

Infrastructure Investments and the Kansas Economy

Donna K. Ginther

Roy A. Roberts Distinguished Professor of Economics

Director, Institute for Policy & Social Research, University of Kansas

Research Associate, National Bureau of Economic Research

April 2, 2021


KU INSTITUTE FOR
POLICY &
SOCIAL RESEARCH
The University of Kansas

Overview

- Public goods
- What is the economic impact of the Kansas transportation system?
- Disinvestments in the Kansas Department of Labor
- Deferred Maintenance in Higher Education

Public Goods

- **Public goods** are commodities or services that benefit all members of society, and which are often provided through **public** taxation.
- Examples: National defense and roads.



Kansas ranks 4th in the nation with 140,372 miles of public roads. Roughly 10,000 miles are the state Highway system that carries the majority of traffic.

The Brownback Tax Experiment Opened the Bank of KDOT

KDOT Postpones 24 Projects Due To Funding Uncertainty

By DEBORAH SHAAR • NOV 15, 2016

- [Share](#)
- [Tweet](#)
- [Email](#)



[HOME](#) > [POLITICS CONTRIBUTORS](#)

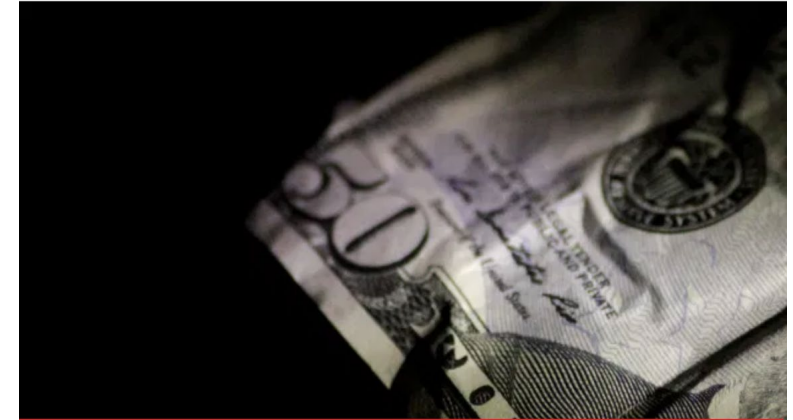
A right-wing experiment sarcastically known as the 'bank of KDOT' is ruining Kansas' roads



Henry Grabar, Slate Jul 3, 2016, 2:13 PM

BROOKINGS

AI TRANSITION 202



UNPACKED

The Kansas tax cut experiment

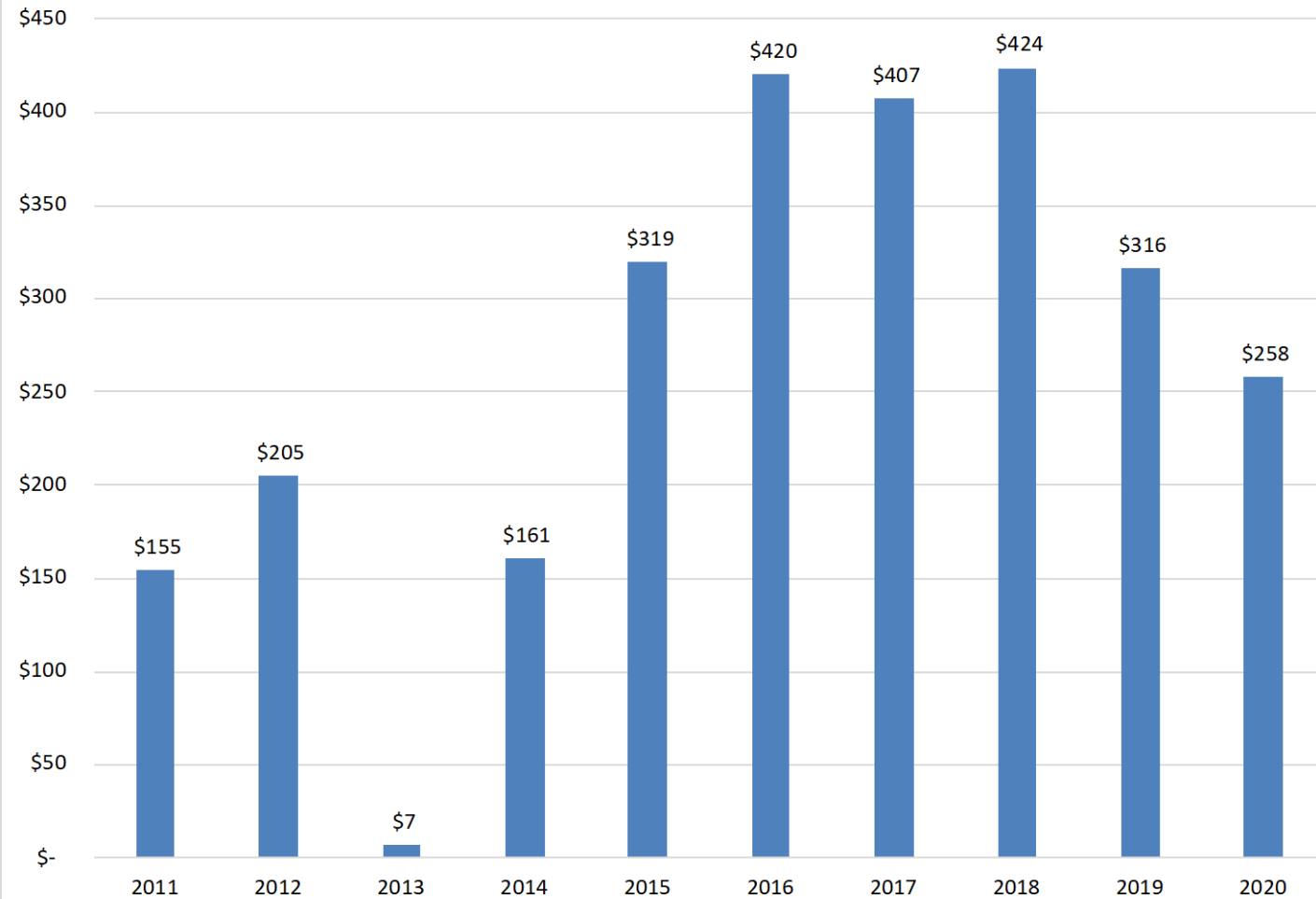
William G. Gale • Tuesday, July 11, 2017

