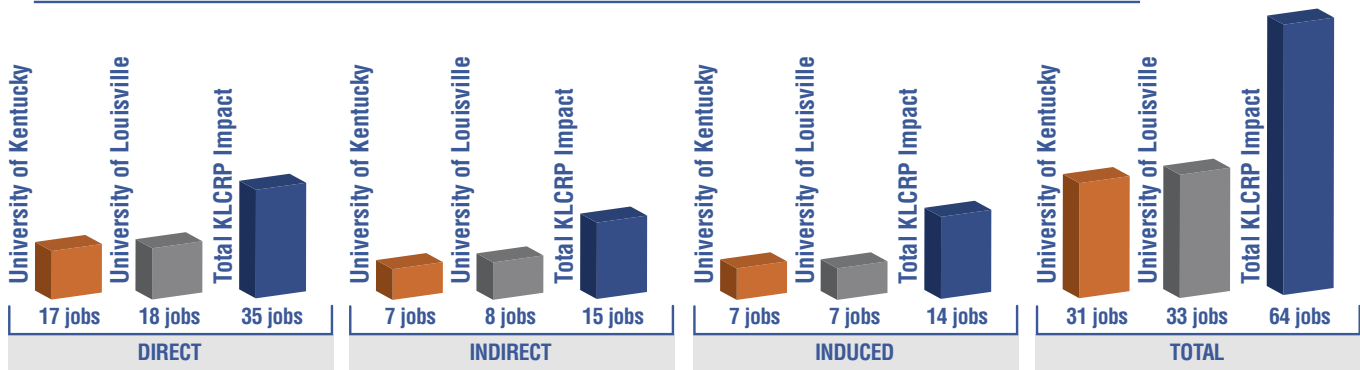
<b>CURRENT YEAR OPERATIONAL IMPACT OF ALLOCATED TOBACCO FUNDS (2014)</b>				
	<b>DIRECT</b>	<b>INDIRECT</b>	<b>INDUCED</b>	<b>TOTAL</b>
<b>University of Kentucky</b>	<b>\$1,952,278</b>	<b>\$655,454</b>	<b>\$963,177</b>	<b>\$3,570,908</b>
<b>University of Louisville</b>	<b>\$1,601,991</b>	<b>\$537,849</b>	<b>\$790,359</b>	<b>\$2,930,199</b>
<b>TOTAL IMPACT KLCRP</b>	<b>\$3,554,269</b>	<b>\$1,193,302</b>	<b>\$1,753,536</b>	<b>\$6,501,107</b>

Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

## CURRENT EMPLOYMENT IMPACT OF FUNDS ALLOCATED TO AND SPENT BY KLCRP

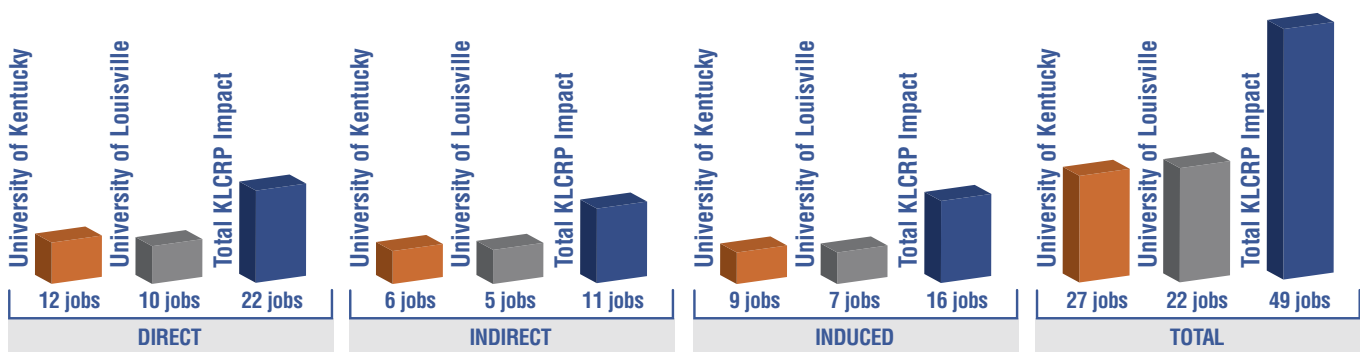
Tripp Umbach estimates that this year, KLCRP dollars allocated for lung cancer research have created and sustained **64 jobs** throughout the Commonwealth of Kentucky. The operational impact alone created by the funds spent by the University of Kentucky and the University of Louisville totaled **49 jobs**. (See Figure 8 and 9).

