



RURAL SCHOOL REFORM

By Michael Q. McShane

Education conversations in Missouri tend to be dominated by discussion of the Kansas City and St. Louis metropolitan areas, and with good reason. From unaccredited schools in Normandy and Riverview Gardens to years of underperformance at great cost in Kansas City, there is plenty of fodder for discussion. But focusing solely on Kansas City and St. Louis can create the misleading impression that the only places that need reform or improvement are our urban centers. This is not the case.

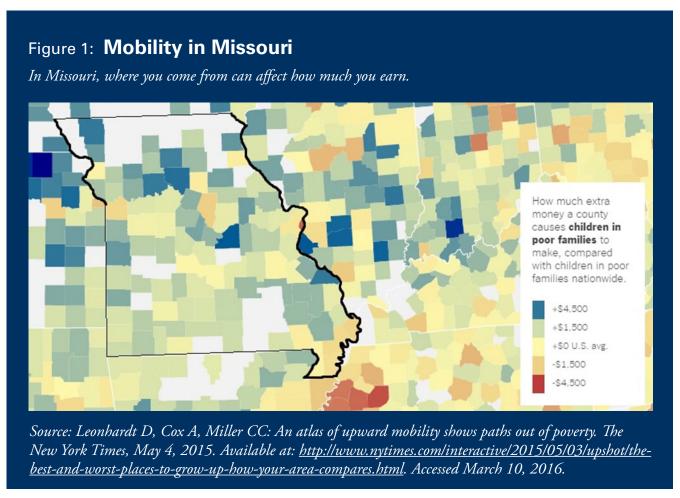
As I will demonstrate here, rural schools in Missouri face a host of challenges. These include recruiting quality teachers, securing adequate funding for their schools, and

providing the varied course offerings that their students will need to succeed in the 21st century. While these challenges are daunting, states across the country have learned how to address them, providing examples that give Missouri a suite of policies to choose from that can help rural schools recruit the staff that they need, offer the coursework students desire, and retain the civic nature of small-town public schools, all at a reasonable cost.

THE PROBLEMS

A growing body of evidence points to serious issues, educational and otherwise, in rural communities in Missouri.

ADVANCING LIBERTY WITH RESPONSIBILITY
BY PROMOTING MARKET SOLUTIONS
FOR MISSOURI PUBLIC POLICY



The *New York Times* produced Figure 1, a county-by-county breakdown of difference in the earnings of children from poor families by age 26. Building off of data collected by Raj Chetty and colleagues,¹ It shows that after controlling for other variables, growing up in counties like Osage (+\$5,260), Chariton (+\$4,660), Perry (+\$4,460), Nodaway (+4,440), and Carroll(\$4,400) is correlated with greater earnings later in life. Conversely, growing up in St. Louis City (-\$3,780), Boone County (-\$1,470), Mississippi County (-\$1,320), Jackson County (-\$1,190), and New Madrid County (-\$1,110) is correlated with a lower income later in life. While the St. Louis City numbers are certainly eye-popping, we can see causes for concern all across the state.

The lack of mobility and opportunity in many rural regions has myriad causes, from deindustrialization to globalization. Jobs have moved out of many rural communities, and that makes intergenerational mobility all the more challenging. Two important works of the

past half decade have highlighted these declines. First, Charles Murray's 2012 best-seller *Coming Apart* showed the economic and social fraying of white, working-class communities across the country (many of which are located in rural areas). Late last year, economist Anne Case and her Nobel-Prize winning husband Angus Deaton demonstrated that while mortality rates for most ethnic groups have been falling, the rate for working class white people has been rising at a frightening pace, accompanied by reports of "declines in self-reported health, mental health, and ability to work, increased reports of pain, and deteriorating measures of liver function."²

Case and Deaton also demonstrate that, as might be expected, those with the lowest levels of education are the ones hardest hit. A lack of access to a quality education limits job prospects. More unemployment means higher rates of alcohol and drug abuse and a downward spiral in health, well-being, and communal cohesion. An education that prepares students for today's workforce is central to

putting them on a path to a more prosperous life.