ITE FOR
&
RESEARCH
ty of Kansas



Between FY11-FY20, \$2.6 Billion Taken from KDOT

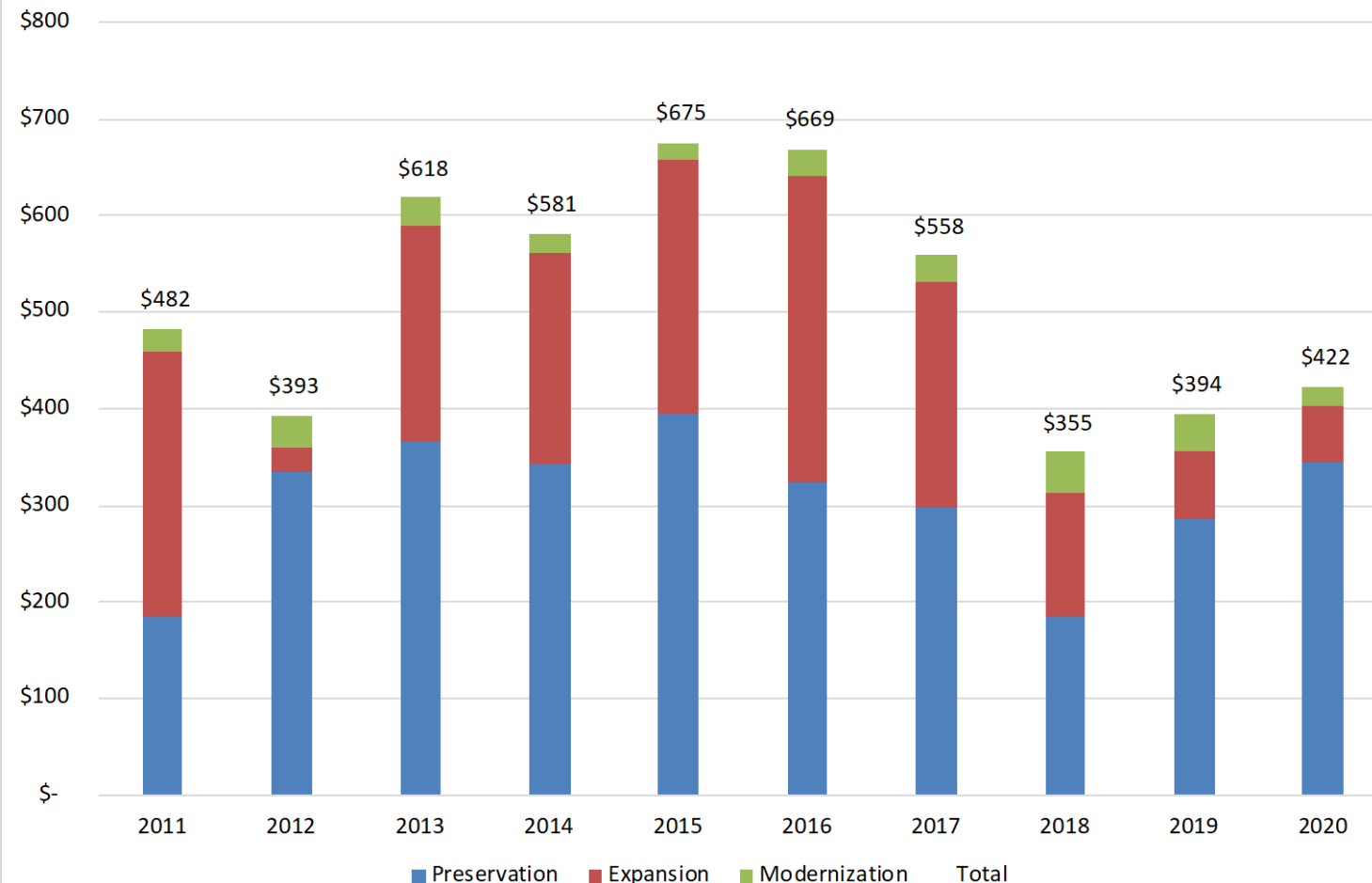
KDOT Transfers to SGF in Millions of Dollars, FY2011-FY2020