**FIGURE 8:**  
CURRENT YEAR EMPLOYMENT IMPACT OF ALL TOBACCO FUNDS ALLOCATED TO KLCRP (2014)



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**FIGURE 9:**  
CURRENT YEAR OPERATIONAL EMPLOYMENT IMPACT OF ALL TOBACCO FUNDS SPENT BY KLCRP (2014)

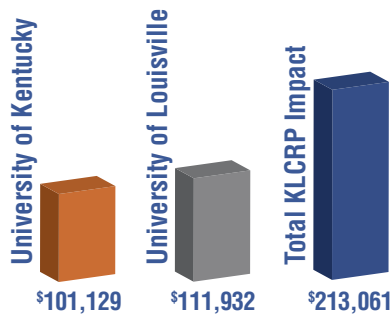


Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

## CURRENT STATE AND LOCAL GOVERNMENT REVENUE IMPACT OF FUNDS ALLOCATED TO AND SPENT BY KLCRP

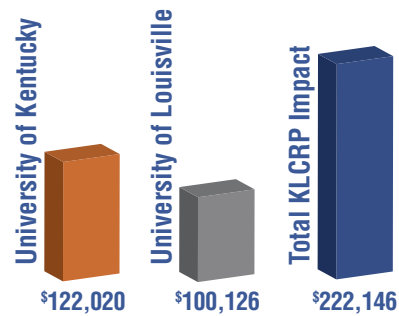
Tripp Umbach estimates that allocated funds provided in 2014 have resulted in **\$213,061** in state and local tax revenues to the state of Kentucky (See Figure 10 and 11). Current operational government revenue impact is **\$222,146**. In-state spending by the recipient organizations have a significant impact on state tax revenue. Taxes created as a result of spending in the state's economy, and attraction of fresh dollars from outside of the state, are expected to grow as the organization matures and grows.

**FIGURE 10:**  
**CURRENT IMPACT OF ALLOCATED TOBACCO FUNDS**



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**FIGURE 11:**  
**CURRENT OPERATIONAL IMPACT TOBACCO FUNDS**



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**TABLE 7:  
TOTAL CUMULATIVE STATE AND LOCAL GOVERNMENT REVENUE IMPACT OF ALL ALLOCATED TOBACCO FUNDS (2014)**

DESCRIPTION	EMPLOYEE COMPENSATION	TAX ON PRODUCTION AND IMPORTS	HOUSEHOLDS	CORPORATIONS	TOTAL
Dividends				\$292	\$292
Social Ins Tax- Employee Contribution	\$1,559				\$1,559
Social Ins Tax- Employer Contribution	\$3,612				\$3,612
Tax on Production and Imports: Sales Tax		\$71,665			\$71,665
Tax on Production and Imports: Property Tax		\$39,593			\$39,593
Tax on Production and Imports: Motor Vehicle Licenses		\$1,439			\$1,439
Tax on Production and Imports: Severance Tax		\$2,471			\$2,471
Tax on Production and Imports: Other Taxes		\$4,090			\$4,090
Tax on Production and Imports: S/L Non-Taxes		\$6,367			\$6,367
Corporate Profits Tax				\$6,426	\$6,426
Personal Tax: Income Tax			\$65,032		\$65,032
Personal Tax: Non-Taxes (Fines- Fees)			\$5,556		\$5,556
Personal Tax: Motor Vehicle License			\$2,473		\$2,473
Personal Tax: Property Taxes			\$777		\$777
Personal Tax: Other Tax (Fish/Hunt)			\$1,709		\$1,709
<b>TOTAL STATE AND LOCAL TAX</b>	<b>\$5,171</b>	<b>\$125,625</b>	<b>\$75,546</b>	<b>\$6,718</b>	<b>\$213,061</b>

Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**TABLE 8:  
TOTAL CURRENT STATE AND LOCAL GOVERNMENT REVENUE IMPACT OF OPERATIONS (2014)**

DESCRIPTION	EMPLOYEE COMPENSATION	TAX ON PRODUCTION AND IMPORTS	HOUSEHOLDS	CORPORATIONS	TOTAL
<i>Dividends</i>				\$323	\$323
Social Ins Tax- Employee Contribution	\$1,447				\$1,447
Social Ins Tax- Employer Contribution	\$3,353				\$3,353
Tax on Production and Imports: Sales Tax		\$70,281			\$70,281
Tax on Production and Imports: Property Tax		\$38,828			\$38,828
Tax on Production and Imports: Motor Vehicle Licenses		\$1,412			\$1,412
Tax on Production and Imports: Severance Tax		\$2,423			\$2,423
Tax on Production and Imports: Other Taxes		\$4,011			\$4,011
Tax on Production and Imports: S/L Non-Taxes		\$6,244			\$6,244
Corporate Profits Tax				\$7,101	\$7,101
Personal Tax: Income Tax			\$74,653		\$74,653
Personal Tax: Non-Taxes (Fines- Fees)			\$6,378		\$6,378
Personal Tax: Motor Vehicle License			\$2,839		\$2,839
Personal Tax: Property Taxes			\$892		\$892
Personal Tax: Other Tax (Fish/Hunt)			\$1,961		\$1,961
<b>TOTAL STATE AND LOCAL TAX</b>	<b>\$4,800</b>	<b>\$123,200</b>	<b>\$86,722</b>	<b>\$7,424</b>	<b>\$222,146</b>

Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

## CUMULATIVE ECONOMIC IMPACT OF KLCRP-INVESTIGATOR LEVERAGED RESEARCH FUNDS

The Commonwealth of Kentucky’s use of tobacco funds to create KLCRP not only generated revenue but allowed the participating universities to have a dedicated fund source to retain, attract, and develop new investigators/research faculty and staff. As a result of the state tobacco funds, each university has been able to support an expanded research enterprise, thereby increasing the economic impact and leveraging research dollars. KLCRP-investigators have leveraged more than **\$386.1 million** in research funding as a result of the base of funds supplied through their KLCRP research efforts. The cumulative impact of these leveraged research dollars is **\$603.7 million**.

