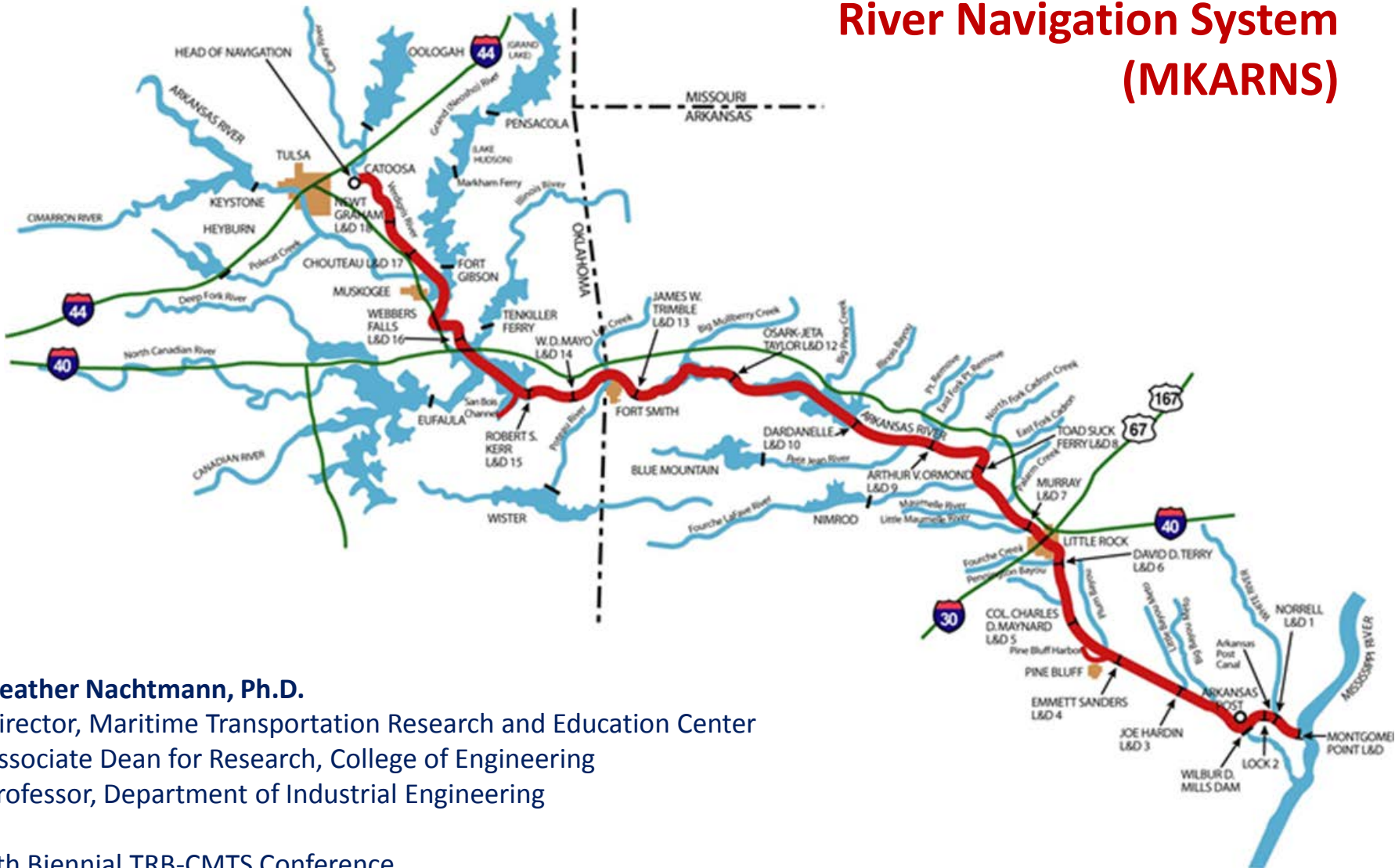


Regional Economic Impact Study of the McClellan-Kerr Arkansas River Navigation System (MKARNS)



Heather Nachtmann, Ph.D.

