

# Segregation and Integration Measurement Guide

## Introduction to the Segregation, Desegregation, and Integration Measurement Guide

This guide is designed to help education leaders identify useful segregation, desegregation, and integration measures based on their contexts and priorities. Understanding the multiple dimensions of these interconnected phenomena and investigating how they relate to specific change priorities will help users choose the best metrics and tools for their initiatives. Because desegregation and integration are often treated as interchangeable, the following definitions help distinguish between the two: desegregation is the *removal of barriers* to allow students of different races to attend the same school. Indicators of school desegregation focus on the demographic makeup of the school—including classrooms and academic programs—and its corresponding neighborhoods. Integration is the *creation of educational communities* where students and adults of different races not only teach and learn but also collaborate to advance the educational experience of the entire student body. Indicators of integration include diverse school staff, student engagement in inclusive academics, and the incorporation of student voices.

This document also outlines gaps in the literature and available measures, highlighting practices that practitioners use for evaluation and improvement purposes while offering additional tools for those who have not yet found productive ways to measure or communicate the impact of their work. In developing this tool, the measurement guide team endeavors to:



## Using the Measurement Guide

The American Institutes for Research (AIR) developed this guide as part of a dual academic and nonacademic literature review. The primary objectives of the literature review were to examine how segregation, desegregation, and integration in the United States are measured across disciplines and to highlight prominent formulas; discuss their methodology, academic background, and historical usage, with a focus on presenting the information conceptually and mathematically; and provide an analysis of their strengths and weaknesses. The segregation and integration dimensions, indicators, and measurement tools/formulas in the following table were developed based on reviews of both published academic literature and practitioner activities, the latter based on a review of publicly available information and two years of interviews with Bridges Collaborative members.

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**Directions:** Examine the dimensions of segregation, desegregation, and integration below. Consider which dimensions and their related indicators align most directly with your initiative’s priorities, then use the measurement table to search for measurement tools, formulas, and case study notes. Use what you learn to think through and discuss which measures may help you better understand how your initiative is impacting change, identify areas for improvement, and communicate progress with partners.

Segregation, desegregation, and integration dimensions*	Common school and district indicators	Measurement resources: Tools, formulas, data sets
<p><b>Evenness</b></p> <p>Evenness is a measure of whether members of a group are overrepresented in some regions and underrepresented in others.</p>	<p>District enrollment boundaries and associated school level demographics, travel times, and school size</p>	<p><b><i>Increasing School Diversity: Attendance Boundaries Data Tool</i></b>  <a href="https://www.schooldiversity.org/">(https://www.schooldiversity.org/)</a></p> <p>This dashboard presents different hypothetical boundary configurations produced by redistricting algorithms. You can select your state and school district to explore different boundaries and learn about impacts on school demographics, travel time, and school size.</p>
	<p>Community and district demographics</p>	<p><b><i>Segremetrika: Segregation Formula Tool</i></b>  <a href="https://www.air.org/sites/default/files/2024-09/measurement-tool.xlsx">(https://www.air.org/sites/default/files/2024-09/measurement-tool.xlsx)</a></p> <p>AIR researchers developed this user-friendly Excel tool to describe several indices, including the following:</p> <ul style="list-style-type: none"> <li>• Divergence Index: This formula measures the segregation between multiple populations by examining their spread across multiple areas.</li> </ul>