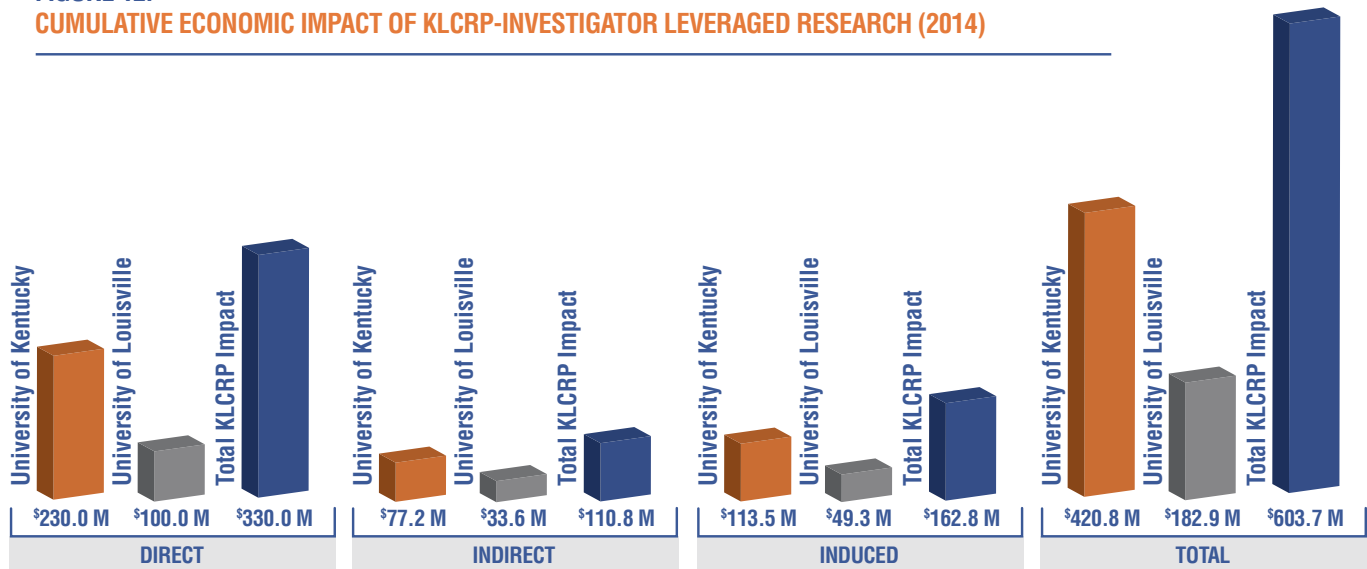
TABLE 9:

CUMULATIVE ECONOMIC IMPACT OF KLCRP-INVESTIGATOR LEVERAGED RESEARCH (2014)				
	DIRECT	INDIRECT	INDUCED	TOTAL
University of Kentucky	\$230.0 M	\$77.2 M	\$113.5 M	\$420.8 M
University of Louisville	\$100.0 M	\$33.6 M	\$49.3 M	\$182.9 M
<b>TOTAL IMPACT KLCRP</b>	<b>\$330.0 M</b>	<b>\$110.8 M</b>	<b>\$162.8 M</b>	<b>\$603.7 M</b>

Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

FIGURE 12:

### CUMULATIVE ECONOMIC IMPACT OF KLCRP-INVESTIGATOR LEVERAGED RESEARCH (2014)



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

## CUMULATIVE EMPLOYMENT IMPACT OF KLCRP-INVESTIGATOR LEVERAGED RESEARCH FUNDS

As a result of their efforts, researchers from the University of Kentucky and the University of Louisville who also received KLCRP funding, have supported more than **4,400 jobs** in the Kentucky economy since the programs inception.

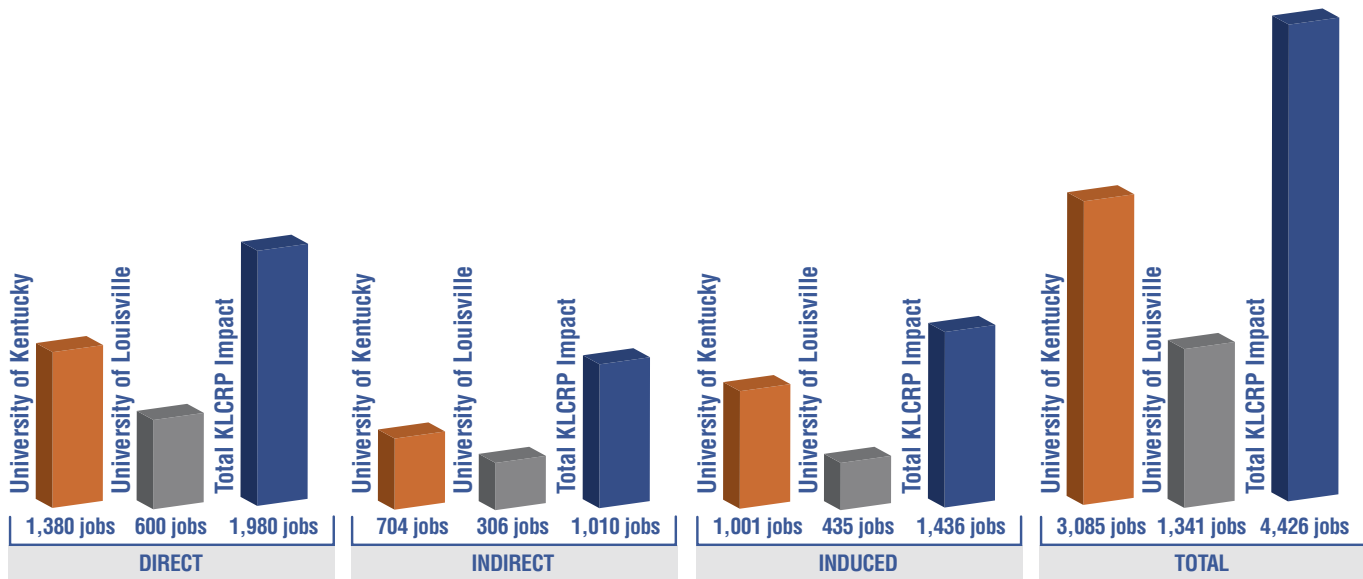
TABLE 10:

CUMULATIVE EMPLOYMENT IMPACT OF KLCRP-INVESTIGATOR LEVERAGED RESEARCH (JOBS)				
	DIRECT	INDIRECT	INDUCED	TOTAL
University of Kentucky	1,380	704	1,001	3,085
University of Louisville	600	306	435	1,341
<b>TOTAL IMPACT KLCRP</b>	<b>1,980</b>	<b>1,010</b>	<b>1,436</b>	<b>4,426</b>

Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

FIGURE 13:

### CUMULATIVE EMPLOYMENT IMPACT OF KLCRP-INVESTIGATOR LEVERAGED RESEARCH FUNDS



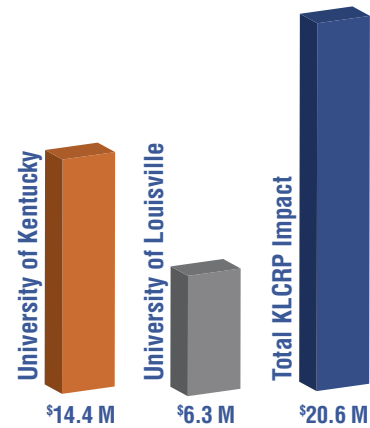
Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.



## CUMULATIVE STATE AND LOCAL GOVERNMENT REVENUE IMPACT OF KLCRP-INVESTIGATOR LEVERAGED RESEARCH FUNDS

Tripp Umbach estimates KLCRP-investigator leveraged research funds have resulted in **\$20.6 million** in state and local tax revenues to the state of Kentucky (See Figure 14).

**FIGURE 14:**  
CUMULATIVE IMPACT OF KLCRP-INVESTIGATOR LEVERAGED RESEARCH



Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

**TABLE 11:**  
CUMULATIVE STATE AND LOCAL GOVERNMENT REVENUE IMPACT OF KLCRP-INVESTIGATOR LEVERAGED RESEARCH FUNDS (2014)