Director, Maritime Transportation Research and Education Center

Associate Dean for Research, College of Engineering

Professor, Department of Industrial Engineering

4th Biennial TRB-CMTS Conference

June 22, 2016

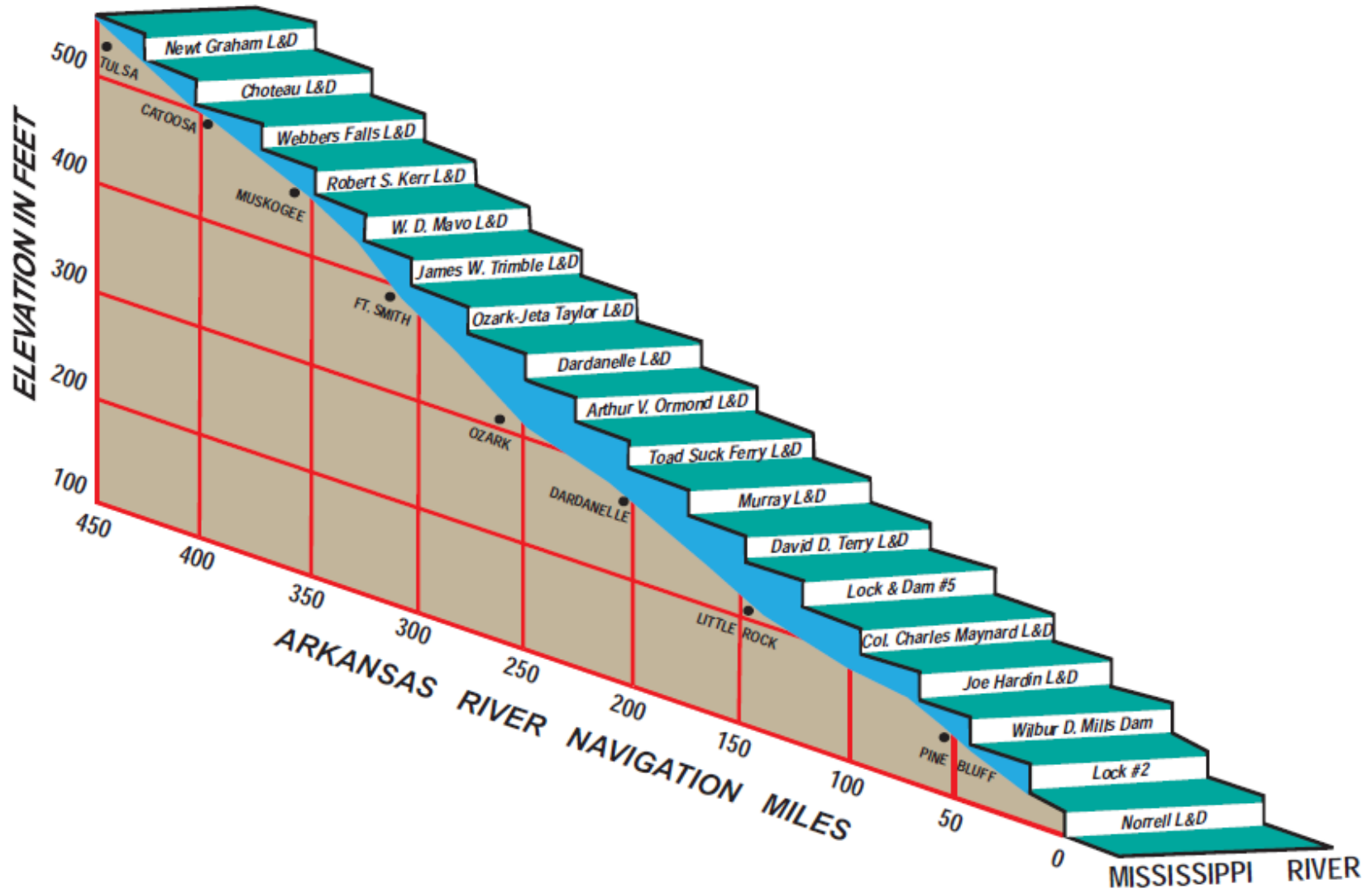
SOURCE: OKLADOT 1

MKARNS connects the heartland of America to the global supply chain.

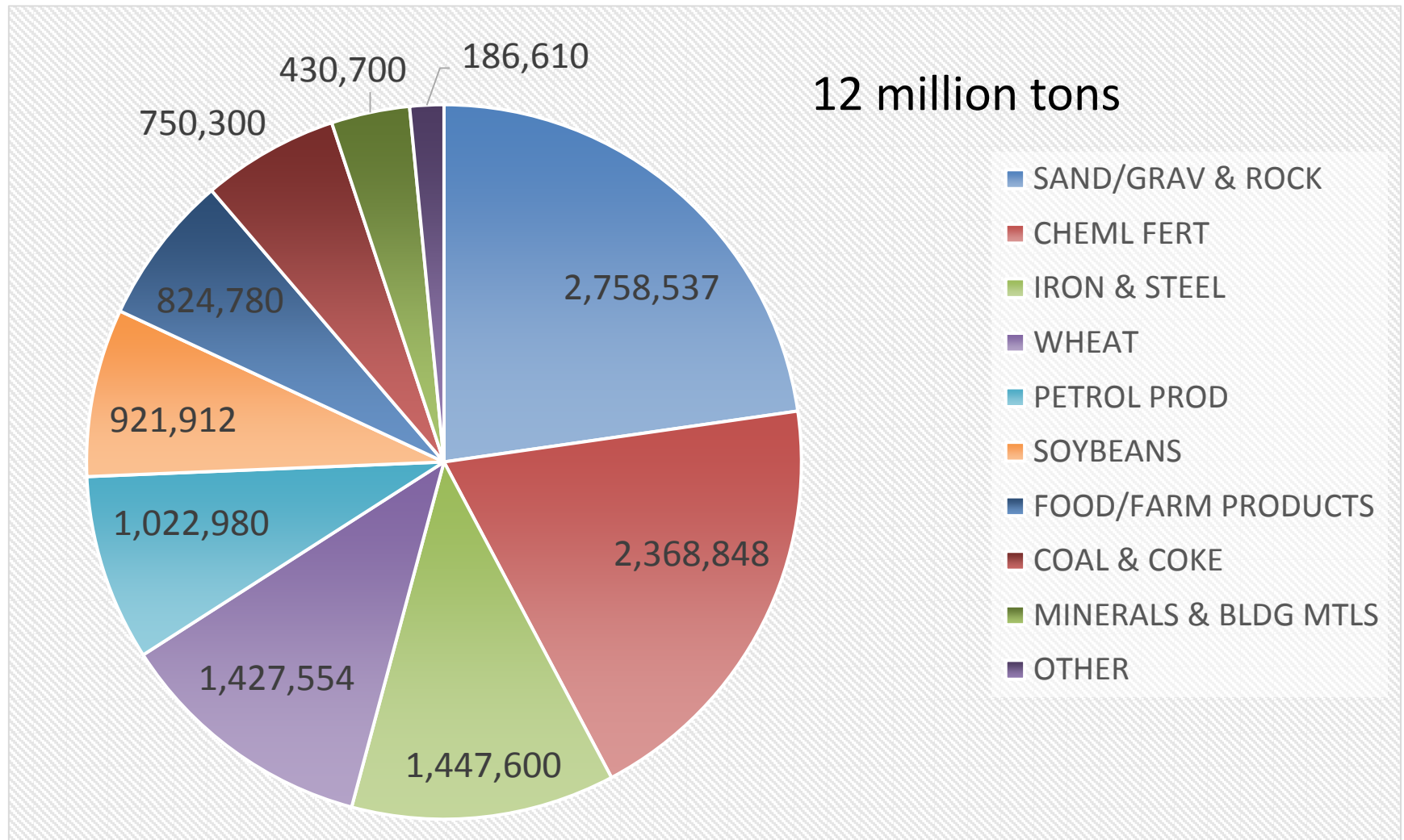
U.S. Inland & Intracoastal Waterways



A series of 18 lock and dam systems maintain navigation through the MKARNS' 420 foot drop in elevation.



More than 120,000 railcars or 450,000 semi-trucks would be needed to transport MKARNS' annual tonnage.



We recently completed a multi-state, multi-institute, multi-disciplinary regional economic impact study of the MKARNS.