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<p><b>Exposure</b></p> <p>Exposure is a measure of whether members of a group have opportunities to interact with members of other groups.</p>		<ul style="list-style-type: none"> <li>• Dissimilarity Index: This formula measures the segregation between two populations by assessing how many people from one group would need to be transplanted to another group for population proportions to be even.</li> </ul>
	Intergroup contact	<p><b>Segremetrika: Segregation Formula Tool</b>  <a href="https://www.air.org/sites/default/files/2024-09/measurement-tool.xlsx">https://www.air.org/sites/default/files/2024-09/measurement-tool.xlsx</a></p> <ul style="list-style-type: none"> <li>• AIR researchers developed this user-friendly Excel tool to describe several indices, including:</li> <li>• Entropy Index: This measures how diverse a location is compared with other places.</li> </ul>
	Demographics of school and school partner staff	Comparison of student body to teaching staff
<p><b>Concentration</b></p> <p>Concentration measures whether members of a group are spread across a smaller physical space than members of another group. Regarding schools, this dimension can help examine whether some groups are spread across a smaller opportunity space – a space with fewer opportunities – than members of another group.</p>	Student designations for support services	<p><b>Significant Disproportionality Calculator and User’s Guide</b>  <a href="https://ideadata.org/resources/resource/2495/significant-disproportionality-calculator-and-users-guide">https://ideadata.org/resources/resource/2495/significant-disproportionality-calculator-and-users-guide</a></p> <p>The Significant Disproportionality Calculator is a spreadsheet application designed to support states and local education agencies in analyzing data relating to the Individuals with Disabilities Education Act. The calculator can help education leaders analyze data for significant disproportionality at the school level. The accompanying user’s guide describes each worksheet within the calculator, formatting requirements, and instructions for using the calculator.</p>
	Access to educational opportunities	<p><b>Disaggregated Data on Access</b></p> <p>Data may include student populations with access to and/or participating in:</p> <ul style="list-style-type: none"> <li>• Advanced coursework</li> <li>• Afterschool opportunities</li> <li>• High-quality teachers, based on local measures</li> </ul>
	Poverty rates by school	<p><b>Small Area Income and Poverty Estimates</b>  <a href="https://www.census.gov/data-tools/demo/saipe/#/">https://www.census.gov/data-tools/demo/saipe/#/</a> )</p>

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<p><b>Access</b></p> <p>Access measures access to rigorous academic coursework and supports as well as supportive teachers and community, as indicated by available academic and climate related programs. Academic programs include access to high-quality instructional materials, including standards, curricula, and lessons. An equitable climate includes access to supportive school and classroom environments.</p>		<p>Each year, the Census Bureau’s Small Area Income and Poverty Estimates program produces single-year estimates of poverty for all U.S. states, counties, and school districts.</p>
	<p>K–12 learning supports: advanced coursework, tutoring, special education services, multitiered systems of support, multi-language services</p>	<p><b>Office for Civil Rights (OCR) <i>Civil Rights Data Collection</i></b>  <a href="https://civilrightsdata.ed.gov/">(https://civilrightsdata.ed.gov/)</a></p> <p>OCR collects civil rights data related to students’ access and barriers to educational opportunity from early childhood through Grade 12. State- and district-level data available on the OCR website include student enrollment; access to courses, programs, and school staff; and school climate factors, such as bullying, harassment, and student discipline. Most data collected by the office are disaggregated by race, ethnicity, sex, disability, and English learners.</p>
	<p>Community programs</p>	<p><b>Afterschool in Your State</b>  <a href="https://www.afterschoolalliance.org/policystatemap.cfm"> (https://www.afterschoolalliance.org/policystatemap.cfm)</a></p> <p>The Afterschool Alliance maintains this clearinghouse of information on afterschool programs across the country. By state, the clearinghouse has data on program demand, student benefits, parental support for afterschool programs, and program funding.</p>
	<p>Effective teaching</p>	<p><b>Equitable Access Tool Kit: Data Review Tool</b> (<a href="https://www.air.org/GTL-Center/resources">https://www.air.org/GTL-Center/resources</a>)</p> <p>This tool was originally developed by the Center on Great Teachers and Leaders so that state leaders can assess, analyze, and communicate their equitable access data. However, the example metrics also provide schools and districts with a set of key data points to use when considering equitable access to excellent teaching. This resource also includes data analysis and display resources for communicating results.</p>
	<p>Supportive adult relationships</p>	<p>Adult mentors with the capacity to support all students, as measured by local indicators, as well as broader measures such as EDSCLS  <a href="https://nces.ed.gov/surveys/edscls/questionnaires.asp"> (https://nces.ed.gov/surveys/edscls/questionnaires.asp)</a></p>
<p>Breadth of curriculum</p>	<p><b>Disparities in Curricular Breadth</b>  <a href="https://nces.ed.gov/programs/equity/indicator_f12.asp"> (https://nces.ed.gov/programs/equity/indicator_f12.asp)</a></p>	

