



# 21st Annual GIS/CAMA Technologies Conference Chattanooga Convention Center

GIS/CAMA • Chattanooga, TN



March 6-9, 2017



# Continuing Education (CE) Credit

Recertification Credit forms for CE credit can be collected from the Registration Desk on Thursday.

## Housekeeping

The conference proceedings will be available approximately 8 weeks after the conference.



# Start to Finish

## *A Brief Analysis of Assessment Value, Tax Rates, and Funding in Local Education*

By: Michael S. Mixon

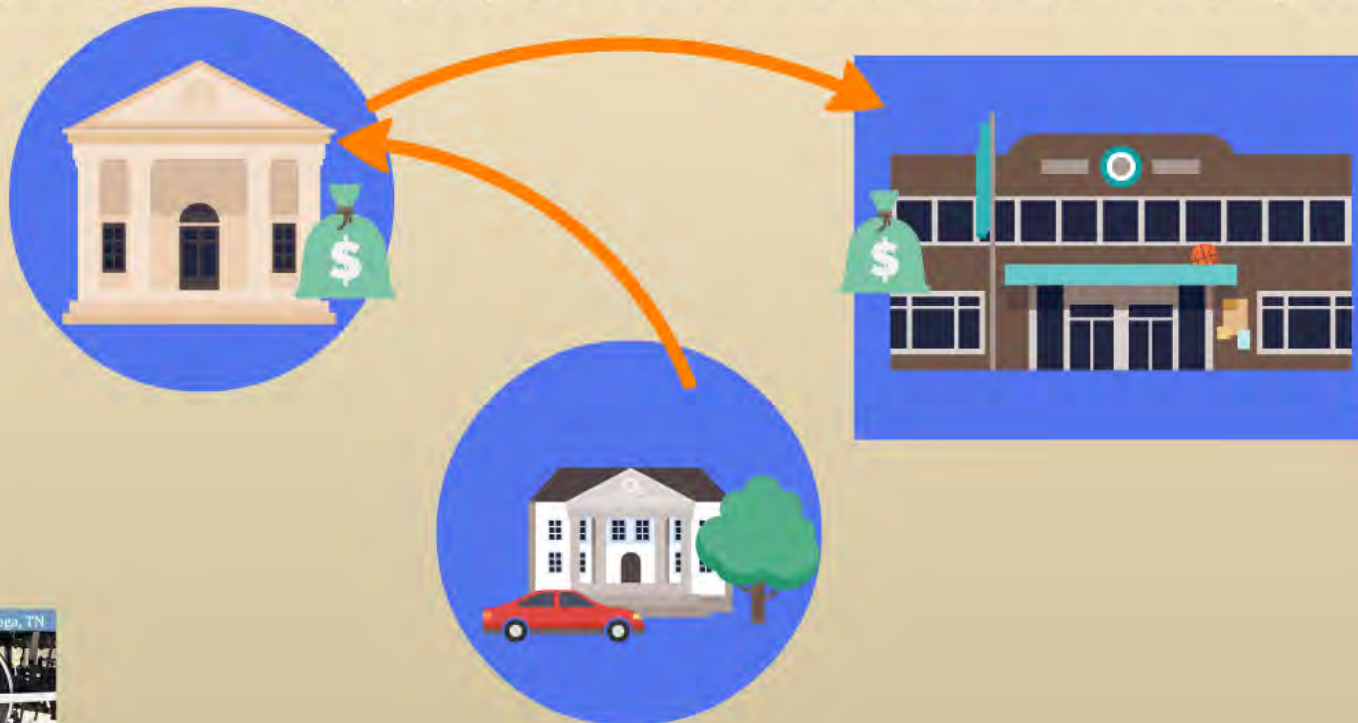


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# Today's Agenda:

- Briefly discuss the history of property taxes and current trends.
- Explore the relationship between school funding and local property taxes.
- Analyze state-wide property assessment and education funding data.



# History

Owner's Name	Part of Section	Section	Range	No. of Acres	Value per Acre	Total Value	State Tax	Part
						Am't Prot Cred	294 09	
Parks J. A.	W/2 S/4	22	13	80 200	160 00		16	
Mukunon	S/4	22	13	160 200	320 00		32	
W. W. Matott	Part	23	13	320 200	640 00		64	

Taxes have been collected on real and personal property for thousands of years.

General property taxes in the U.S. have been implemented at the local, state, and even federal level.

Throughout the 19th Century the majority of states imposed a general property tax that included real and personal property, tangible and intangible.



D. Brunori



# History

Property taxes were usually applied to one's wealth, which included tangible and intangible property. This became more difficult as one's wealth became less defined by land and physical property.

Founded in 1907, the National Tax Association proposed using state income tax for wealth, leaving local property taxes for tangible property.

G.W. Fisher

Owner's Name	Part of Section	Section	Township	Range	No. of Acres	Value per Acre	Total Value	State Tax
							Am't Prop. Over	294 09
Parks J. A.	W/2	T/4	22	1	3 80	200	160 00	16
Unknown	SE/4	22	1	3	160	200	320 00	32
Williamus Matchet	E/2	23	1	3	320	200	640 00	64



# History

The National Tax Association also advocated for a uniform system of assessment in which different property types had different rates of taxation.

G.W. Fisher

Owners Names	Dir of Section	Section	Stamb	Stamb No.	Acres	Value	Acres	Total Value	State Tax
								Am't Prot Ored	294 09
Parks J. A.	W/2 S/4	22	1	3	80	200	160 00		16
Winkerson	S/4	22	1	3	160	200	320 00		32
William's Matchet	E/2	23	1	3	320	200	640 00		64





# History and Trends



The Great Depression acted as the death knell for the states' reliance on general property taxes.

As real property values drastically declined states had to find other sources of revenue.