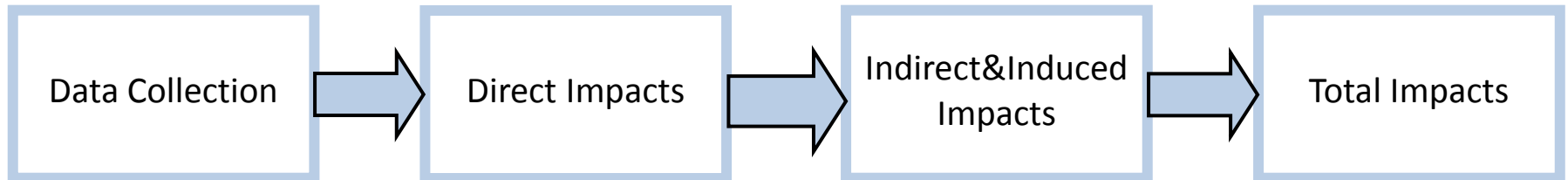
Investigators



Sponsored by

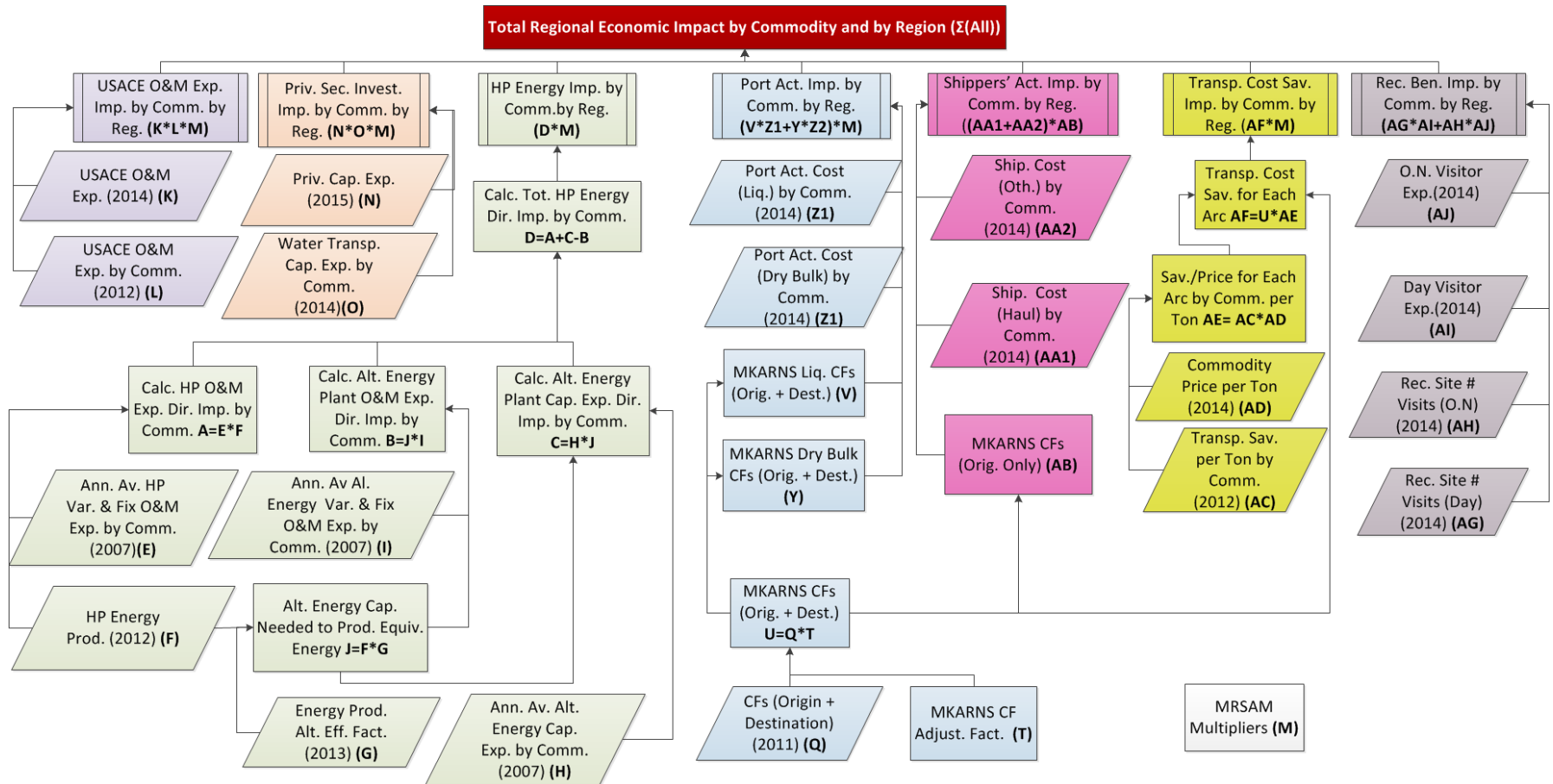


Input-output models account for the interdependencies between industries within national or regional economies.