DESCRIPTION	EMPLOYEE COMPENSATION	TAX ON PRODUCTION AND IMPORTS	HOUSEHOLDS	CORPORATIONS	TOTAL
<i>Dividends</i>				\$29,982	\$29,982
Social Ins Tax- Employee Contribution	\$134,389				\$134,389
Social Ins Tax- Employer Contribution	\$331,366				\$311,366
Tax on Production and Imports: Sales Tax		\$6,526,081			\$6,526,081
Tax on Production and Imports: Property Tax		\$3,605,473			\$3,605,473
Tax on Production and Imports: Motor Vehicle Licenses		\$131,080			\$131,080
Tax on Production and Imports: Severance Tax		\$225,010			\$225,010
Tax on Production and Imports: Other Taxes		\$372,460			\$372,460
Tax on Production and Imports: S/L Non-Taxes		\$579,842			\$579,842
Corporate Profits Tax				\$659,412	\$659,412
Personal Tax: Income Tax			\$6,931,999		\$6,931,999
Personal Tax: Non-Taxes (Fines- Fees)			\$592,202		\$592,202
Personal Tax: Motor Vehicle License			\$263,619		\$263,619
Personal Tax: Property Taxes			\$82,790		\$82,790
Personal Tax: Other Tax (Fish/Hunt)			\$182,118		\$182,118
<b>TOTAL STATE AND LOCAL TAX</b>	<b>\$445,754</b>	<b>\$11,439,946</b>	<b>\$8,052,728</b>	<b>\$7,424</b>	<b>\$20,627,822</b>

Source: Tripp Umbach analysis through IMPLAN with data supplied by UK and UofL.

## APPENDIX A: DEFINITION OF TERMS

### STUDY YEAR

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Cumulative since 2001 and Fiscal Year 2014

### TOTAL IMPACT

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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

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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

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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. Both Direct and Indirect impacts are categorized as Type I Multipliers.

### INDUCED IMPACT

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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 re-circulated through the household spending patterns causing further local economic activity.

### MULTIPLIER EFFECT

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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: TRIPP UMBACH QUALIFICATIONS

Tripp Umbach is the national leader in providing economic impact analysis to leading health care organizations and academic health centers. The firm has completed more than 100 economic impact studies over the past 10 years for clients such as the Mayo Clinic Rochester, The Cleveland Clinic, University of Florida Shands HealthCare, and the Ohio State University Medical Center. In addition to work on multiple occasions for the six medical schools and academic medical centers in Pennsylvania, Tripp Umbach has completed statewide studies for multiple institutions in Ohio, Virginia, South Carolina, Wisconsin, and Minnesota.

The Association of American Medical Colleges (AAMC) relies on Tripp Umbach to complete a study of all U.S. medical schools and teaching hospital affiliates. Tripp Umbach has completed five such studies for AAMC since 1995.

Tripp Umbach has also completed economic impact studies for cancer centers such as the CURE Funding for PA Cancer Alliance, The Wistar Institute, Ohio State University's James Cancer Center and Solove Research Center, Ohio State University's Comprehensive Cancer Center, Penn State Milton S. Hershey Medical Center's Cancer Institute, Mayo Clinic/Allegheny General Hospital Cancer Services planning, UPMC Hillman Cancer Center feasibility and economic impact projections study, University of Pennsylvania projected economic impact of the Cancer Center as a component of the Civic Center project, and University of Florida Shands Healthcare economic impact projections.

For more information, please contact Tripp Umbach at [www.trippumbach.com](http://www.trippumbach.com).

## APPENDIX C: METHODOLOGY

In order to fully quantify the impact of the funding of KLCRP within the Commonwealth of Kentucky various geographical areas throughout this study, it was necessary for Tripp Umbach to establish a study methodology. It was critically important that the methodology used would deliver a comprehensive, yet conservative, estimate of the operations' impact, based on information compiled using uniform and consistent techniques. In addition, the study team sought to develop a reproducible methodology, ensuring that subsequent studies could build upon the information and knowledge gained through this effort.

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.

Tripp Umbach collected employment information concerning the economic activity of KLCRP's funding on operations themselves and followed up in-person to make certain the data was the most current available.

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 the KLCRP assessment, the most recent IMPLAN data files for the Commonwealth of Kentucky were for 2012. While the data is not current, it is unlikely that the fundamental economic structure of Kentucky'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.

By deriving the direct and actual employment numbers from IMPLAN for each county, Tripp Umbach was able to conduct input/output modeling to analyze the current impact of the industry in each county. Tripp Umbach supplied additional information as required to supplement the data supplied by the University of Kentucky and University of Louisville.