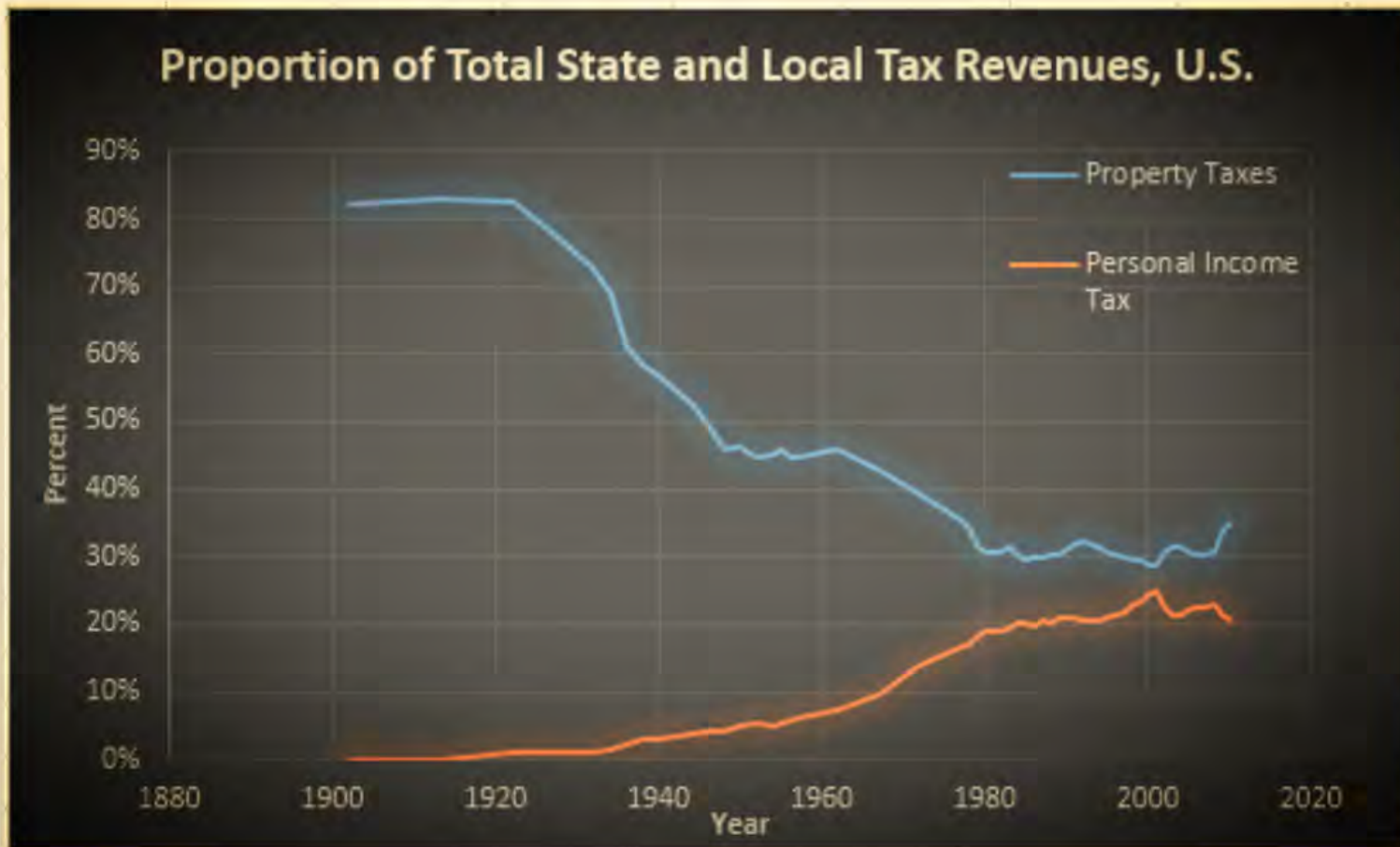
According to statistical data available from the U.S Census Bureau the reliance of states on property tax revenue has steadily declined since the 1920's.

D. Brunori





# History and Trends



Source: U.S Census Bureau, Tax Foundation.org



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# History and Trends

In the years following WWII real property values increased and property taxes became a more reliable form of local revenue.

D. Brunori



Source: U.S. Census Bureau, State and Local Government Finance Data Query System [taxpolicycenter.org](http://taxpolicycenter.org)

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# History and Trends

While home values have continued to increase, local governments have also found ways to supplement revenue, such as local option sales taxes and intergovernmental transfers.

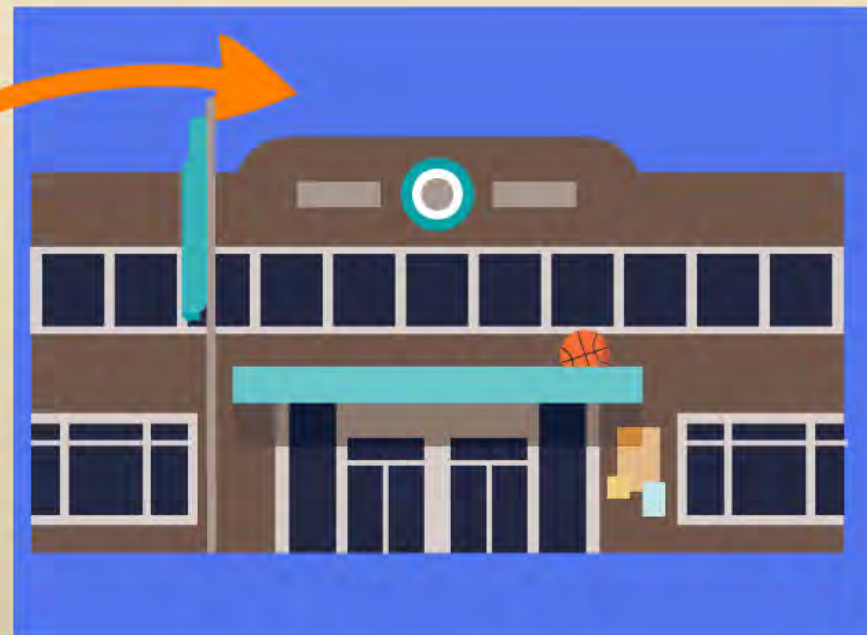


Source: U.S. Census Bureau, D. Brunori

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# School Funding and Local Property Taxes

What role does property tax play in school funding?