In fact, Chetty himself (with Jonah Rockoff and John Friedman) demonstrated that improving the quality of a child's teacher is incredibly important, with a classroom moving from a teacher in the bottom 5 percent of quality to one who is simply average increasing that classroom's lifetime earnings over \$250,000.3 The Hamilton Project at the Brookings Institution demonstrated that a child born into the poorest 20 percent of American society, if he or she does not earn a college diploma, has a 45 percent chance of remaining there in adulthood and only a 5 percent chance of making into the top 20 percent of American households. If, however, he or she earns a college degree, he or she has only a 16 percent chance of remaining in the lowest quintile and a 19 percent chance of making into the top income quintile. Yes—this means that earning a college degree makes him or her more likely to end up as one of the richest Americans as opposed to one of the poorest.4

Success in college, or any fruitful pursuit after high school, requires solid K-12 preparation. This raises the question: How well are rural students in Missouri being prepared? I'd like to break down measures of student performance into three broad categories: standardized test scores, course access information, and "other" metrics of success. Taken together, they can paint a comprehensive picture of rural student performance.

The National Center for Education Statistics classifies school districts in one of four geographic categories: city, suburb, town, and rural. For the purpose of our analyses, I have combined the town and rural designations into one larger "rural" classification. As will be evident when I

break out the test scores from all four groups (the only analysis wherein we use all four groups) town- and rural-designated schools tend to perform very similarly to one another, and differently from urban and suburban schools, so I believe combining them is appropriate.

Table 1 presents some basic statistics on the number of students in rural schools in Missouri. In 2013–2014

there were 863,163 total students in Missouri in 520 school districts, making rural students 44.9 percent of all students and rural districts 88 percent of all districts. On average, rural districts are about half the size of the average district in Missouri (whose size is 1,660 students). They are also, on average, slightly poorer, with the statewide average district participation in the federal Free and Reduced Lunch program at 55 percent.

Now that we have a general picture of rural students, we can take a look at the quality of their education.

STANDARDIZED TESTS

As required by federal law, Missouri administers tests to all public school students in math and English language arts in grades 3–8 and again in 10th grade. The Missouri MAP test, as it is called, is aligned to the state's education standards. Students are scored in one of four performance categories, *below basic*, *basic*, *proficient*, and *advanced*. Generally speaking, a proficient or advanced score denotes mastering the content expected of a child in that subject for that grade level. The Department of Elementary and Secondary Education (DESE) makes scores available to the public on its website.

Figure 2 displays math and English language arts proficiency rates for 4th and 8th graders for all four geographic groups in the state. As can be seen quite clearly, the lowest-performing areas are our cities, and the highest-performing are our suburbs. Between those two, and not particularly distinct from each other, are our towns and rural areas.

It should be noted that no geographic area in the state

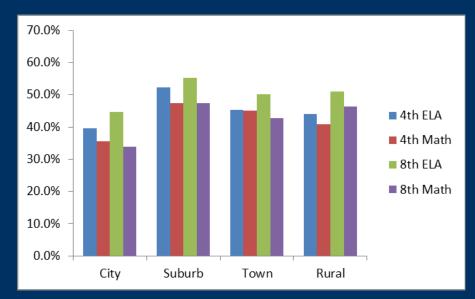
Table 1: Missouri Rural School Students by the Numbers

Total number of rural students (2013–2014)	387,704
Number of districts classified as rural	458
Average enrollment of rural districts	847
Average district FRL percentage	56.4%

Source: Missouri Department of Elementary and Secondary Education. Data Available at: https://dese.mo.gov/school-data.

Figure 2: MAP Performance by Geographic Designation

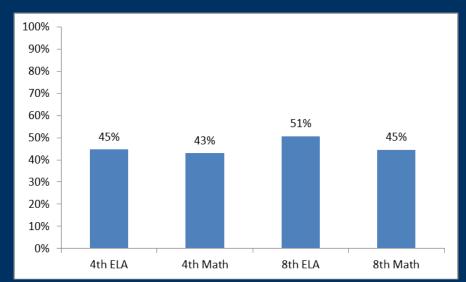
Rural school districts see better achievement than those in Missouri's cities, but worse than those in Missouri's suburbs.



Source: Missouri Department of Elementary and Secondary Education. Data available at: https://dese.mo.gov/school-data.

Figure 3: MAP Proficiency Rates, Rural Missouri

Less than one-half of Missouri's rural students read and do math at grade level.



