

GROWING MICHIGAN WITH GREAT SCHOOLS

Mike Addonizio and David Arsen

INTRODUCTION

In December 2023, the high-profile and bipartisan Growing Michigan Together Council (GMTC) released its report on place-based strategies to increase the state's population and prosperity. The council's work is noteworthy because members from diverse backgrounds and with diverse perspectives found common ground in their conception of important, long-standing problems facing the state and on potential avenues for improvement. Education and training play a central role in the council's economic development vision. As economists and long-time observers of Michigan education policy, we took note.

The extent to which the GMTC report will have a lasting influence on state policy is currently uncertain. The governor's 2025 executive budget recommendations, issued in February 2024, include several, mostly small, items that are consistent with the GMTC's recommendations, but currently available revenues sharply limit further progress on the GMTC agenda.

Further, despite broad areas of consensus, the council did not assess the costs and revenue requirements of its suggested policy solutions. Upon the report's release, questions about whether implementation would require additional state revenue immediately moved to center stage, truncating fuller discussion of the council's recommendations.

In an era of highly polarized politics, we believe it is important to elevate promising areas of consensus in the council's work, nonetheless. They point to areas where further deliberation might generate beneficial policy changes.

This essay provides a brief summary of the GMTC's work and then augments the report's understanding of the links between schools and community development. Next, we consider the council's vision for classroom teachers and its implications for adequately staffing our schools. Finally, we examine the revenue questions the council did not take up to show why future public investments are needed, appropriate, and within reach.

THE GROWING MICHIGAN TOGETHER COUNCIL REPORT

In forming the GMTC, Governor Whitmer charged the group with developing recommendations to support Michigan's population growth "through investment in our people, places, and education system" (p.10). The council was asked to identify concrete goals, to assess Michigan's performance relative to comparable and best-performing states on these dimensions, and to identify short- and long-term strategies for meeting these goals. The council was also asked to analyze the effectiveness of existing state

programs oriented to achieving their identified goals and to make recommendations on revenues needed to support their strategies.

The council's 27 bipartisan members represented a broad range of stakeholders. They drew on the work of over 60 additional individuals who comprised four workgroups in specific issue areas. The council also relied on research from a number of external organizations (to compile relevant descriptive evidence for Michigan and other states) and from input at public forums.

Without question, the council was charged with taking up big and important questions about Michigan's future and asked to envision solutions within an ambitious timeframe of six months. Given that timeframe, we are not surprised that the council was unable to evaluate the effectiveness of existing state programs or examine the financing needed to implement its recommendations. (We will comment more fully on financing issues later.)

The council's report presents a sobering picture of Michigan's relative economic decline. Michigan is 49th among states in population growth since 1990. Moreover, our resident population is aging as young people, especially those with college degrees, move to faster growing states with more opportunities. Whereas the median income of Michigan households was 18 percent above the national average in 1970, it had fallen to 9 percent below the national average in 2020. The share of Michigan adults with associate and bachelor's degrees falls well below national averages and rates in faster-growing states. Measures of the quality of roads and water systems, as well as per capita investment in such public infrastructure, place Michigan in the bottom rank of states.

The report notes that these problems are not new. Rather they developed over 40 years and will take concerted effort and time to reverse. Under the heading of "Structural Challenges Are Holding Us Back" (p. 20), the report notes that Michigan is a relatively low-tax state. We rank 46th out of 50 in combined state and local tax burden as a percentage of personal income. Today, annual state revenue collections are \$12 billion below the 1978 Headlee constitutional amendment that caps state revenue at a fixed percentage of state personal income.

In outlining its vision for a more promising future, the council utilizes a helpful three-part framework (business development, education, and community infrastructure) to portray links among its suggested strategies. Specifically, the strategies seek to:

- 1) Create regional business innovation hubs aligned with extant regional assets,
- 2) Build a lifelong education system focused on future-ready skills and competencies, and
- 3) Promote thriving communities with reliable regional transit systems, new and revitalized housing stock, and well-maintained road and water infrastructure.

In each of these three areas, the report suggests several specific strategies to attain the stated goal, highlighting a subset which may be most appropriate in the short run. Those suggested strategies are exceptionally wide ranging for a single policy report. Few recommendations are developed in much detail, and most are not supported with appeals to research evidence regarding their effectiveness.