# School Funding

There are approximately 14,400 school districts in the U.S.

Unified School District: Gray

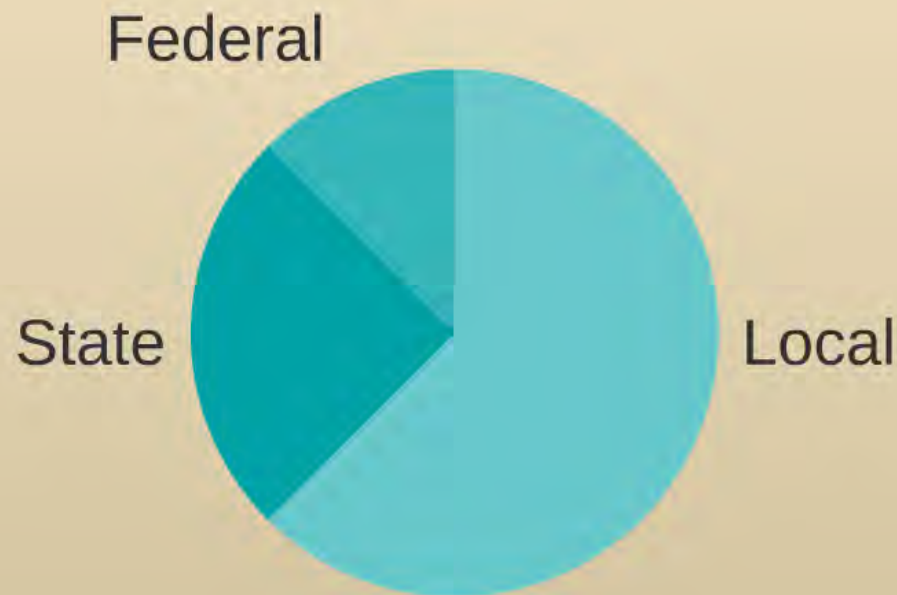
Special School District: Red



# School Funding

The majority of school districts in the United States receive funding from local, state, and federal sources.

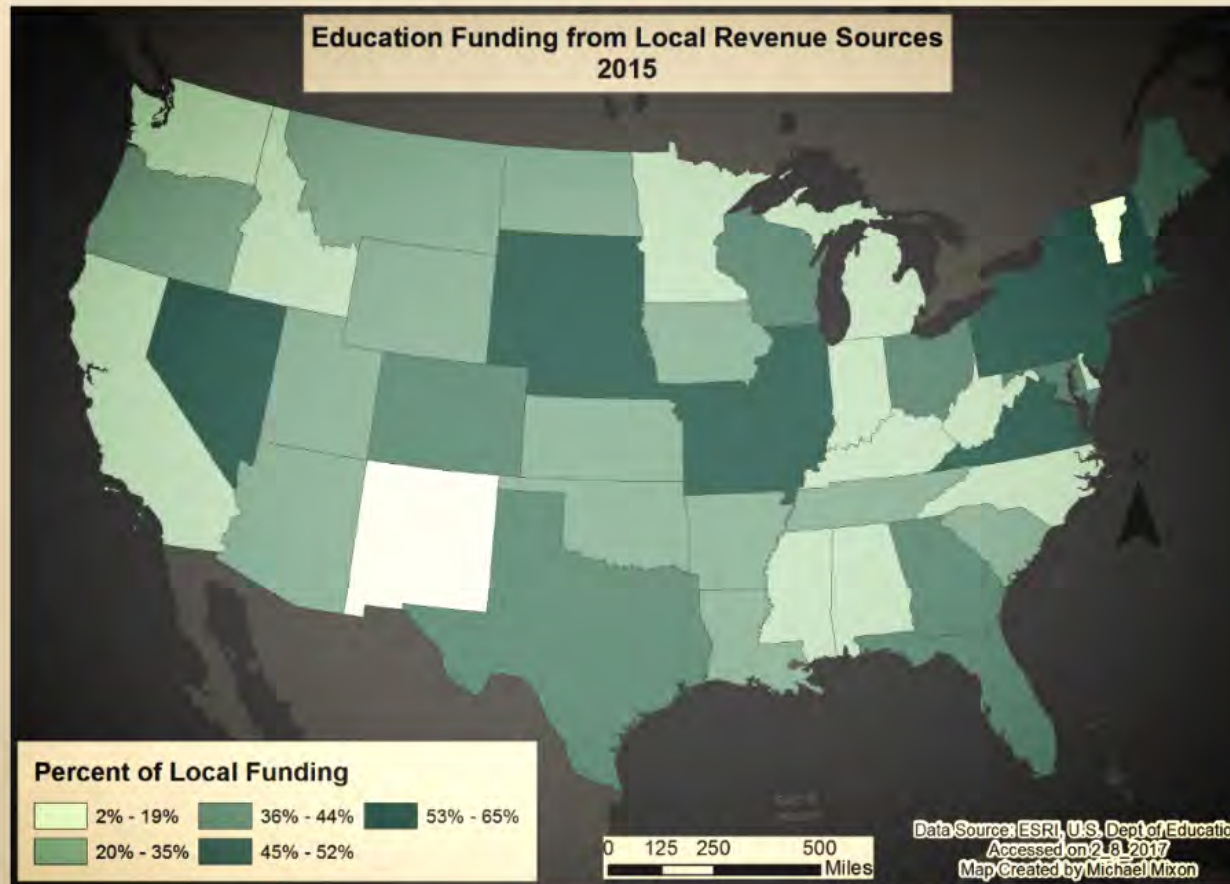
Funding from these sources exceeds \$500 Billion annually according to the U.S. Census Bureau.