Source: Missouri Department of Elementary and Secondary Education. Data available at: https://dese.mo.gov/school-data.

is knocking it out of the park. All are struggling to break 50 percent proficiency, and that problem is not uniquely urban or rural.

Figure 3 combines town and rural designations and shows their combined proficiency rates. The numbers are disheartening. Only 45 percent of 4th graders were found to be proficient in English, and 43 percent were deemed proficient in math. Fifty-one percent of 8th graders were proficient in English, and 45 percent were proficient in math.

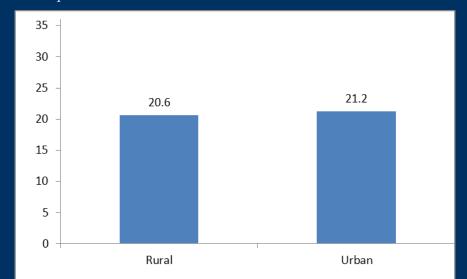
DESE also makes ACT results available on its website, averaged at the district level. Figure 4 displays the rural—urban difference in average ACT scores. Urban school districts, (which for our purposes here is "urban" and "suburban" districts combined) on average, score 0.6 scale score points higher than rural school districts. The standard deviation for the ACT is 4.8, so a 0.6-point difference represents a 0.125 standard deviation difference that is statistically significant (*t*-test yielded a *p*-value of 0.0131).

COURSE ACCESS

Another issue that rural communities have historically struggled with is providing high-level coursework for gifted students. AP teachers, teachers of advanced math and science courses, and foreign language instructors can be hard to find in cities and suburbs, let alone in isolated rural communities. In addition, there might not be enough students in a high school with only 15 students per grade to justify hiring a teacher for AP physics or a foreign language other than Spanish.

Figure 4: ACT Scores, Average of District Averages

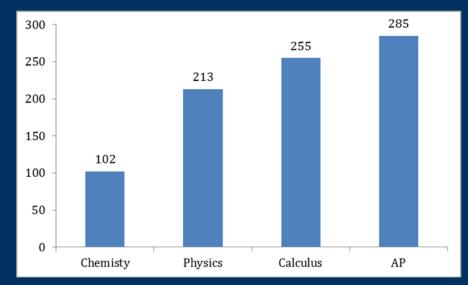
Rural students, on average, perform worse on the ACT than their urban counterparts.



Source: Missouri Department of Elementary and Secondary Education. Data available at: https://dese.mo.gov/school-data.

Figure 5: Districts in Missouri with Zero Students Enrolled in Selected Courses

A huge number of school districts in Missouri saw zero high school students take advanced coursework.



Source: Missouri Department of Elementary and Secondary Education. Data supplied directly to author.

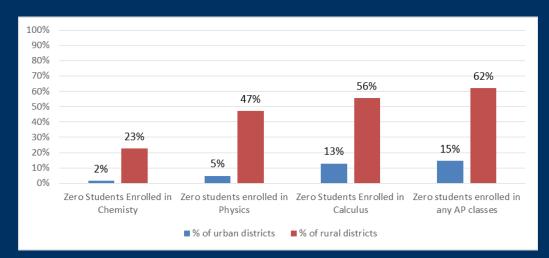
At the national level, numerous studies have documented this phenomenon. A 2009 report by the Carsey Institute found that only 10 percent of rural students had access to higher-level math courses, compared to 58 percent of urban and 41 percent of suburban and large town school students. Unfortunately for students without access to these courses, but not surprisingly, the report demonstrated a clear correlation between moreadvanced coursework and higher performance on the National Assessment for Educational Progress in Mathematics.5 In fact, all the way back in 1995, Dale Ballou and Michael Podgursky found that rural schools offered fewer higher-level courses and paid teachers less than their urban counterparts. However, they also found that rural schools often did, due to their smaller size, offer more individualized attention to students.6

DESE collects course access data and generously made available to us district-level enrollment figures in Calculus, Chemistry, Physics, and AP Courses. Taking higher-level courses has been correlated time and again with later success on exams like the ACT as well as in college. Unfortunately, as we will see, many rural school districts have no students enrolled in any of these courses.

During the 2014–2015 school year, of the 507 school districts that offer high school in the state, 255 districts had no students enroll in calculus, 213 districts had no students enroll in physics, 102 districts had no students enroll in Chemistry, and 285 districts did not have a single student enroll in an AP class (see Figure 5).

