



Do schools in rural and nonrural districts allocate resources differently? An analysis of spending and staffing patterns in the West Region states





Do schools in rural and nonrural districts allocate resources differently?
An analysis of spending and staffing patterns in the West Region states

Summary

January 2011

Prepared by

Jesse Levin

American Institutes for Research

Karen Manship

American Institutes for Research

Jay Chambers

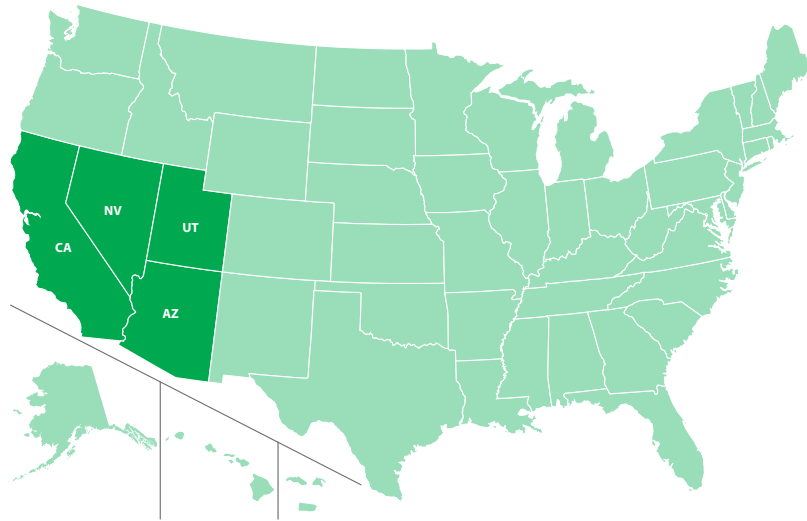
American Institutes for Research

Jerry Johnson

Ohio University

Charles Blankenship

American Institutes for Research



Issues & Answers is an ongoing series of reports from short-term Fast Response Projects conducted by the regional educational laboratories on current education issues of importance at local, state, and regional levels. Fast Response Project topics change to reflect new issues, as identified through lab outreach and requests for assistance from policymakers and educators at state and local levels and from communities, businesses, parents, families, and youth. All Issues & Answers reports meet Institute of Education Sciences standards for scientifically valid research.

January 2011

This report was prepared for the Institute of Education Sciences (IES) under Contract ED-06-CO-0014 by Regional Educational Laboratory West administered by WestEd. The content of the publication does not necessarily reflect the views or policies of IES or the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

This report is in the public domain. While permission to reprint this publication is not necessary, it should be cited as:

Levin, J., Manship, K., Chambers, J., Johnson, J., and Blankenship, C. (2011). *Do schools in rural and nonrural districts allocate resources differently? An analysis of spending and staffing patterns in the West Region states.* (Issues & Answers Report, REL 2011–No. 099). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West. Retrieved from <http://ies.ed.gov/ncee/edlabs>.

This report is available on the regional educational laboratory web site at <http://ies.ed.gov/ncee/edlabs>.

Do schools in rural and nonrural districts allocate resources differently?

An analysis of spending and staffing patterns in the West Region states

This study of differences in resource allocation between rural and nonrural districts finds that rural districts in the West Region spent more per student, hired more staff per 100 students, and had higher overhead ratios of district- to school-level resources than did city and suburban districts. Regional characteristics were more strongly related to resource allocation than were other cost factors studied.

Much of the education finance literature suggests that rural districts face specific challenges—not necessarily faced by their nonrural counterparts—that are thought to affect expenditures. Referred to as *cost factors*, these challenges include higher costs per student due to the comparatively small scale of operation, higher levels of student need, and difficulty hiring qualified and specialized staff (Duncombe and Yinger 2008). In 2005/06, rural school districts accounted for 43 percent of all districts and served 6 percent of the student population in the West Region (Arizona, California, Nevada, and Utah).

This report presents the first detailed comparison of resource allocation between rural and nonrural districts in the West Region. Three regional characteristics often associated with

rural districts were chosen for the analysis: district enrollment, student population density within a district (students per square mile), and drive time from the center of a district to the nearest urban area/cluster. Two other types of factors thought to be associated with resource allocation were also investigated: student need (incidence of poverty, English language learner students, and students receiving special education services) and geographic differences in labor costs.

The report first examines how average regional characteristics, student needs, and labor costs differed across rural and nonrural district locale categories in 2005/06. Next it analyzes how average measures of resource allocation (per student expenditures on instruction, administration and student support, and transportation; ratios of administrative, instructional, and student support staff to students; and ratios of district central administration and maintenance and operations spending to school-level spending) varied across district locale categories. Using regression analysis, the study then models how these measures of resource allocation varied with the three regional characteristics and whether the relationship between resource allocation and regional characteristics differed across the study states.

Specifically, the study attempts to answer the following research questions:

- How do factors thought to be related to education costs—such as regional characteristics (district enrollment, student population density, and proximity to urban areas); student needs (incidence of poverty, English language learner students, and special education enrollment); and labor costs—differ between school districts in rural and nonrural locale categories?
- How do measures of K–12 education resource allocation—including total per student expenditures, staffing ratios, and overhead ratios of district- to school-level spending—differ between school districts in rural and nonrural locale categories?
- How do regional characteristics, student needs, and geographic differences in labor costs relate to patterns of K–12 education spending and staffing in school districts?

The following are key findings of the study:

- Statistically significant differences in enrollment, student population density, and average drive time to the nearest urban area/cluster were evident in rural and nonrural locales in the West Region. Districts in rural-remote and rural-distant locales (the two most rural district locale subcategories defined by the National Center for Education Statistics) had substantially lower enrollments and student population densities than did districts in other locale subcategories (ranging on average from fewer than 4 students per square mile

for districts in the two most rural locale categories to more than 400 students per square mile in urban locales).

- Compared with districts in nonrural locales, districts in rural locales spent more per student, hired more staff (especially teachers) per 100 students, and had higher overhead ratios of district- to school-level spending. Of the three regional characteristics studied, district enrollment was most strongly related to higher resource utilization.
- Regional characteristics (district enrollment, student population density, and drive time) were more strongly related to resource allocation than were other cost factors studied (student needs and geographic differences in labor costs). Longer drive times to urban areas were associated with higher overall per student expenditure; per student expenditures on instruction, administration and student support, and transportation; teacher and administrative staffing ratios; and overhead ratios. Low student population density was significantly related to overall per student expenditure, per student expenditure on transportation, administrative staffing ratios, and overhead ratios. The magnitude of the differences in resource utilization associated with drive time and student population density was small compared with that associated with district enrollment.

Policymakers may want to consider these findings in developing resource distribution formulas and policies.

Requests for this study stemmed from a range of stakeholders, including legislators, educators, and school board members. In California, staff from the State Board of Education asked for this analysis to better understand how state funding policies play out in rural communities. California legislators requested this analysis to inform resource allocation decisions. Leaders in Nevada's higher education system requested this analysis to help them understand the resource and cost issues rural communities face. The Director of the Southwest Comprehensive Center, funded by the U.S. Department of Education,

confirmed that this study would inform multiple ongoing conversations in Arizona and Utah on the unique needs of the many rural districts in those states and that it would be particularly valuable given tight state and local budgets. A 2008 needs survey by the Regional Educational Laboratory West (also funded by the U.S. Department of Education) indicated that 46 percent of school- and district-level respondents in rural locales reported that "finance" was critical to improving their schools.

January 2011