# School Funding

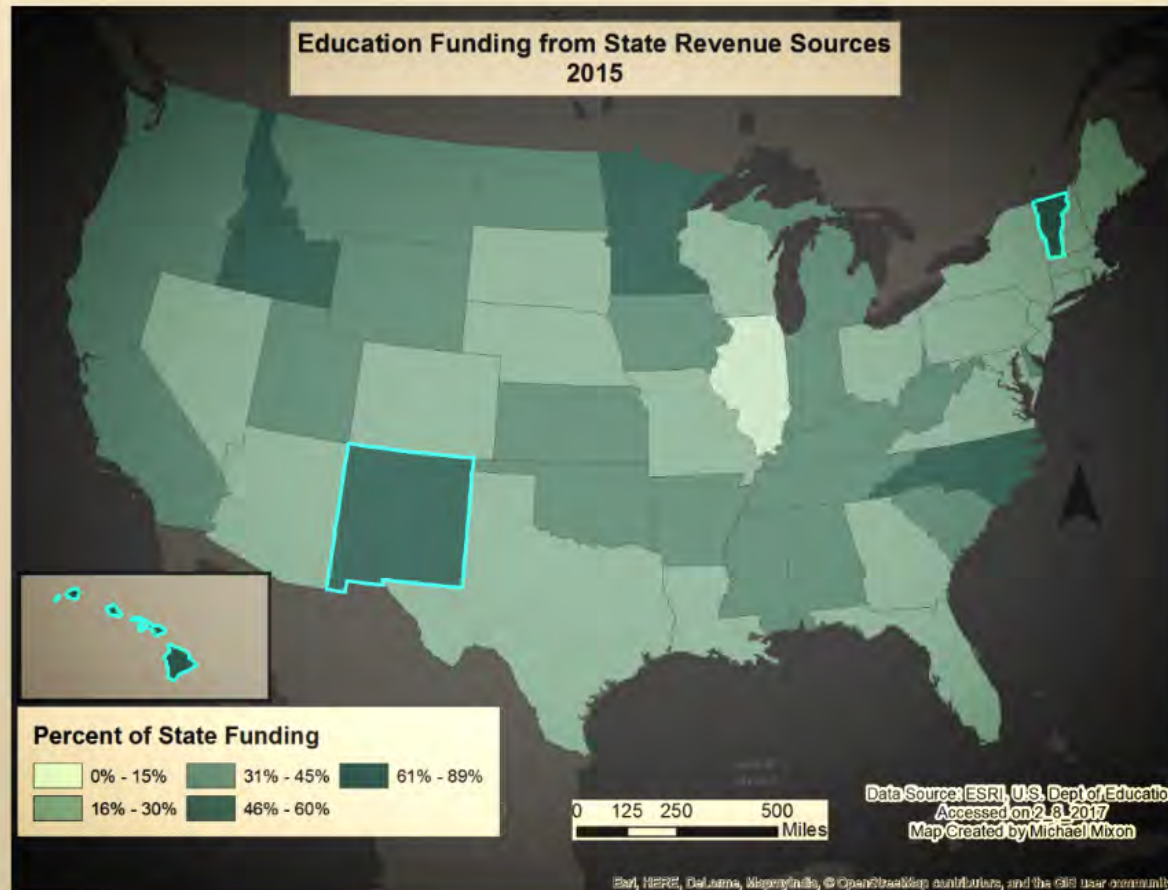
States vary widely in their funding models, with some states more heavily dependent on local revenues to fund schools.



# School Funding

State funding for the highlighted states below is greater than 85 percent.

What unique factors can be attributed to the high level of state funding in these areas?





# School Funding

A series of lawsuits in the 70's questioned allocation of state funds to local districts and the equitability of local property wealth as the main source.

CITY	STUDENTS	ASSESSED VALUE PER STUDENT	TAX RATE	EXPENDITURE PER STUDENT
CITY A	5,000	\$60,000	2.50/100	\$1,500
CITY B	5,000	\$20,000	5.00/100	\$1,000

States now use funding models to calculate the amount of funding allocated to local school districts.



# School Funding

Each state in the U.S. has a unique set of demographics, industries, and educational needs.

The state of Tennessee created the Basic Education Plan in 1992 in an attempt to provide equitable allocation of education funding throughout its districts.