- During FY 2015 – FY 2019, hundreds of millions of dollars were transferred from KDOT to the SGF.

Starting in FY2017, Expenditures Fell

KDOT Expenditures in Millions of Dollars for Preservation, Expansion & Modernization FY2011 - FY2020



- Preservation/maintenance expenditures started to fall in FY2016.
- By FY2017, Expansion and preservation also contracted.

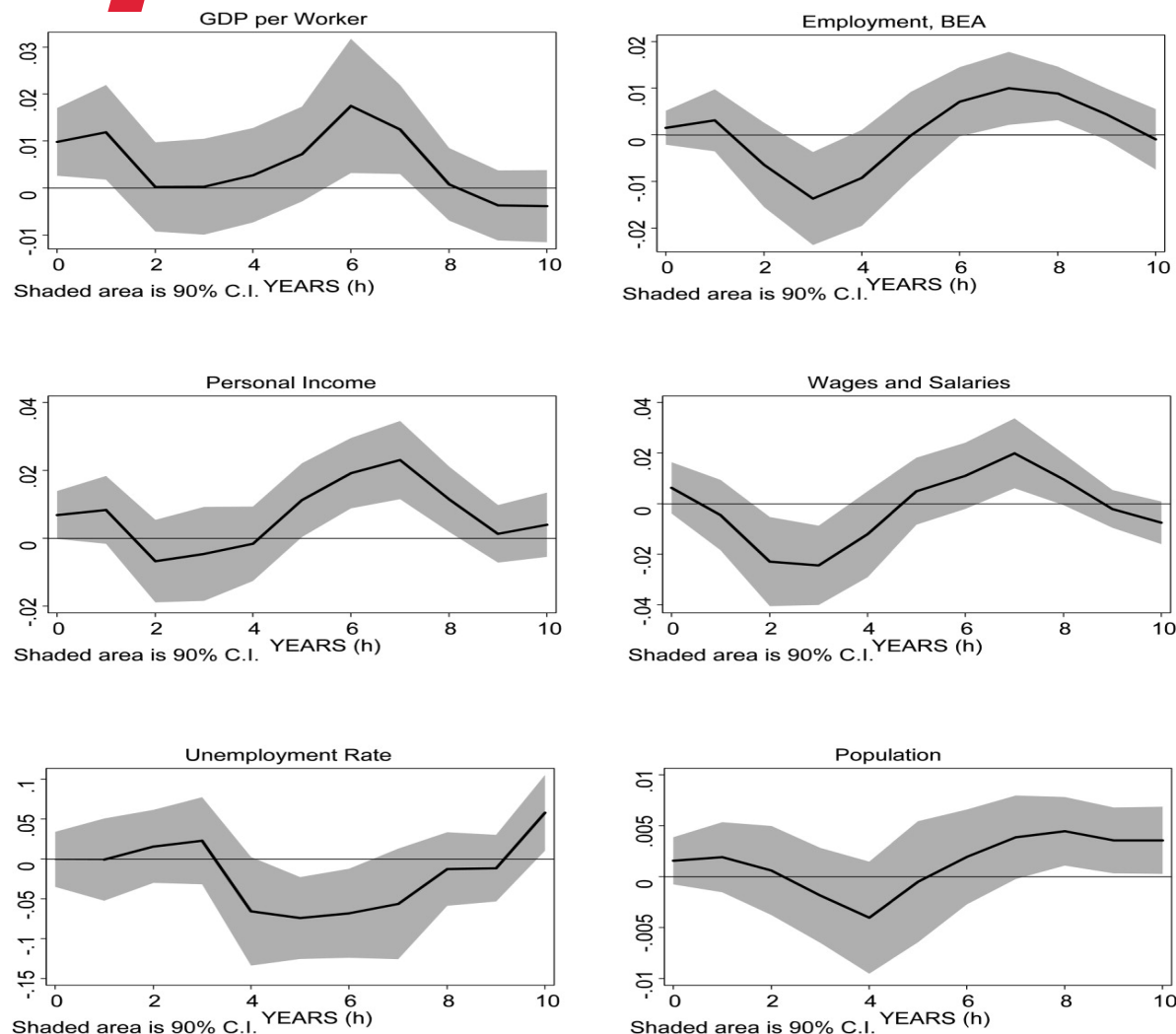
What was the Opportunity Cost of the Bank of KDOT?