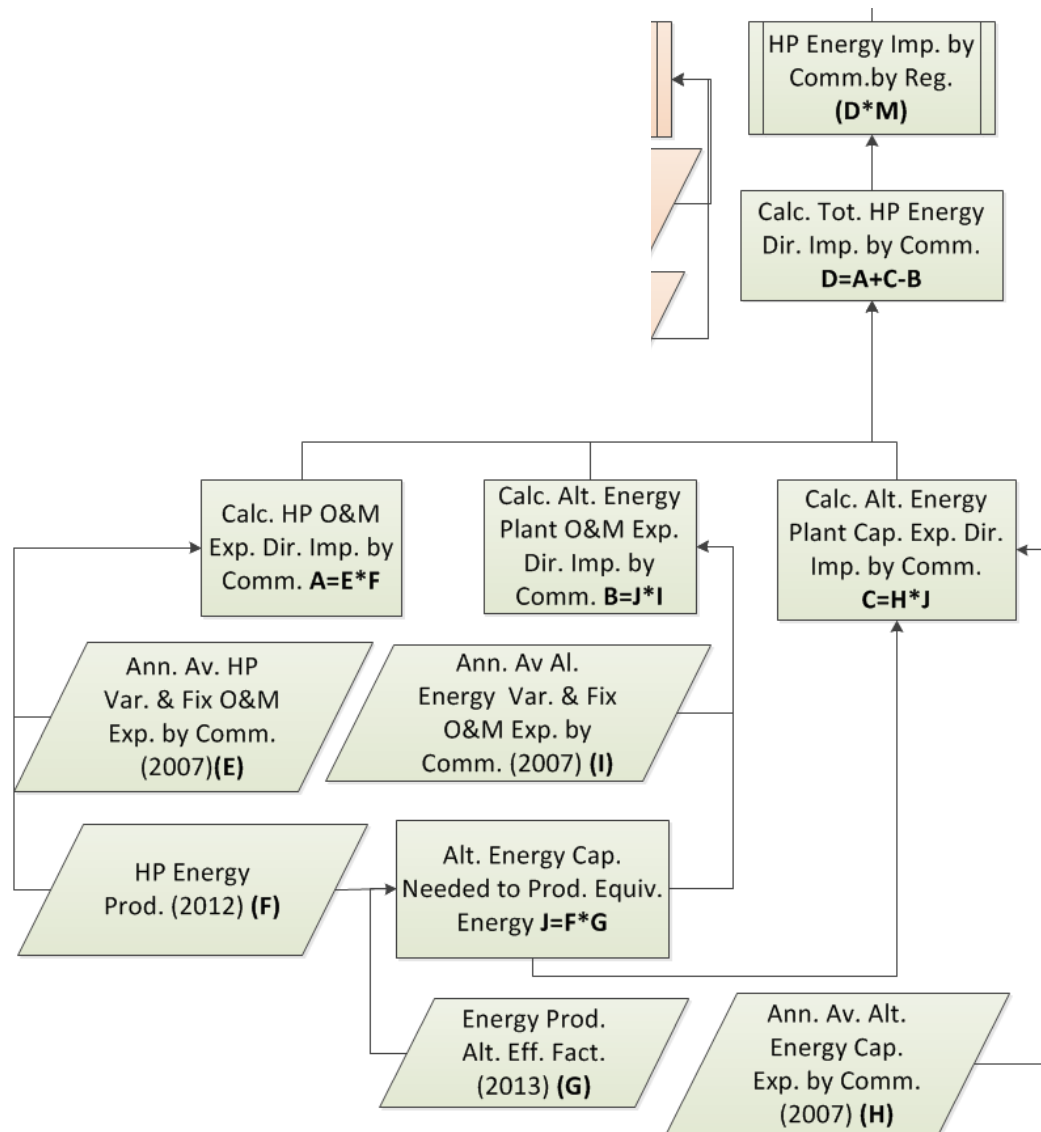


Multiregional Input-Output Multipliers			
Regional Impact Source			
Impacted Region	Region A	Region B	Region C
	Region A Impact on Region A	Region B Impact on Region A	Region C Impact on Region A
	Region A Impact on Region B	Region B Impact on Region B	Region C Impact on Region B
	Region A Impact on Region C	Region B Impact on Region C	Region C Impact on Region C
Total	Σ	Σ	Σ

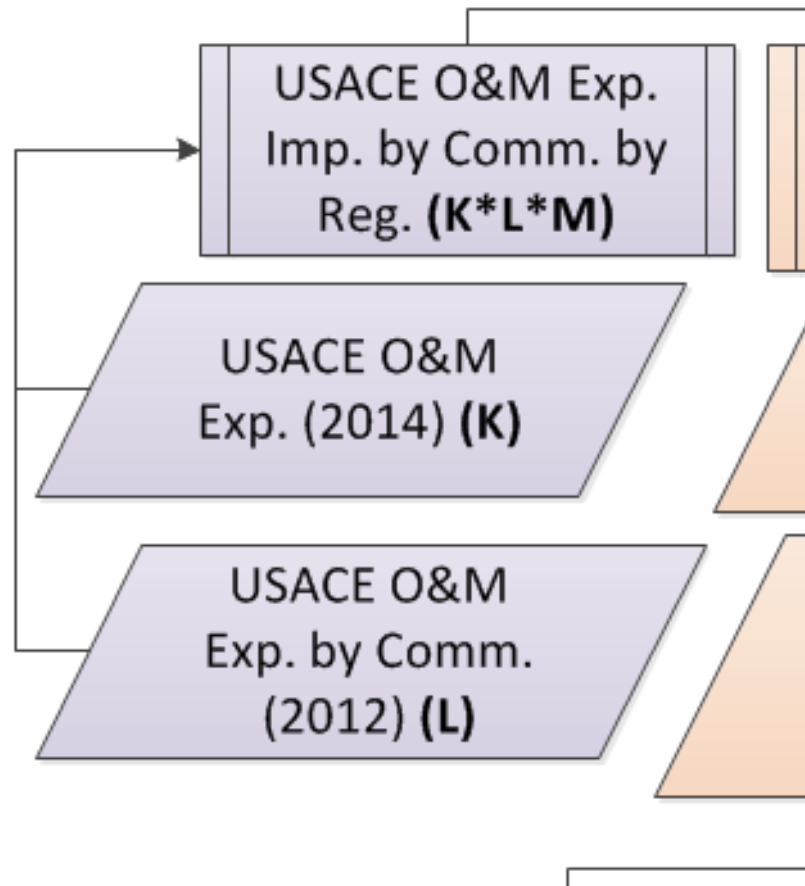
We implemented a multiregional variable input-output model developed by Robinson, et al. (2014)



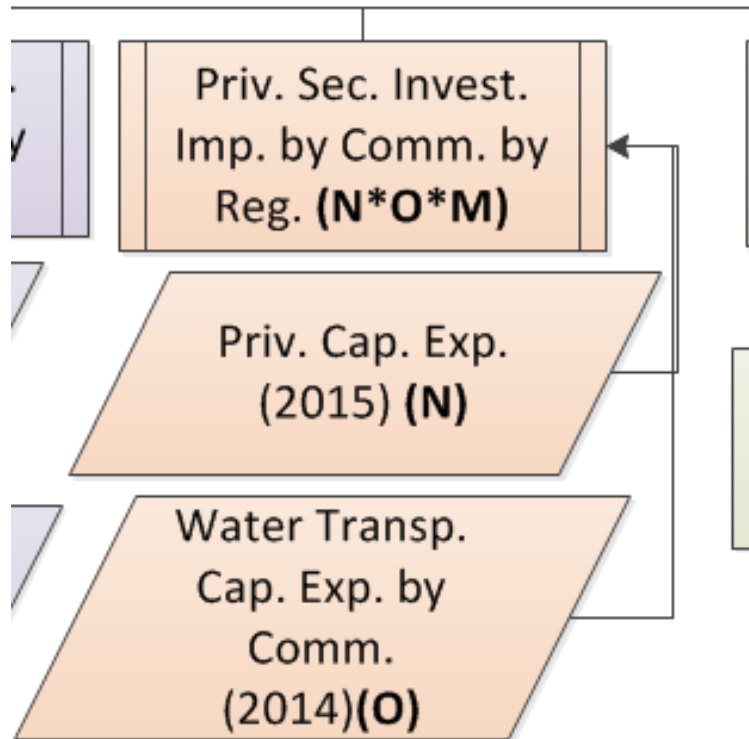
We consider Hydropower Energy Generation impacts.