# The Data

U.S. Census Bureau

U.S. Dept. of Education

TN Dept. of Education

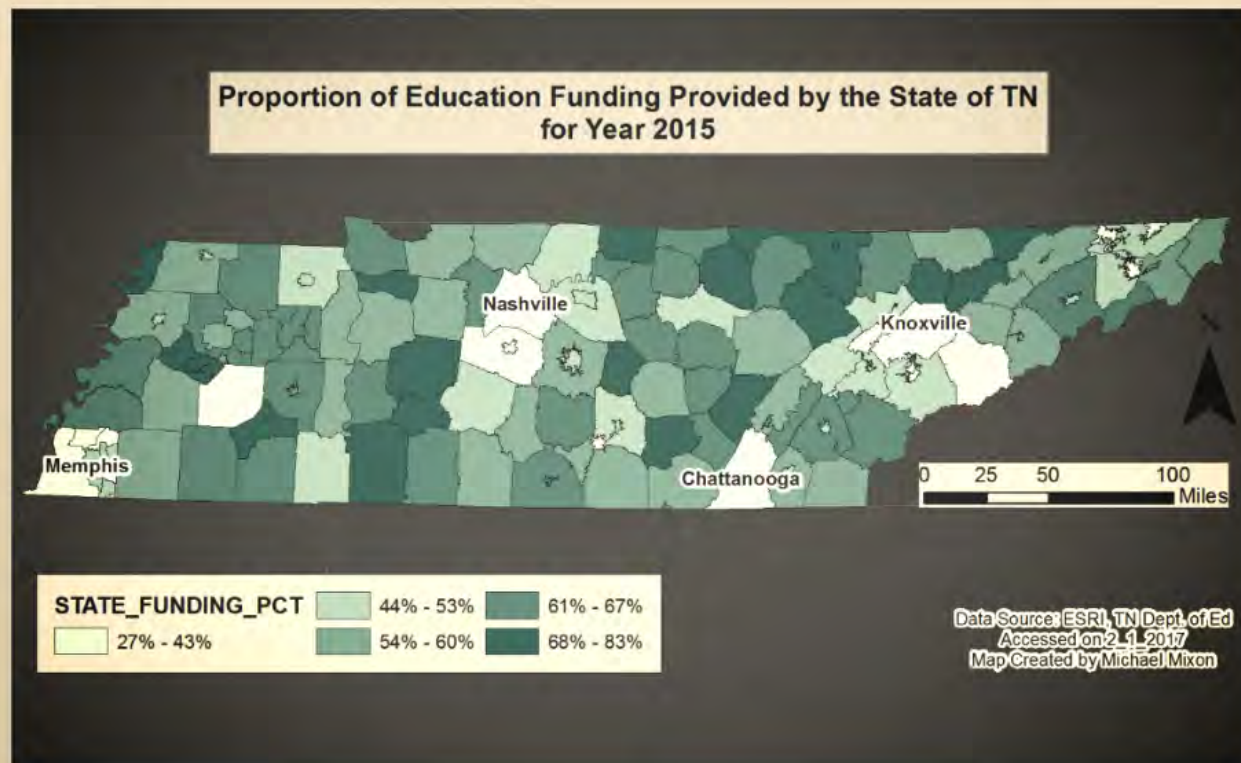
TN Comptroller of the Treasury

TN CTAS



# The Data

Tennessee uses a model to determine the 'fiscal capacity' of a county using a combination of property tax base and sales tax base.



March 6-9, 2017

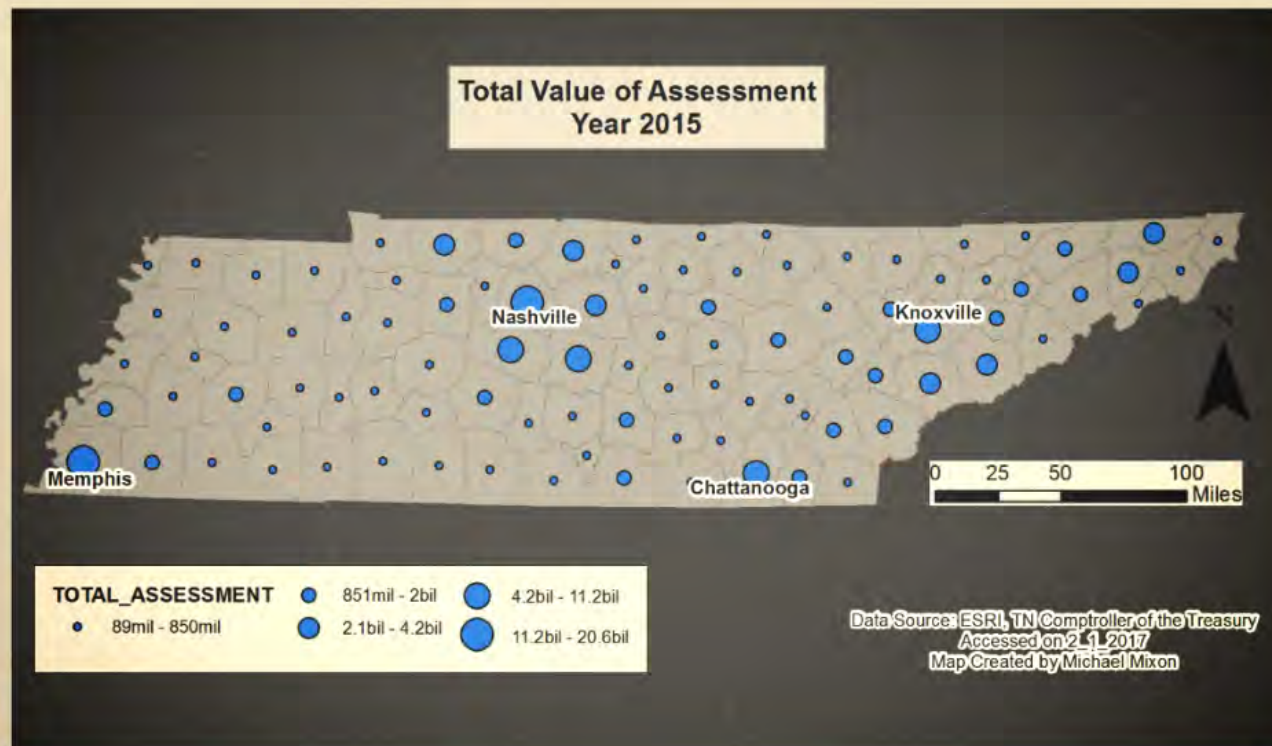
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# The Data

Heavily populated areas have a greater value of assessment.