Figure 6: Urban/Rural Disparities in Course Access

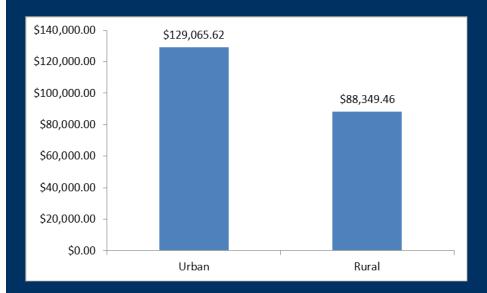
Course access issues are particularly acute in rural communities.



Source: Missouri Department of Elementary and Secondary Education. Data supplied directly to author.

Figure 7: Assessed Valuation Per Student

Rural school districts, on average, raise less money per student locally than urban school districts.



Source: Missouri Department of Elementary and Secondary Education. Data available at: https://dese.mo.gov/school-data.

These districts are predominately located in rural communities. Figure 6 shows the urban/rural breakdown. While only 2 percent of urban districts (1 district) had zero students enrolled in chemistry, 23 percent of rural districts (101 districts) did. Only 5 percent of urban districts had zero students enroll in physics (3 districts), but 47 percent of rural districts (210 districts) did. A whopping 56 percent of rural students had zero students enroll in Calculus (247 districts) while only 13 percent of urban districts (8 districts) did. Sixty-two percent of rural districts (276 districts) had zero

students enroll in an AP class, while only 15 percent of urban districts (9 districts) did.

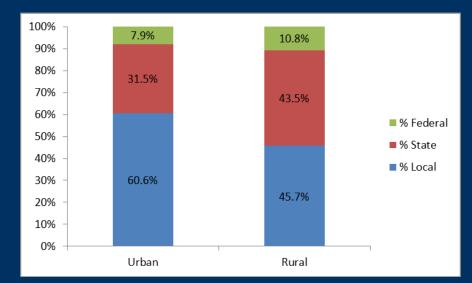
There are academically gifted students in all corners of the state. If they don't even have the opportunity to take courses that challenge them, it is a huge waste of potential.

SCHOOL FUNDING

Rural districts are at a disadvantage when it comes to funding their schools locally. Because the mill levies that fund schools come out of property taxes, and because different categories of property are assessed at different rates across the state, areas that are predominately farmland generate far less revenue. As my colleague David Stokes described in his 2011 SMI policy



Rural school districts rely more on state funding than their urban counterpart.



Source: Missouri Department of Elementary and Secondary Education. Data available at: https://dese.mo.gov/school-data.

study Homes, Taxes, and Choices: A Review of Real Estate Assessment and Property Taxation in Missouri, sommercial property in the state is assessed at 32 percent of appraised value. That is, taxes are paid on 32 percent of the value of the property—land and improvements— where the business is located. Residential property is assessed at 19 percent, and unused agricultural land is assessed at 12 percent. For land actually used for agricultural purposes, a complicated series of calculations is made based on soil quality and other variables that frequently puts the assessment at below 12 percent. On average, mill levies in rural areas are quite similar to those in urban areas, but because the assessed value is so much lower, there is simply less property value to which those levies can be applied.

As a result, we see depicted in Figure 7 the disparity in assessed valuation per student between urban and rural schools. On average, urban districts have almost \$130,000 in assessed property value per student, while rural districts have just over \$88,000.

This affects the ways in which schools are funded. Funding for education comes from three sources: local property

taxes, state funds derived from sales and income taxes, and federal dollars. Because of the inability to generate their own funds for education, on average, rural districts rely more on state and federal dollars than urban districts do. Figure 8 presents the breakdown. This gap means that the state spends roughly \$1500 dollars more for a rural as compared to an urban student.

On average, urban districts receive over 60 percent of their revenue from local sources, and only 32 percent from the state. Rural districts have an almost even split between state and local funding, at 45.7 percent local and 43.5 percent state.

Rural schools also end up spending less per pupil than urban schools do, as Figure 9 shows. This might simply be because the cost of living is lower in rural areas, but as we have

demonstrated, several factors influence the funding of rural schools. Maybe it makes sense to under-assess land in rural areas because costs are lower. Maybe altering those assessments would cause second- and third-order effects that would be harmful to rural communities. In the next section, I'll unpack some of these issues and examine possible solutions that can help rural students, schools, and communities alike.