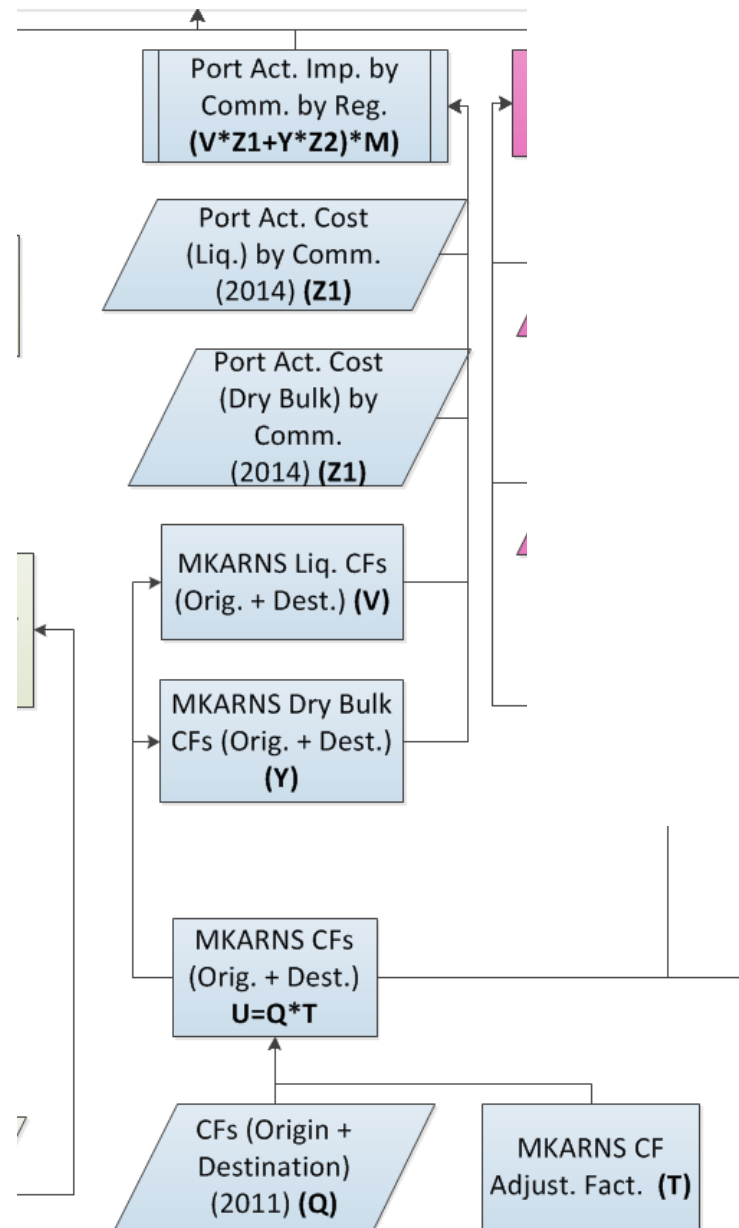
We consider USACE Operations and Maintenance Expenditure impacts.



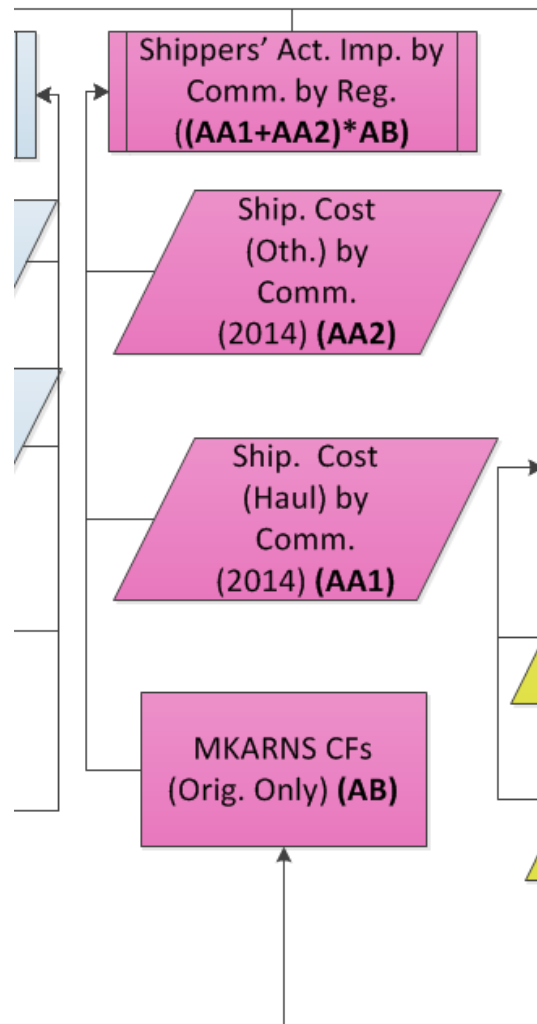
We consider Private Sector Investments impacts.



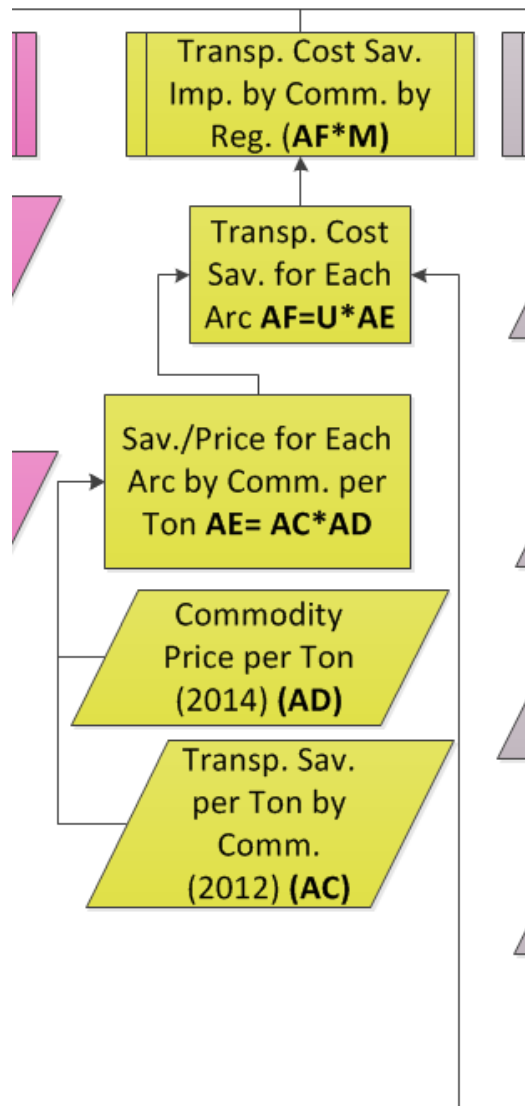
We consider Port Activities impacts.