- To understand this, we need to think about the economic impact and value of our public roads and highways.
- The state values its highway infrastructure at \$30 Billion
 - It is an asset
 - That depreciates
 - And requires preservation
- Kansas highways contribute to the Kansas economy
- KDOT expenditures contribute to the Kansas economy.

Roads to Prosperity or Bridges to Nowhere?

- Theory and Evidence on the Impact of Public Infrastructure Investment (Sylvain Leduc and Daniel Wilson, 2012 NBER Macroeconomics Annual)
- Estimate the multiplier effect of highway construction in US states
- They find a positive impact on state economic activity.

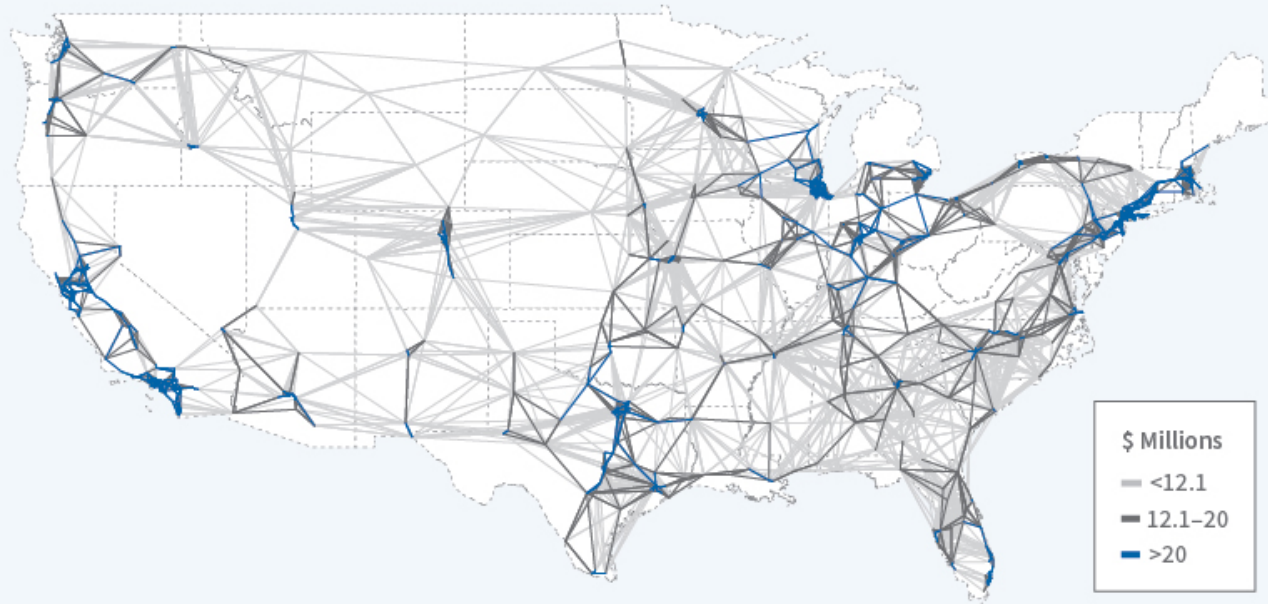
Leduc and Wilson Found Large Multipliers



- Estimates show a large impact on economic activity
 - There is a significant impact in the first couple of years and then a larger second-round effect after six to eight years. The multipliers that we calculate from these impulse responses are large, between 1 and 3 on impact and between 3 and 7 at six to eight years out.
 - It takes about five years to fully realize the benefit of construction.