Nevertheless, the core ideas of the council's economic development vision are sound and very promising. The report's business development strategy aims to improve the productivity of places by establishing a highly skilled workforce and good public infrastructure. This approach has long been advocated in state and local economic development research and practice and contrasts with strategies to lure businesses through direct public financial incentives. Recognizing promising business developments will vary across regions, the report calls for region-specific business innovation hubs guided by plans and supported by public-private investment to catalyze entrepreneurship and business startups.

While much could be said about the business hub and public infrastructure dimensions of the council's framework, we focus here on the educational components. As an economic development strategy, the report is distinguished by a strong emphasis on education and training, highlighting in particular the importance of increasing educational attainment. It proposes establishing the Michigan Education Guarantee, wherein students who meet a new, to-be-determined standard would be entitled to two years of publicly funded postsecondary education. In her January 2024 State of the State address, Governor Whitmer proposed defining the guarantee as two years of state-funded community college for any Michigan high school graduate. Combined with a year of publicly funded preschool for all, this proposal would establish a guarantee of 16 years of publicly funded education for Michigan youth.

To promote efficiency and student access to postsecondary education, the report makes a sensible recommendation for better coordination between PK-12 schools, community colleges, and universities on course availability, acceptance, and satisfaction of degree requirements. The report calls for the creation of more work-based learning experiences for secondary and postsecondary students and the creation of career pathways in high-growth industries. We agree that well-designed work experiences can provide students with important learning opportunities and desirable connections to their communities. The report also calls for changes in teachers' work to facilitate their ongoing learning, innovation, and classroom effectiveness.

While the report is not (nor does it claim to be) a blueprint ready for implementation, we believe it makes a valuable contribution by taking a clearheaded look at Michigan's challenges and creating an appealing vision for progress that avoids chronic partisan divides. It represents a helpful starting point for further reflection and policy discussions.

PUBLIC SCHOOLS AND COMMUNITY DEVELOPMENT

The GMTC report correctly views our public schools as sites for developing workforce skills and competencies that will spur local and regional economic development. But schools matter powerfully for community development in many more ways than this. A fuller appreciation of these important links strengthens the GMTC's account. Public schools are essential anchor institutions for community development in every Michigan community.

Here we briefly comment on some crucial ways that schools contribute to prosperous communities on precisely the dimensions highlighted by the GMTC report, but curiously not noted in the report. First, we note the integral roles public schools play in establishing socially and economically vibrant communities. Second, we highlight the essential role of education policies and schools in offsetting inequalities in place-based prosperity.

Public schools are an absolutely key part of any community's public infrastructure. They are important sites for the civic, cultural, sporting, and recreational activities that the report sees as essential for thriving communities. As such, they are key settings for enhancing engagement and social ties among local residents, including the integration of newcomers with long-time residents, which the report seeks to promote.

Public schools are also inextricably linked to communities' economic base. First, they constitute a major source of nonlocal income injected into communities from state and federal sources. Second, they are one of the largest, if not the largest, employers in any community, providing a significant source of relatively stable jobs for those with and without college degrees. Third, schools are important purchasers of services from local businesses. And, finally, as the council recognizes, they prepare young people for a range of critically important jobs in a prosperous local economy.

These social and economic benefits are important positive spillovers of good schools for vibrant, attractive, and growing communities. And nowhere is this more apparent than in Michigan's rural communities given the relative scarcity of non-school, community-supporting institutions in these settings (Arsen, Delpier, Gensterblum, Jacobsen & Stamm, 2022).

But what about large differences in prosperity across Michigan's communities? The GMTC report seeks to grow the population and income of Michigan as a whole but with a focus on places. This approach immediately raises potential challenges because regions within the state vary considerably by income, educational attainment, and population change. Should policy seek to build upon the advantages of places that are already magnates for high-skilled talent, as some have suggested (e.g., Florida, 2023), or alternatively seek to lift places currently lagging? The answer might be "we should do both." But while business innovation hubs or transportation or water infrastructure will always be place specific, education policies represent the primary area in which the state assures certain foundational opportunities for all—while offsetting large inequalities in the economic circumstances of families and communities—so youth enter the competitive adult labor-

market race on more equal footing. This is a fundamental responsibility of public schools and education policy, and a prerequisite for balanced growth.