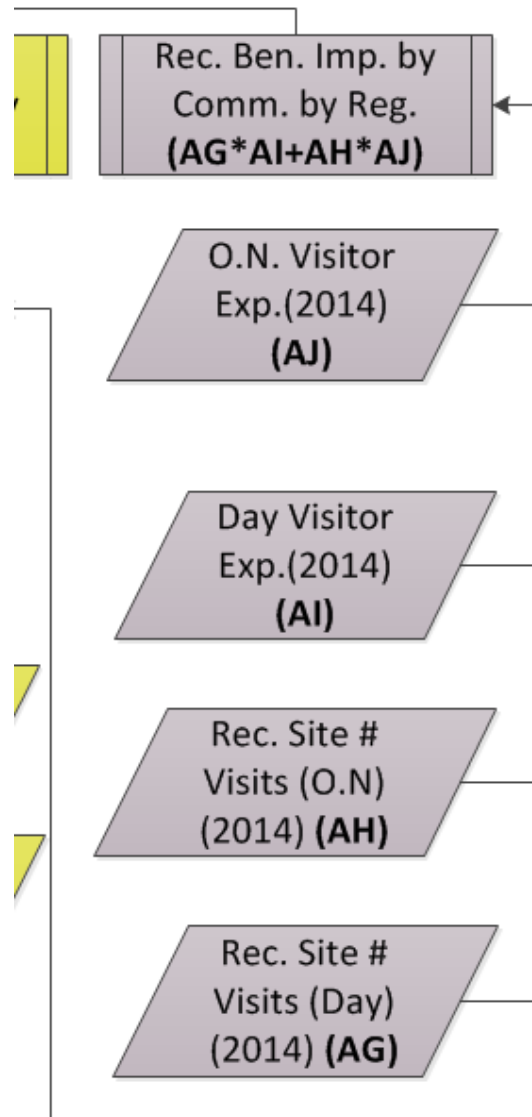
We consider Shippers' Activities impacts.



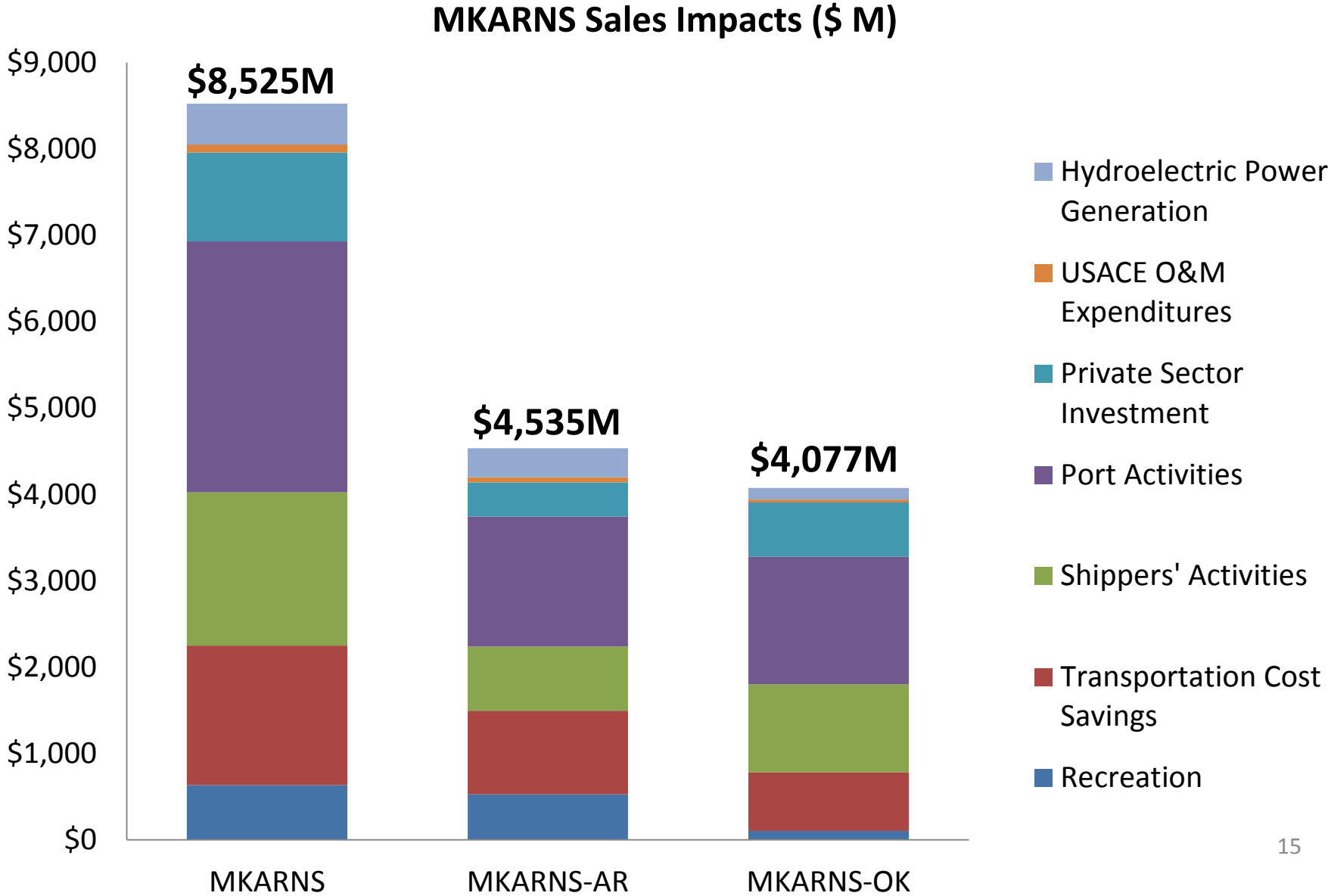
We consider transportation cost savings impacts.