Welfare Effects of Transportation Infrastructure Improvement

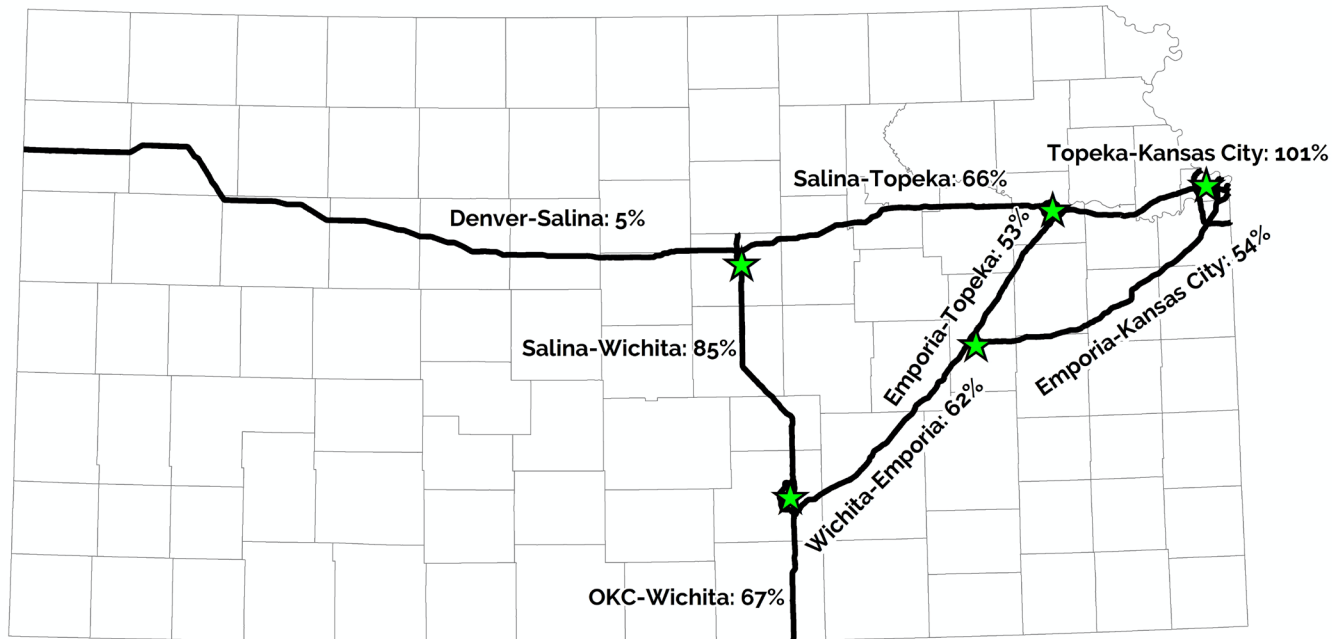
Estimated Welfare Benefit of Ten Additional Highway Lane-Miles



Source: Researchers' estimates based on calibrated model and data from the Federal Highway Association

- Treb Allen and Costas Arkolakis 2020 NBER Working Paper.
- Estimate the value of improvements in the US Interstate Highway System, taking into account traffic congestion.
- Calculate the Return on Investments for each Segment of US Highways.

Welfare Effects of Transportation Infrastructure Improvement

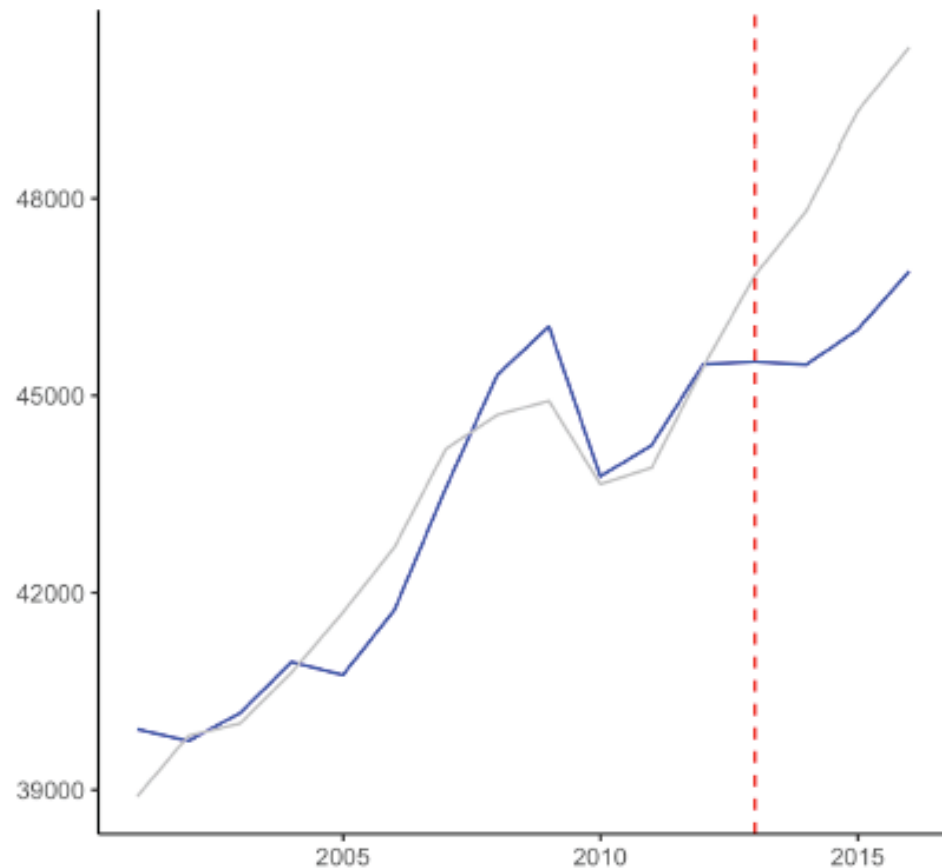


Estimates from: Welfare Effects of Transportation Infrastructure Improvement, Treb Allen and Costas Arkolakis, NBER Working Paper #25487 (2020)