WHAT CAN WE DO ABOUT IT?

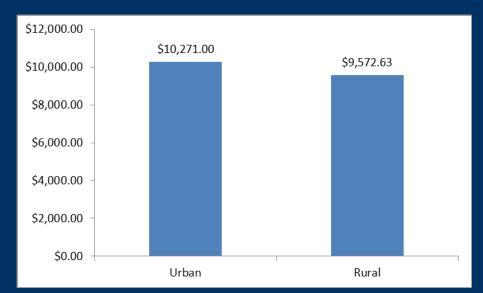
Thus far, I hope I have made it clear that rural schools in Missouri are underproviding services. They are failing to offer the same high-level coursework as urban schools while at the same time requiring the state to shore up their revenue streams. However, reforms are possible that can shore up the finances of these districts, either by altering revenue streams or by promoting efficiencies.

Change Property Assessment Rates

Given the low rates at which agricultural property can be taxed, many rural school districts will be unable to



Rural school districts rely more on state funding than their urban counterpart.



Source: Missouri Department of Elementary and Secondary Education. Data available at: https://dese.mo.gov/school-data.

generate the tax revenue necessary to run their schools. Traditionally, the state has stepped in and filled the gap, but going forward this may not be necessary. Reforms could be made to help school districts generate enough tax revenue on their own. If the goal is for local communities to raise revenue themselves, it would make the most sense to bring assessment rates of agricultural property in line with those of residential or commercial property.

In reality, this would mean a substantial tax hike for farmers and rural land owners. Perhaps it is appropriate, but it is a hike nonetheless. As a result, this seems to be a suboptimal strategy for solving the funding problem in rural schools. It would make more sense to encourage efficiency or economies of scale to actually make education less expensive than to simply raise more revenue to support schools that cost too much.

Consolidate Small Districts

In 2004, the State of Arkansas passed Act 60, a law

requiring any school district with less than 350 students to consolidate. At the time the bill was passed, there were 308 school districts statewide. By 2010, 118 districts had consolidated into 54, leaving a total of 244 districts remaining.9 The law was quite controversial at the time it was passed. Local communities that saw their schools as the centers of civic culture were up in arms, and many communities became embroiled in difficult debates about what schools would be closed, or what administrators would be let go when school districts combined.

To date, it is not clear that consolidation has actually improved student achievement in Arkansas, ¹⁰ though there is evidence from around the country that consolidation has saved money by eliminating needless redundancy. ¹¹ In 2015, Gov. Asa Hutchison decided to put a pause on school consolidation for districts that

met academic and financial standards of quality.¹²

If Missouri set a minimum of 350 students per district, 189 districts would need to consolidate.

In a similar vein to raising assessments on agricultural properties, forced district consolidation has its drawbacks. First, it is a blunt instrument. The performance data presented above are averages across hundreds of rural districts. Many are performing well, and many have been able to finance themselves. Simply setting bright lines at a certain number of students disregards all of their hard work and ignores the desires of their communities to have their own schools.

If consolidation is the way forward, it might be best to design a school consolidation program around course offerings or financial stability rather than around a set number of students. The state could require that in order to get funding, schools must offer a certain set of courses, including advanced math and science classes and a slate

of AP courses. If they cannot offer these courses, they would need to consolidate with a nearby district so that students could access them. The same could be said about state support. It could be capped at a particular percentage of overall revenue, and if that percentage combined with local effort could not meet state adequacy targets, districts would be required to consolidate to provide necessary economies of scale. If small school districts can provide these courses without excessive state support, more power to them. But if not, they need to think about reorganization.

Create a Course Access Program

Perhaps the best way to provide diverse and highquality coursework to students without fundamentally reorganizing schools or districts would be to create a statewide course access program.

Course access allows students to direct a portion of their annual per-pupil funding to approved course providers outside of their traditional public school and receive credit if they successfully pass the classes. Students access the courses from an approved location, such as the school library, or travel to an off-site location like a local community college.