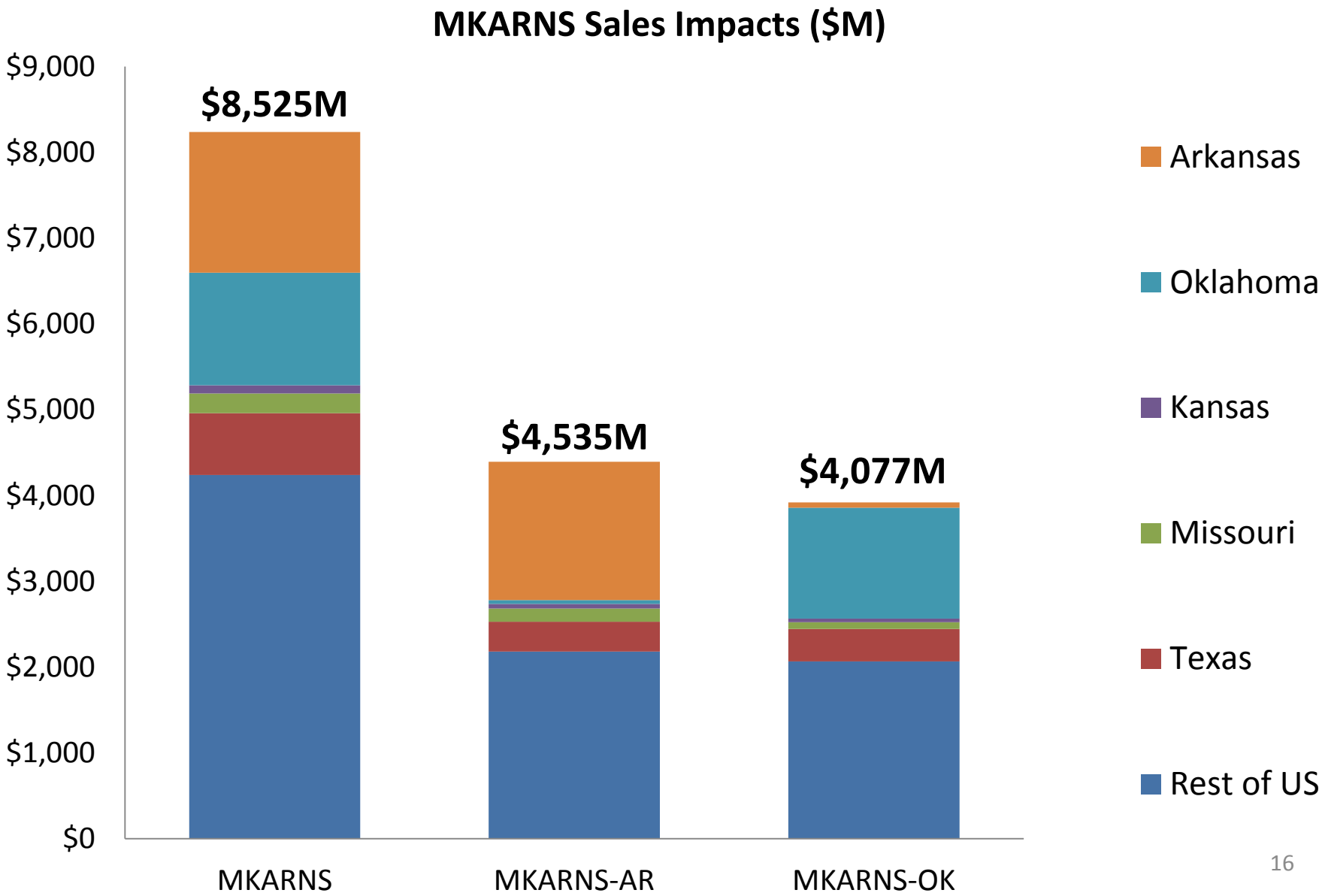
We consider Recreation impacts.



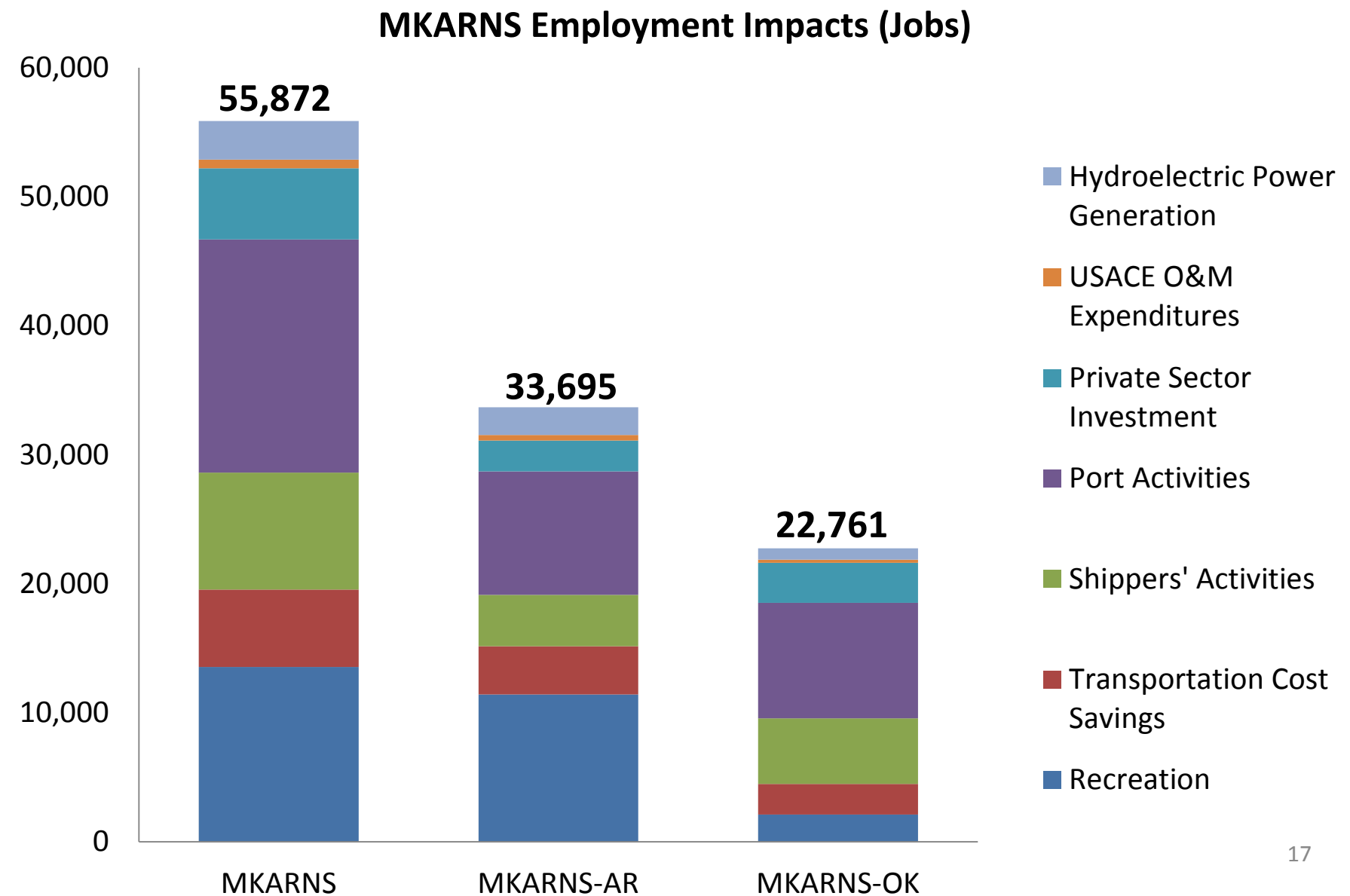
Port Activities, Shippers' Activities, and Transportation Cost Savings are the largest contributors to Sales impacts.