- Allen and Arkolakis shared their ROI estimates for the state of Kansas.
- Improving/Expanding I-70 from Kansas City to Topeka would result in a **101% Return on Investment**.
- Emporia to Wichita has a 62% ROI
- Investing in Kansas Highways has a huge payoff.

Causal Effect of Kansas Tax Cuts on Economic Growth

(a) Actual and Synthetic KS



- McCloskey (2018) “The Kansas Tax Experiment: Impact of 2012 Tax Reform on Output, Employment & Establishments”
- Synthetic Control Method
 - Kansas is Treated State (Tax Cuts)
 - Other states make up a weighted average of “synthetic Kansas”
 - Border states + Idaho, Iowa, Arkansas, Mississippi, Georgia, South Carolina, West Virginia, Pennsylvania, Massachusetts, Maine
- Growth was lower in Kansas!

KDOT Estimated the Economic Impact of Infrastructure Investments



Transportation Infrastructure Investment and the Kansas Economy

- In 2008, KDOT has calculated the impact of reducing preservation funding by 60 percent from \$385 million per year to \$154 million per year (in constant 2008 dollars) over the period from 2009 to 2020.

KDOT Estimated the Economic Impact of Infrastructure Investments



Transportation Infrastructure Investment and the Kansas Economy

- Instead of spending the projected \$385 million per year on preservation KDOT spent an average of \$273.5 million per year (in constant 2008 dollars) over the period from 2011 to 2020.
 - This was a 29% reduction in preservation expenses compared with the 60% reduction that KDOT modeled.
- Assuming a 60 percent decrease in maintenance funding suggests that by 2020 the Kansas economy would lose 12,000 jobs and \$670 million per year in gross state product.
 - Since the cut was half of that, given the same set of assumptions
 - Kansas may have lost 6,000 jobs and \$335 million per year in gross state product.
 - Totaled over 9 years, this would result in a 2% decrease in GSP.

What was the Opportunity Cost of the Bank of KDOT?

- Cutting taxes lowered Kansas expenditures on public roads.
 - Those expenditures have a higher multiplier effect and ROI
 - In some cases, the multiplier is as high as 2 – 5.
- Although correlation is not causation, it is likely that disinvestment in our transportation infrastructure contributed to lower economic growth.
 - My back of the envelope calculations are roughly 2%.

Deferred Maintenance on the Unemployment Insurance System

Do you Remember 1977?



IBM System 370/Model 145 mainframe
Introduced in 1977.

The Kansas UI System runs on a Mainframe that
was installed in 1977.

- Jimmy Carter was President
- Robert Bennett was Governor of Kansas



The Unemployment Insurance IT Infrastructure

- The Kansas UI system is actually three systems:
 - Mainframe, Web Portal and Siebel Customer Relationship Management System
- The Mainframe runs on a specialized version of COBOL.
- The code works, but it is difficult to update.
- In the past, KDOL employees would fix UI claims manually when the mainframe system would not accommodate these unusual cases.
 - When the CARES Act was introduced, the UI system could not adjust to these changes.
 - KDOL employees couldn't manually
 - Process thousands of claims.

How Did we Get Here?

- 2004 KDOL received bonding authority of \$21 million to upgrade the Unemployment Insurance benefit system.
- 2007 \$26 million of Reed Act money authorized for UI modernization. Modernization continued for the remainder of the decade.
 - Modernization did have problems.
 - Two contracts were terminated.
 - Project was behind schedule.