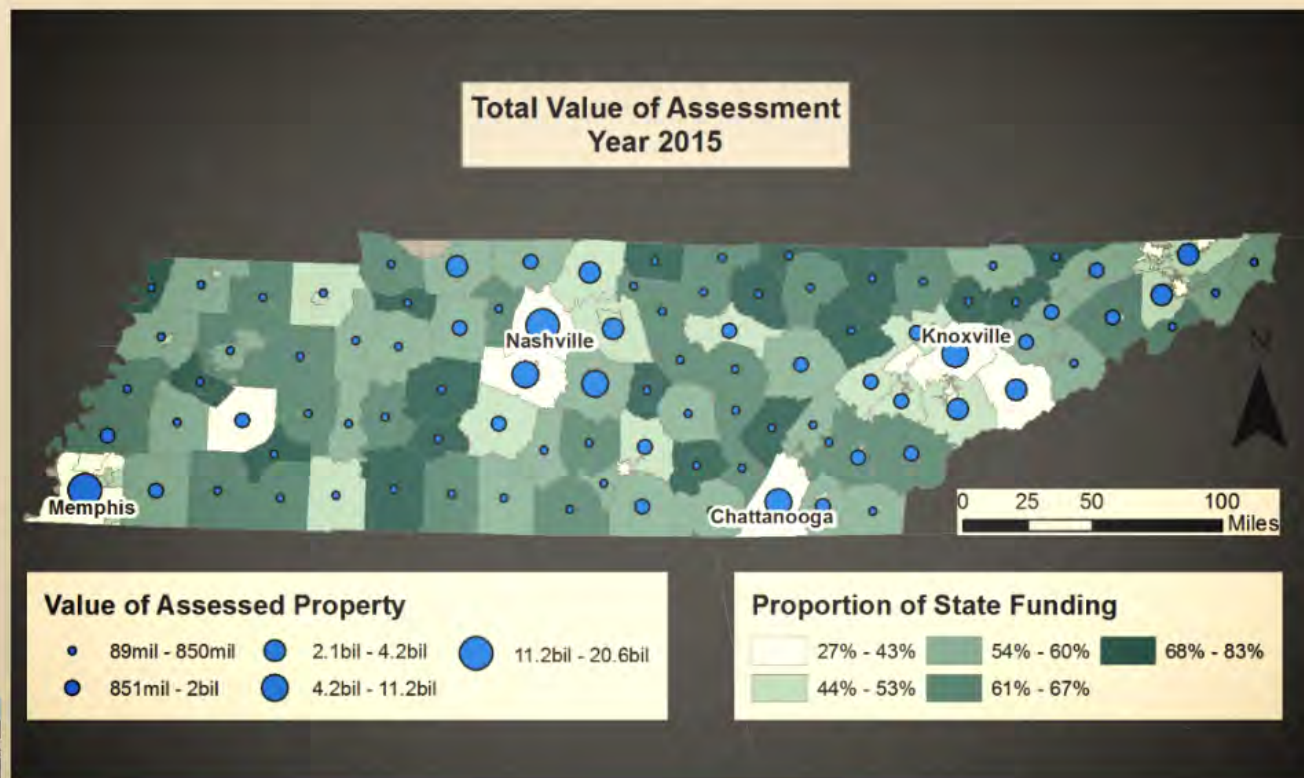
More people = More property



# The Data

Overlaying data displays the correlated relationship between total assessed value of property and state provided education funding.