Research by Harvard economist, Raj Chetty, and others (2018 and 2020) has clearly established that high-opportunity neighborhoods have common characteristics, including lots of supportive adults and, most policy relevant, good public schools. Children do not need to grow up in wealthy settings to be successful; they need childhood environments that provide good schools and broad, basic supports.

Beyond providing excellent educational opportunities, we rely on schools to strengthen supports for all students, particularly those in need. Schools overcome food insecurity and meet students' basic nutritional needs. They provide frontline medical and behavioral health services and preventative care. Children with serious disabilities can pose difficult challenges for their families, including parental workforce participation. Schools are the primary setting where communities provide high-quality professional care and learning opportunities for children with disabilities. The GMTC report extols immigrants as an important source of needed workforce talent. Schools are the foremost site for the successful assimilation of immigrant families and English language learners into Michigan communities. Research clearly establishes the exceptional cost-effectiveness of high-quality early childhood education, particularly for children from low-income families. Most of that instruction takes place in local public schools.

Children in low-income communities are more likely to experience trauma (for example, homelessness, physical or emotional abuse, substance abuse, or parental imprisonment). All children, but especially those in poor or fragmented families, need trustworthy adults who can make connections to beneficial professional services, training, jobs, travel, or enrichment opportunities. Children benefit from durable connections to teachers, counselors, social workers, and other caring adults who know from experience how to make the system work for oneself, or alternatively who can simply lend a sympathetic ear and provide hopeful reassurances.

Providing these supports for students and families through public schools not only makes sense on fairness or equity grounds, but it is also beneficial to economic growth because children who grow up in high-opportunity settings are more likely to be highly productive adults. And, importantly from the standpoint of policy implementation, public schools are already established institutions with broad connections to households and employers in every Michigan community.

If we are not mindful of relevant links between schools and community development, we will neglect crucial policy levers for creating healthy, prosperous communities. However, Michigan communities are limited in their own ability to realize the multiple community benefits of well-resourced schools because state policymakers control most school funding decisions.

TRANSFORMING THE TEACHER WORKPLACE

To realize schools' potential as engines of community development and sites for student learning and support, they must be adequately staffed with well-trained professionals. Skilled and dedicated educators are and should be among any community's most valued members. The GMTC report is distinctive and well-grounded in relevant practice-based research in recognizing that for educators to succeed in this crucial work, they must be supported as lifelong learners. In addition, policymakers must be responsive to pressing shortages of people who are willing and available to perform this vital work in our schools.

The GMTC report succinctly notes: "Our schools are not currently set up for teachers' ongoing learning and development" (p. 38). The report calls for "new designs for schooling, which may include structuring the school day to give teachers opportunities to work together, learn to improve their own practice, and consider how to best organize teaching and learning across their school" (p. 38).

The models will vary from school to school. Effective teaching and support are highly contextual, varying with student needs and out-of-school experience, grade level, subject, and distinctive community circumstances. Teaching is also multifaceted, including the development of students' cognitive abilities, interpersonal skills, moral sensibilities, and civic participation. Given the complexity of teachers' responsibilities and the relevance of their firsthand experiences, teachers should be active participants in the design of these workplaces.

To facilitate this important professional learning, school schedules and staffing models should be reconfigured to provide opportunities for collaboration, common planning time, peer observations, and mentoring. Changes may entail the development of formal career ladders with new roles for teachers as mentors and leaders, as well as structured opportunities for coordination between classroom teachers, special-need teachers, guidance counselors, social workers, psychologists, and nurses.

Such reforms have resource implications. Effective ongoing learning and professional development require adequate staffing, with manageable class sizes and teaching loads. Resources also matter powerfully in establishing compensation levels that attract enough people to work in the teaching profession. Although not highlighted in the GMTC report, shortages of trained teachers and staff have been a pressing challenge for many Michigan schools in recent years.