2011 was a Turning Point

Brownback administration lays off 85 Kansas Dept. of Labor employees

Source: Lawrence Journal World

Dept. of Labor says layoffs are 'fiscal necessity'

NEWS

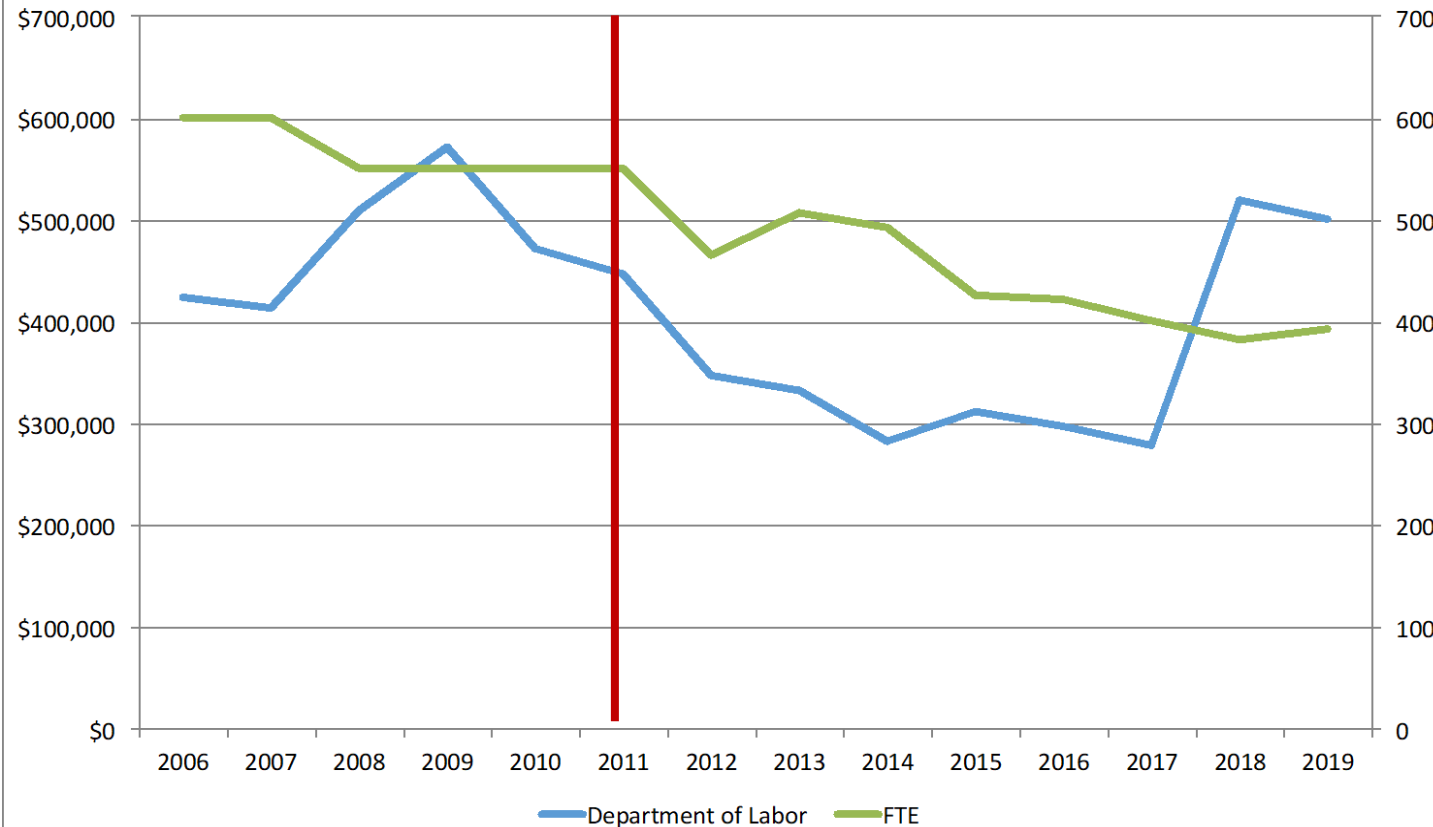
JUN 17, 2011 - 4:54PM

Gov. Sam Brownback's administration on Friday laid off 85 state employees at the Kansas Department of Labor.

- UI System Modernization was cancelled in December 2011 despite the system being obsolete. \$51 million had been spent.

Kansas Department of Labor Funding & FTE

KS Department of Labor Funding and Full-Time Equivalent Employees
(in 2012 dollars)



- 2011 marked the beginning of significant disinvestment in the Kansas Department of Labor.
- FTE fell by 159 people between 2011-2019.
- Spending by \$168 million in constant dollars 2011-2017.

COVID Created a Perfect Storm

- Huge amounts of unemployment
- New CARES Act programs such as Pandemic Unemployment Assistance (PUA) were difficult to manage on the KDOL antiquated system.
- Fraudsters targeted PUA and other programs nationwide.

KANSAS DEPARTMENT OF LABOR
REPLY TO THIS ADDRESS
U. I. CALL CENTER
PO BOX 3539
TOPEKA KS 66601-3539
TEL 785-575-1460

SSN:
BENEFIT YEAR BEGINS:
MAILED:
WEEKLY BENEFIT AMOUNT:
TOTAL BENEFIT AMOUNT:
LIKELIHOOD TO EXHAUST:

GINTHER, DONNA K

UNEMPLOYMENT

How Did we Get Here?