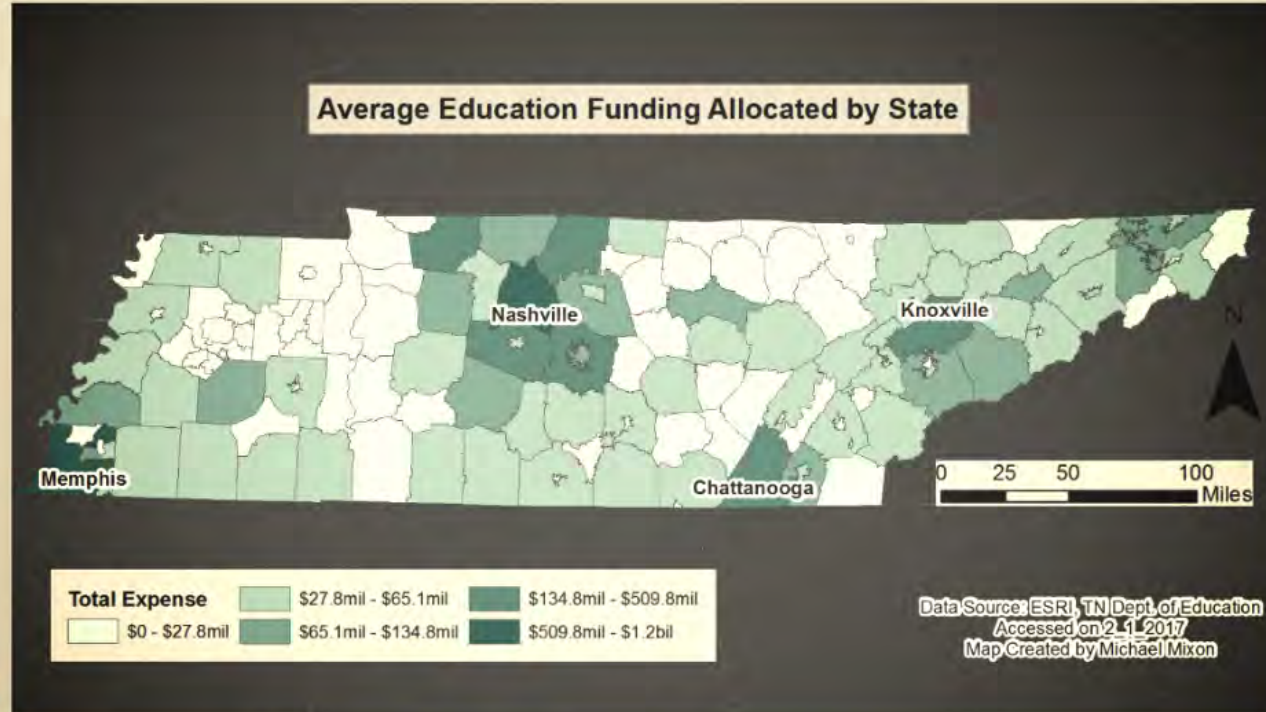
Larger population = Less state funding





# The Data

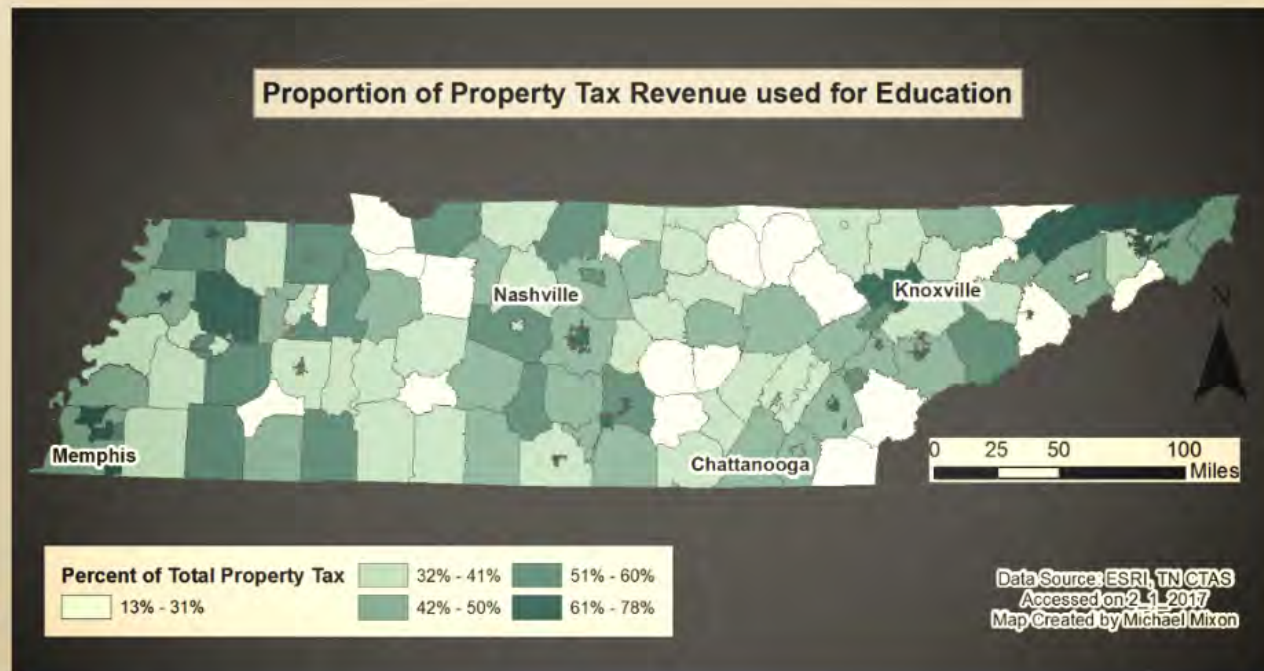
Overall education funding allocated by the state based on 'average daily attendance' multiplied by 'per pupil expenditure.'



# The Data

Local government legislative bodies decide on allocation of collected taxes.

Many City and Special School districts are funded by additional property tax rates.