A recent report, *The State of the Educator Workforce in Michigan*, prepared jointly by researchers at Michigan State University, the University of Michigan, and Public Policy Associates (Torres, Burroughs, Frausel, Gardner, Zuschlag and Reichel, 2023) provides a very helpful analysis of these staffing challenges. The study found sharply rising staff vacancies compared to levels prior to the pandemic, accompanied by declines in the quantity and quality of applicants for these vacancies. Staffing shortages were particularly

severe in rural and low-income districts, particularly those serving high proportions of students of color.

These findings reinforce earlier work documenting a striking ten-fold increase in the use of long-term substitutes (who require as little as 60 college credits and no formal teacher training) to staff Michigan classrooms between 2013 and 2019 (Wilkinson and French, 2019).

Any strategy to promote economic development with education and training must recognize the urgency of Michigan's school staffing challenges. Between 2006 and 2019, our state had the sharpest decline in teacher preparation program graduates of any state, with a drop of 71 percent (Arsen, et al. 2022). This stunning decline, which far outpaced the state's gradual K-12 enrollment decline over this period, contributed to a gaping hole in our educator pipeline.

The Torres, et al. (2023) study also raises concerns over a looming "fiscal cliff"—when federal Elementary and Secondary School Emergency Relief (ESSER) funds expire—because 79 percent of school districts reported using these temporary funds for teacher and support staff recruitment and retention. Michigan's school staffing issues cannot be overstated.

Serious work to rebuild our educator workforce has already begun over the last few years. These measures, spearheaded by leadership in the Michigan Department of Education, the governor's office, and the legislature, include new funding for teacher scholarships, "grow your own" programs for support staff and students to become teachers, a rural credentialing hub, student teacher stipends, teacher loan repayments, mentoring, and teacher longevity pay. Likewise, over the last three years, in response to clearly recognized needs, the legislature and governor have approved targeted funding that has enabled public schools to hire over 1,000 professional support staff, including nurses, social workers, psychologists, and guidance counselors. But more progress is needed.

What would constitute adequate staffing? What benchmarks for class size and course loads would permit needed professional learning, or specify staffing ratios for the assorted professional support staff? Fortunately, the blueprint for staffing to satisfy these needs in Michigan's schools was established by the nonpartisan 2018 School Finance Research Collaborative (SFRC) study. Consequently, the landmark SFRC adequacy study is an essential complement to the GMTC call for a transformed teacher workplace. Increased state funding support, as we will explain now, is clearly needed to meet these worthy goals.

FUNDING THE VISION

While the GMTC provided an attractive vision and promising strategies for increasing Michigan's population and prosperity, it did not undertake a cost analysis of its recommendations and says little about the need for additional state revenue.

In fact, the policy strategies would have to be specified in much greater detail than the GMTC report does in order to estimate their costs and associated revenue needs. In the case of PK-12 education, however, the SFRC study provides a very sound cost analysis that is well aligned with the GMTC's educational goals. We are quite certain that the GMTC's vision for education cannot be implemented, beyond relatively modest initiatives, without new revenues, and a reversal of the state's long-term disinvestment in public services. This is also likely the case for the GMTC's infrastructure and business innovation hub strategies.

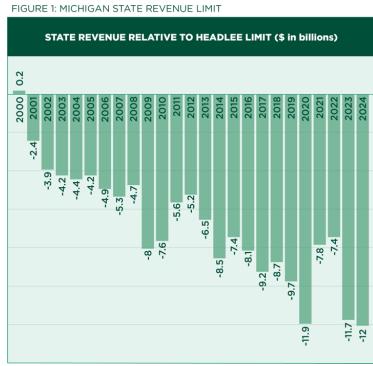
Throughout the same period in which the GMTC correctly notes that Michigan's population and prosperity seriously lagged behind other states and the nation as a whole, Michigan's taxation levels also steadily fell. Several researchers have documented this fiscal trajectory, including MSU economists Charles Ballard (2018) and Ronald Fisher (2019), who found that Michigan's overall effective tax rate—all state and local taxes as a percentage of total income—had declined to its lowest level in over 50 years. And this long decline continues to the present day.

What is striking, however, is that evidence of this declining tax effort was available to the GMTC in briefing documents and cited in the council's report. Yet despite clear evidence of this long-term public-sector disinvestment, the council did not suggest that a reversal of this fiscal trajectory would be necessary to implement its recommended investments in Michigan's future. Rather than introduce new evidence, we focus here on evidence the bipartisan council has already endorsed.