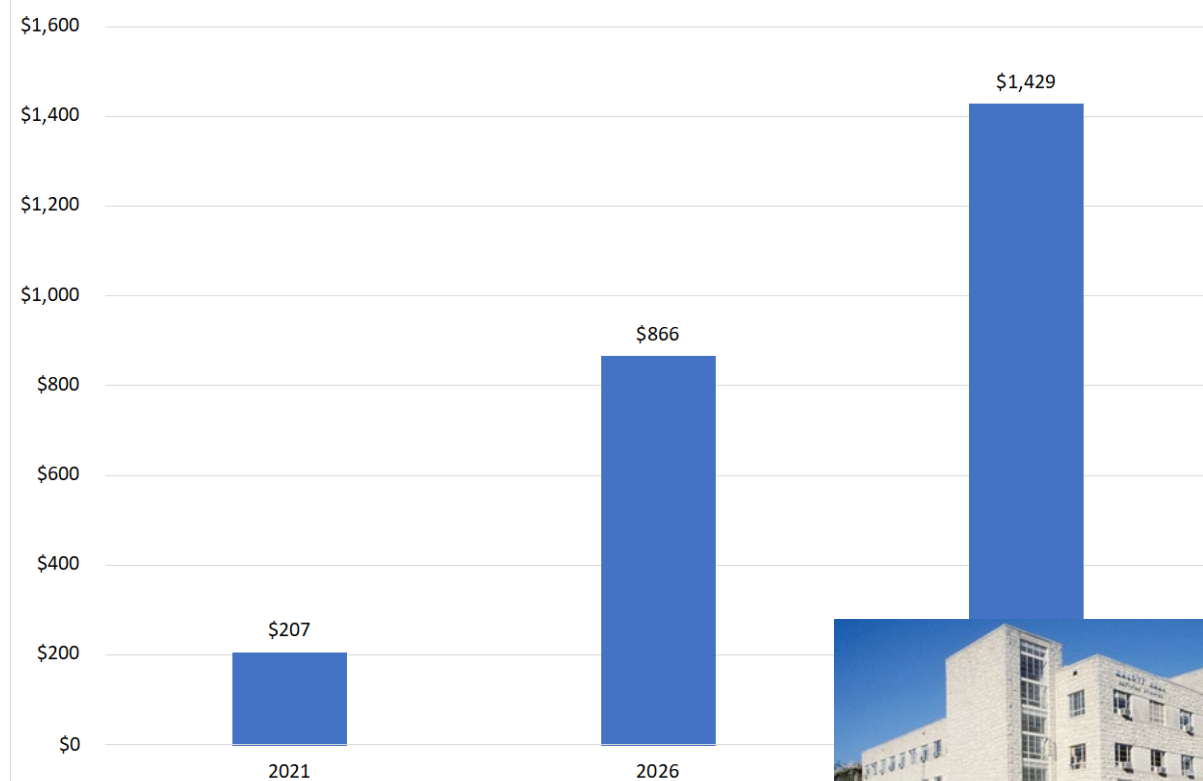
- Instead of spending the money necessary to fix the Unemployment Insurance System, say a total of \$75 million dollars, we ignored the problem.
- It cost the state a minimum of \$290 million in UI Fraud.
 - \$290 million > \$75 million it would have taken to fix the system.
- Governor Kelly is now budgeting \$37 million to fix the system.
- Federal funds may also be used to shore up the system.



Deferred Maintenance in Higher Education

Deferred Maintenance Expenses at KU

Estimated Deferred Maintenance at the University of Kansas
(millions of dollars)



- KU has \$207 million in deferred maintenance now.
 - \$32 million is related to infrastructure such as roads, parking lots, electricity, sewer and water.
 - Malott Hall, built in 1954. requires \$10.7 million in maintenance.
- In 10 years KU's costs could balloon to \$1.4 billion.

Michael Smith, Emporia State University

- “Kansas has a huge backlog of deferred maintenance, from buildings to computers to infrastructure. Pushing back maintenance schedules is a seemingly painless way to balance budgets without tax increases or cuts to popular programs. In truth, the pain is simply hidden. Over time it saddles the state with multi-billion-dollar liabilities and an inability to cope with crises such as the pandemic.”

Read more here: <https://www.kansas.com/opinion/guest-commentary/article249947829.html#storylink=cpy>

Conclusions

- Infrastructure investments matter.
- Expenditures on roads have large multiplier effects (2-5 times the expense).
- Opening the bank of KDOT may have slowed economic growth in the state.
- Failure to update the UI system cost the state hundreds of millions of dollars.
- Federal funding may help address this pressing need.

Thank You!

Thank You

Mahalo

Kiitos

Tack

Grazie

Obrigado

Takk

Danke

Gracias

Toda

Thanks

Merci