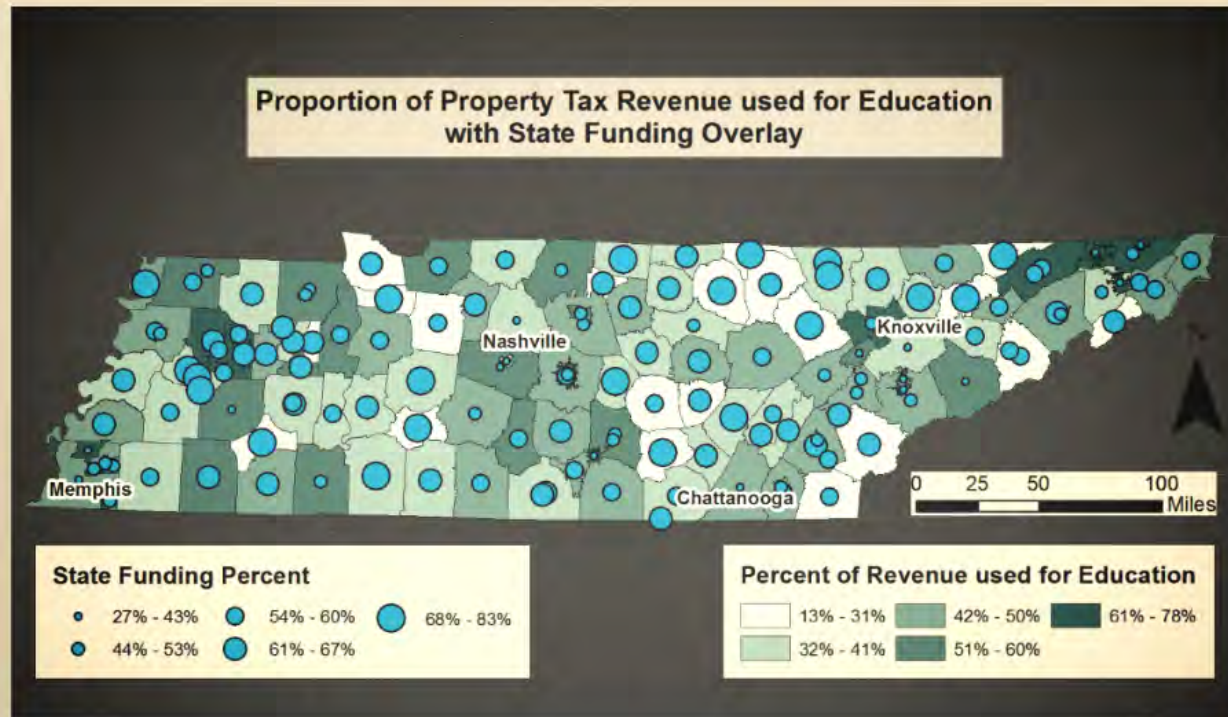




# The Data

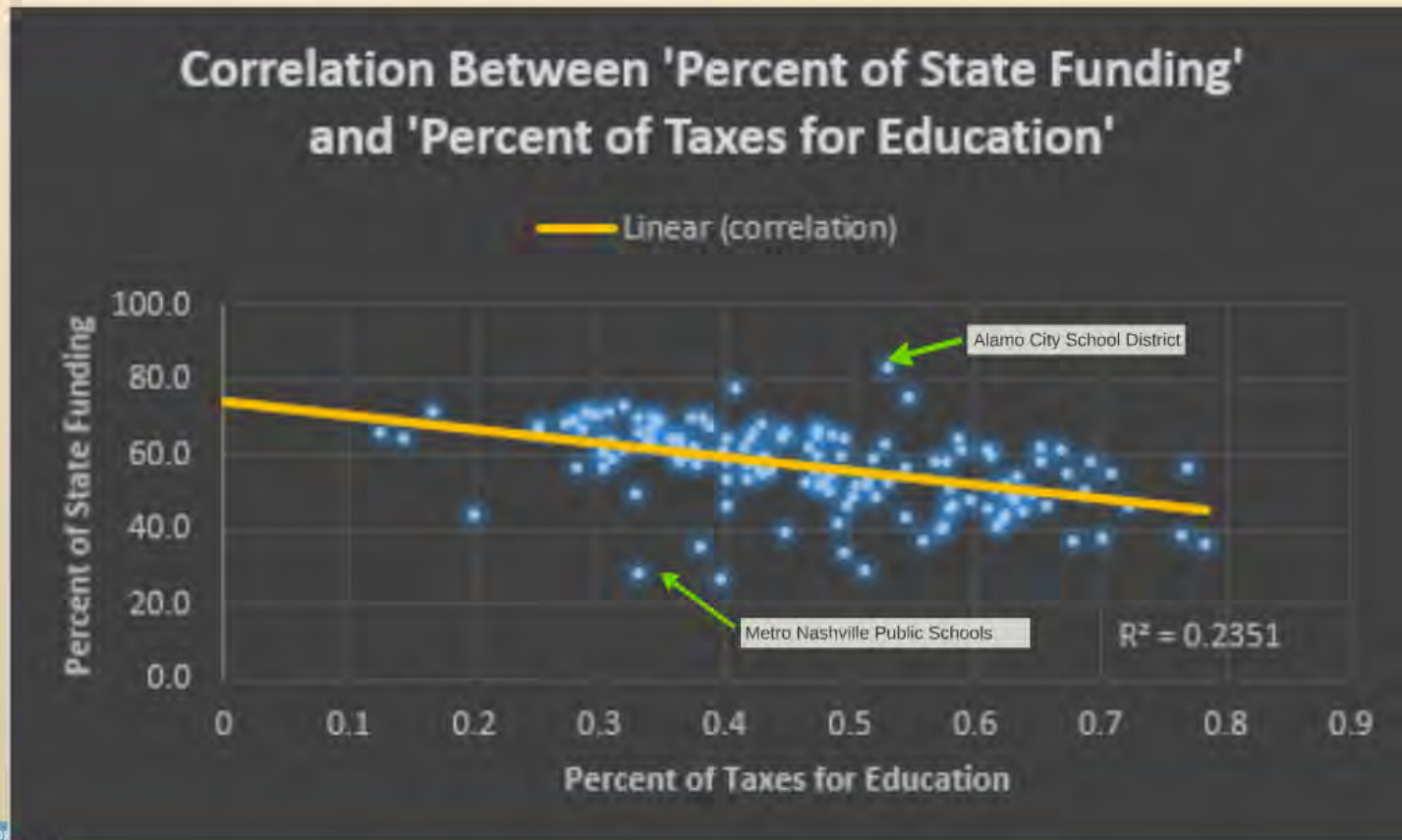
Overlaid maps do not always reveal correlation visually.

To discover if there is a correlation between 'state provided funds' and 'percent of taxes used for education' scatter plots can be used.



# The Data

Each point represents a district. Outliers can be identified and questions can be posed.





# Improvements are made when questions are asked.

How are factors interrelated within the local education funding and property tax system?

Can we identify counties that fall outside the overall trends within a state?

How is funding effected by unique demographic or economical data?



# Questions



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# Sources

Fisher, Glenn. "History of Property Taxes in the United States". EH.Net Encyclopedia, edited by Robert Whaples. September 30, 2002. URL <http://eh.net/encyclopedia/history-of-property-taxes-in-the-united-states/>

Brunori, D., Green, R., Bell, M., Choi, C., Yuan, B., March 2006. "The Property Tax: Its Role and Significance in Funding State and Local Government Services", George Washington Institute of Public Policy (GWIPP) Working Paper no. 27

National Center for Education Statistics <https://nces.ed.gov>

Tax Foundation <https://taxfoundation.org>

Urban Institute <http://www.urban.org>



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A graphic for the GIS-Pro 2017 event. It features a stylized globe with a grid of latitude and longitude lines, set against a background of a city skyline with tall buildings. The text "GIS-Pro 2017" is prominently displayed in a bold, teal font. Below the title, the dates "October 23-26, 2017" and the location "Jacksonville, Florida" are written in a white, sans-serif font. The entire graphic is framed by a thin black border.

**GIS-Pro 2017**  
October 23-26, 2017  
Jacksonville, Florida







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Beyond All Limits

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ANNUAL CONFERENCE  
& Exhibition

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**2017**