Our decades-long decline in tax effort has left Michigan well below constitutional revenue limits. Article IX, Section 26, of the Michigan Constitution limits total state revenue in any

given year to no more than 9.49 percent of total state personal income from the previous calendar year. This limit, which has been in effect since 1978, was adopted by Michigan voters as part of a package of tax changes in the Constitution known as the "Headlee Amendment."

This constitutional limit on tax collections was a binding constraint and a prominent feature of Michigan's policy landscape in the first two decades following its adoption. Since 2000, however, state revenue has grown much more slowly than personal income, making the revenue limit largely irrelevant for today's policymakers, as depicted in Figure 1.



Source: House Fiscal Agency, FY 2023-24 Appropriations Summary and Analysis, September 2023; cited in CRC (2023a) By 2024, Michigan's annual revenue collections are fully \$12 billion below the Headlee limit. Importantly, this fall in tax effort took place despite the shift of substantial school funding responsibility from local districts to the state with the passage of Proposal A in 1994. In short, Michigan is a dramatically lower-tax state now than back in the era when it was among the nation's most prosperous states.

Another state revenue limit was adopted in a 2015 change to Michigan's Income Tax Act. The new legislation established a tax rate "trigger" that automatically reduces the state's income tax rate following any fiscal year in which state general fund/general purpose revenue grows sufficiently faster than inflation. Strong general fund revenue growth in 2022 activated the trigger, cutting the state's income tax rate from 4.25 percent to 4.05 percent. A March 2023 Attorney General opinion and subsequent Michigan Court of Claims ruling determined that this rate reduction is temporary, returning the rate to 4.25 percent in 2024.

Yet, as with the constitutional revenue limit, this statutory tax rate limit may also become a moot issue. An analysis by the Citizens Research Council of Michigan (2023a) concludes that Michigan's general fund revenues in FY 2024 and beyond will fall below the cap.

TABLE 1: EFFECTIVE STATE TAX BURDENS

STATE	EFFECTIVE TAX RATE	NATIONAL RANK
ILLINOIS	12.9%	7
MINNESOTA	12.1%	11
IOWA	11.2%	18
WISCONSIN	10.9%	20
PENNSYLVANIA	10.6%	24
ОНЮ	10.0%	28
KENTUCKY	9.6%	34
INDIANA	9.3%	38
MISSOURI	9.3%	38
MICHIGAN	8.6%	46
TENNESSEE	7.6%	49

effective tax rates, Michigan is now a relatively low-tax state. This too was acknowledged by the GMTC. Citing research by the Citizens Research Council of Michigan (2023a), and reproduced here in Table 1, the GMTC noted that Michigan ranked 46th among states in effective tax burden in 2022. Only Tennessee ranked below Michigan among the ten neighboring states.

After decades of declining

Source: Tax Foundation, State and Local Tax Burdens, Calendar Year 2022; cited in CRC (2023a)

If low taxes (and meager public investments) were once seen as a path to population and income growth, the strategy has clearly failed.

Of course, this disinvestment is also apparent in specific policy areas such as education. Between 1995 and 2015, Michigan was dead last (50°) among states in total PK-12 education revenue growth, and 48° among the states in per pupil funding growth (Arsen, Delpier, & Nagel, 2019). Michigan escaped the basement in the latter ranking only because of post-2003 enrollment declines, part of the problem the GMTC aims to address. Our sustained disinvestment was concentrated in the period between 2002 and 2018 when inflation-adjusted total education revenue fell by about 30 percent. At this writing, Michigan remains 50th among states in post-1995 total education revenue growth.

The SFRC study emerged in part from this unfortunate history. The study was prepared jointly by the nation's two most prominent school finance research organizations and used state-of-the-art methods. Its findings were endorsed by a broad, bipartisan coalition of organized stakeholders from across the state. And, as noted, the study provides a very sound cost analysis of needed resources that aligns quite well with the GMTC's goals, including resources providing a range of social and economic benefits to vibrant communities. The GMTC report explicitly calls for school funding equity and adequacy (p. 44). Those principles are foundational to the SFRC study. The SFRC also included the costs of a year of universal pre-kindergarten. It did not, however, include the cost of two years of publicly funded community college for eligible students.