Minnesota passed the first course access law in 2006, and eleven states have since developed course access programs. Often, these programs are referred to as "supplemental online programs" or "course options," which means that students have access to individual courses during the regular school day. Table 2 shows a list of course access programs around the country.

Table 2: Course Access Programs Around the Country

State	Year supplemental online learning law was last updated ¹³	Who can partici- pate? ¹⁴	Are there limits on course enroll- ment? ¹⁵	Can the state approve or reject cours- es added to catalog?
Arizona	2013	Decided locally	Decided locally	No
Florida	2013	K-12	No	Yes
Georgia	2012	3-12	No	Yes
Michigan	2014	6-12	2 courses/term	No
Minnesota	2012	K-12	Up to 50% of the school day	Yes
Oklahoma	2011	K-12	Must enroll in one course at local school; up to 5 hours	No
South Carolina	2007	6-12	12 units/year	Yes
Texas	2013	3-12	3 year-long courses	Yes
Utah	2011	K-12	5 credits	No
Virginia	2012	K-12	Local decision	Yes
Wisconsin	2013	K-12	2 courses/year	No

Source: Wagner and McShane "Course Access in Missouri." http://showmeinstitute.org/publication/school-choice/course-access-missouri

Missouri's existing virtual schooling program (MOVIP) provides a strong framework for the implementation of a course access program. The state has already approved a set of courses, and the framework for awarding credit has been on the books for almost a decade. Presently, it is only offered to students who are too sick to attend traditional school, or to families who are willing to pay tuition. With some modifications to how online courses and providers are funded, every public school student in Missouri could have the opportunity to enroll in classes not currently offered by their brick-and-mortar school.

Create an Education Savings Account Program

If the state wants to move even more toward customizing education for every child in Missouri, it could create an education savings account (ESA) program. In ESA programs, a student's state funding is placed in a flexible-use spending account (like a health savings account) that he or she can use on qualifying education expenses.

Perhaps the student would want to put some (or all) of that money towards tuition at a private school, if one were located nearby. If there weren't a quality private school close (and this newly created program didn't create sufficient demand to create one) families could use this money for online coursework, dual enrollment at a local community college, homeschooling expenses, or any number of other possible educational resources to create a world-class education for their child. Imagine a student in rural Missouri getting tutored in Mandarin from a student in Beijing. The platform is there—the funding simply needs to be flexible enough to support it.

The state could also consider creating such a program specifically for students with special needs. All across the state, and all across the country for that matter, schools struggle to create appropriate learning environments for students with special needs. Student disabilities are so unique that each child might need an individualized learning plan in order to thrive. Even schools with abundant resources in affluent communities struggle to figure out how best to meet the needs of such children. A child born with special needs in a rural community has it that much harder. ESAs for those children identified with special needs could help rural families put together the therapy, tutoring, and individual support that their child

needs in order to succeed academically.

CONCLUSION

Every child in Missouri should have access to a high quality education. In times past, when rural communities were isolated and communication took days or weeks, it was understandable, if regrettable, that the spread and quality of education might be lower in rural communities than in more densely populated areas. But advances in information technology mean that this no longer has to be the case. Many of our school districts, and the organizational mechanisms that fund and manage them, date back to a time of more limited possibilities. There is no reason—and really, no excuse—for them to remain there.

At the same time, many schools are the heart of rural communities. There is an incredible amount of social capital created in the bleachers during a Friday night football game. Homecoming parades and car washes pull together citizens and encourage charity and cooperation. Folks spread far and wide look back fondly on their days in the small farm towns where they grew up. These institutions have survived in a rapidly changing world for a reason, and before we move too aggressively to close them down or merge them with other districts, we should think about how we can help them evolve to meet the changing needs of their students.

By making funding more flexible and allowing students to tap into the wide-ranging options available to them at low cost online or from providers like private schools, community colleges, or tutors, we can enable students to shape their education in the way that best fits them. Doing so will make rural schools more efficient, decreasing the need for state appropriations that are often skewed by the peculiarities of local tax valuations or consolidations that might move them to the next town over.

Children, families, and communities will continue to suffer until we reform rural schools. Effective reform will reinvigorate rural communities, expand opportunity to every corner of the state, and help preserve the traditions and communities that make Missouri a diverse and vibrant state. It's going to be difficult, and possibly contentious, but reform is a challenge worth undertaking.

NOTES

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