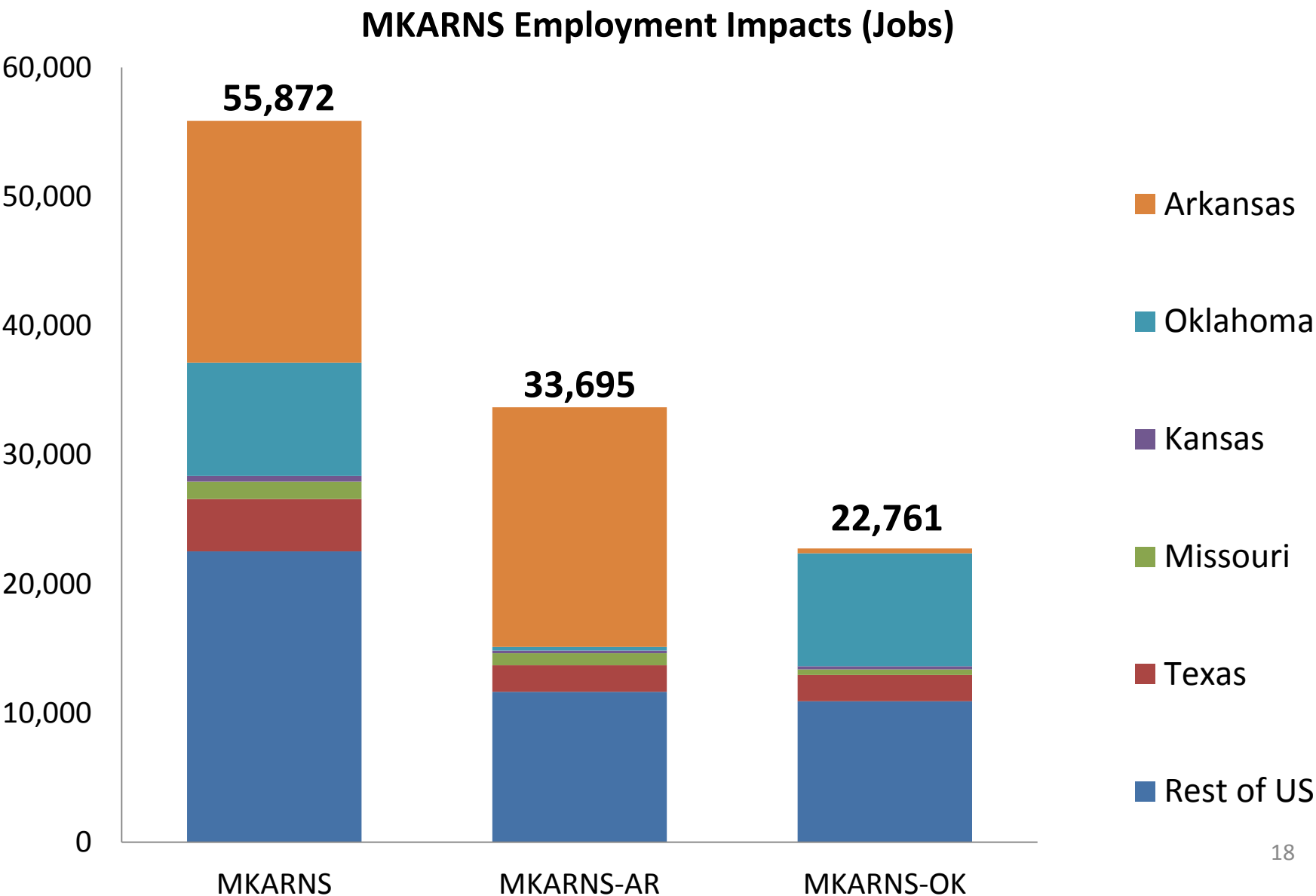
The MKARNS is responsible for more than \$1.6M in Sales impacts in Arkansas alone.



Employment impacts in US and Ok are primarily due to Port Activities; Recreation is the primary employment impact factor in AR.



A third of MKARNS employment impacts are jobs located in AR.



ACKNOWLEDGEMENTS

This project was funded by the Arkansas State Highway and Transportation Department through the Mack-Blackwell Transportation Center. The work was conducted in conjunction with the Arkansas Waterways Commission, Oklahoma Department of Transportation, and the University of Arkansas at Little Rock. This material is based upon work supported as a match project for the U.S. Department of Transportation under Grant Award Number DTRT13-G-UTC50.

DISCLAIMER

The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the information presented herein. This document is disseminated under the sponsorship of the U.S. Department of Transportation's University Transportation Centers Program, in the interest of information exchange. The U.S. Government assumes no liability for the contents or use thereof.