The SFRC addressed adequate funding for schools through two components. First is the base per pupil allowance for all students, originally estimated to be \$9,590 in 2018. Adjusted for inflation, this figure is now roughly \$11,600, well above Michigan's 2024 base allowance of \$9,608. Second is a series of weights that adjust the base allowance for high-cost students, including those with disabilities, from low-income households, or who are English language learners. Each weight represents the additional resources needed above the base per pupil cost for students with exceptional needs.

Michigan's annual PK-12 appropriations in recent years have followed the SFRC's base foundation and equity weight format. Progress has been made towards reaching adequate funding, but current funding still falls substantially short for the base and especially the weights. Moreover, continued progress may be in jeopardy. After two consecutive years of at least 5 percent increases in the base foundation, the governor's 2025 executive budget calls for a mere 2.5 percent hike, interrupting recent progress in addressing a serious funding shortfall years in the making.

The SFRC's well-resourced schools, ones that will support and promote community development, are within reach. Delpier and McKillip (2023) estimated the additional revenue needed to fund the SFRC recommendations at \$4.5 billion. More than enough revenue to meet this goal would be generated if Michigan devoted the same portion of our statewide income to PK-12 education today as we did as recently as 2011—or, alternatively, any earlier year over the last several decades.

A reversal of Michigan's long-term decline in tax effort is necessary and would require more than revisiting rate cuts on particular taxes levied on, for example, income, property, or business. Much of the state's revenue loss is due to structural features of our tax system that prevent tax revenues from growing at pace with income and the economy. Charles Ballard (2018) has clearly identified these structural features as well as tax system changes that could generate more stable and adequate funding for the public services that Michigan residents (and potential residents) need and want.

Any efforts to raise additional revenues should distribute that tax burden fairly across taxpayers. In our view, in the current era of sharply increased income inequality, taxpayers with the highest ability to pay should lead the way. Revenue-increasing changes to each of the big three sources of state tax revenue—income, sales, and property taxes—can be structured so that additional revenue is drawn primarily from the highest income taxpayers.

Perhaps most noteworthy in this respect is the state income tax which is currently levied at the same 4.25 percent rate on all taxpayers. By establishing graduated rates, it would be possible to generate additional state revenues with higher rates on very high incomes while reducing tax rates for the vast majority of taxpayers. Implementation of a graduated income tax, however, would first require changing a state constitution provision that prohibits graduated rates. Given Michigan's need for stronger public investment to promote statewide growth, and our values regarding fairness in the distribution of tax burdens, we believe the time has come to change the Michigan constitution to permit the establishment of a graduated income tax.

CONCLUSION

The GMTC deserves credit for providing a clear-headed assessment of challenges that have accompanied Michigan's long decline in population and prosperity relative to other states and the nation as a whole. It also has advanced promising ideas for reversing this trajectory through coordinated public investments in education, infrastructure, and business development. While we have focused on the educational components of the plan, we believe the council's three-part economic development framework represents the most promising growth strategy to emerge in Michigan policy discussions in decades. Many specific features of the plan would require further refinement for effective policy design and implementation. But the bipartisan council has provided a valuable public service by envisioning a better path forward, with improvements to the state's communities that most Michigan citizens (and potential citizens) would find attractive.

Progress in securing the GMTC's vision for a more prosperous Michigan will take time and additional public resources. The SFRC adequacy study provides a very good analysis of the costs that would be associated with the PK-12 education pillar of the council's vision. While the SFRC study has helped shape Michigan's educational investments in recent years, a great deal more progress is needed to meet the SFRC's adequate funding benchmarks. Additional state revenues will be needed to meet these benchmarks. This is

also true for the higher education, infrastructure, and business innovation hub components of the council's plan.

Michigan is sufficiently prosperous to sustain the public investments needed to spur much more robust and balanced statewide economic growth, while maintaining competitive levels of taxation. The question is this: Are we sufficiently committed to making these investments that are so essential to our growth?

REFERENCES

Arsen, David, Tanner Delpier, and Jesse Nagel. 2019. *Michigan School Finance at the Crossroads: A Quarter Century of State Control*. MSU Education Policy Report. East Lansing: College of Education, Michigan State University. https://education.msu.edu/ed-policy-phd/pdf/Michigan-School-Finance-at-the-Crossroads-A-Quarter-Center-of-State-Control.pdf

Arsen, David, Tanner Delpier, Annie Gensterblum, Rebecca Jacobsen and Alexandra Stamm. 2022. *Educational Opportunities and Community Development in Rural Michigan: A Roadmap for State Policy.* MSU Education Policy Report. East Lansing: College of Education, Michigan State University. https://education.msu.edu/k12/educational-opportunities-and-community-development-in-rural-michigan-a-roadmap-for-state-policy/

Augenblick, Palaich, and Associates & Picus Odden and Associates. 2018. *Costing Out the Resources Needed to Meet Michigan's Standards and Requirements*. January. https://static1.squarespace.com/static/64f225b2b502d42a84dd1d88/t/64f2321fa833080bf0ee0376/1693594149114/School-Finance-Research-Collaborative-Report.pdf

Ballard, Charles. 2018. *Michigan at a Crossroads: Michigan Tax Policy for the Incoming* 2019 Gubernatorial Administration. Michigan State University Extension Center for Local Government Finance and Policy. East Lansing: Michigan State University

Chetty, Raj and Nathaniel Hendren. 2018. "The Impacts of Neighborhoods on Intergenerational Mobility I: Childhood Exposure Effects." *The Quarterly Journal of Economics* 133(3): 1107–1162

Chetty, Raj, John Friedman, Nathaniel Hendren, Maggie Jones, and Sonya Porter. 2020. "The Opportunity Atlas: Mapping the Childhood Roots of Social Mobility." National Bureau of Economic Research, no. 25147. Published in 2018, revised February 2020. The Opportunity Atlas Interactive Map is available at: www.opportunityatlas.org.

Citizens Research Council of Michigan. 2023a. *Michigan's Path to a Prosperous Future: Public Sector Challenges and Opportunities*. Livonia: Citizens Research Council of

Michigan. https://cremich.org/PUBLICAT/2020s?2023/prosperous-future-public-sector.pdf

---2023b. *Analyzing the Governor's FY2024 Budget Recommendations*. Presentation. February 28, 2023.

https://crcmich.org/presentations/2020s/2023/Webinar FY2024 Executive Budget.pdf

---2019. *Michigan's Leaky Teacher Pipeline*. Report No. 404. Lansing: Citizens Research Council of Michigan. https://crcmich.org/publications/michigans-leaky-teacher-pipeline-examining-trends-in-teacher-demand-and-supply

Delpier, Tanner, and Mary McKillip. 2023. What Will It Take to Achieve Funding Adequacy for All Michigan Students? Newark: Education Law Center. April.

https://edlawcenter.org/assets/Michigan/2023_ELC_MichiganReport_Final.pdf

Fisher, Ronald. 2019. "Opinion/Is it time to increase taxes in Michigan?" *Bridge Michigan*. https://www.bridgemi.com/guest-commentary/opinion-it-time-increase-taxes-michigan

Florida, Richard. 2023. "Michigan's Great Inflection: A Strategy for the Age of Technology and Talent." Creative Class Group, May. https://creativeclass.com/reports/Michigans-Great-Inflection.pdf

Growing Michigan Together Council. 2023. *Growing Michigan Together Council Report*. December. https://growingmichigan.org/wp-content/uploads/2023-12-14-GMTC-Final-Report-2.pdf

Torres, C., N. Burroughs, R. Frausel, J. Gardner, D. Zuschlag, and C. Reichel. 2023. *Final Report: The State of the Educator Workforce in Michigan; An In-Depth Look at K-12 Staffing Challenges*. Prepared by Public Policy Associates, with assistance from the Marsal Family School of Education at the University of Michigan and the Office of K-12 Outreach at Michigan State University, on behalf of the Michigan Alliance for Student Opportunity. https://publicpolicy.com/wp-content/uploads/2023/11Education-Workforce-Study-Report_Final.pdf

Wilkinson, Mike, and Ron French. 2019. "Michigan Leans on Long-Term Substitutes as Its Schools Struggle," *Bridge Michigan*, August 7. https://www.bridgemi.com/talent-education/michigan-leans-long-term-substitutes-its-schools-struggle