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		<p>Tools and resources that provide rationales and possible strategies to assess curricular breadth availability and access.</p> <p><b><i>The Dual Enrollment Playbook: A Guide to Equitable Acceleration for Students</i></b> (<a href="https://highered.aspeninstitute.org/dual-enrollment/">https://highered.aspeninstitute.org/dual-enrollment/</a>)</p> <p>This strategy playbook from the Aspen Institute includes a qualitative self-reflection with questions school and district leaders can use to assess equity in their dual enrollment practices.</p>
<p><b>Engagement</b></p> <p>Engagement encompasses students’ involvement in academics broadly, including class attendance, coursework, and assessments.</p>	<p>Student perceptions of school climate and conditions for learning</p>	<p><b>School Climate Survey Compendium</b> (<a href="https://safesupportivelearning.ed.gov/topic-research/school-climate-measurement/school-climate-survey-compedium?f%5b0%5d=source%3A0">https://safesupportivelearning.ed.gov/topic-research/school-climate-measurement/school-climate-survey-compedium?f%5b0%5d=source%3A0</a>)</p> <p>The National Center on Safe Supportive Learning Environments maintains a resource that summarizes the available climate surveys for schools and districts, including their focus areas, cost, and application.</p>
	<p>Community and family perceptions of school climate</p>	<p><b>Community Data Collection Bridges Collaborative Member Organization Example</b> (<a href="https://www.hamden.org/uploaded/RRR/Community_Thoughts_-_Thought_Exchange_Summary3.pdf">https://www.hamden.org/uploaded/RRR/Community_Thoughts_-_Thought_Exchange_Summary3.pdf</a>)</p> <p>Hamden School District’s redistricting leaders used a tool called ThoughtExchange to capture and analyze community feedback.</p>
	<p>Attendance and absenteeism</p>	<p><b>COVID-19 and Equity in Education Chronic Absenteeism Explorer</b> (<a href="https://cee-chronic-absenteeism-explorer-air-esri.hub.arcgis.com/">https://cee-chronic-absenteeism-explorer-air-esri.hub.arcgis.com/</a>)</p> <p>This interactive data tool, built by AIR, is designed to help policymakers and educators analyze pre- and post-pandemic student chronic absenteeism trends at the state, district, and school levels with data that can be organized by a range of school, community, and student characteristics.</p>
	<p>Exclusionary discipline rates</p>	<p><b>Addressing the Root Causes of Disparities in School Discipline</b> (<a href="https://safesupportivelearning.ed.gov/sites/default/files/ActionPlanningGuide508.pdf">https://safesupportivelearning.ed.gov/sites/default/files/ActionPlanningGuide508.pdf</a>)</p> <p>This planning guide is designed to assist schools and districts in identifying and analyzing the root causes of discipline disparities and in developing an</p>

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<p><b>Student Outcomes</b></p> <p>This dimension relates to student outcomes, including readiness, attainment, and readiness during and after K–12 education.</p>	<p>On-time graduation</p> <p>Postsecondary readiness</p> <p>K–12 readiness</p> <p>Performance in coursework</p> <p>Performance on common assessments</p>	<p>implementable action plan to address more than the symptoms of disparities in a strategic and sustainable manner. The OCR Civil Rights Data Collection includes state- and district-level data on discipline rates.</p> <p>Schools and districts already measure student outcomes. The National Academies of Science, Engineering, and Medicine provide key indicators for this dimension, partly outlined in the center column. Further, researchers from the American Institutes for Research recommend analyzing data to understand between- and within-group disparities.</p> <p><b>Bridges Collaborative Member Organization Example:</b>  <a href="https://drive.google.com/file/d/1XvNh2EBxPel6TdlkrYtJkjU7zZ83nrIR/view">https://drive.google.com/file/d/1XvNh2EBxPel6TdlkrYtJkjU7zZ83nrIR/view</a>            Jefferson County Public Schools developed a racial equity plan logic model to codify specific district priorities and monitoring metrics aligned with policy outcomes.</p>

\*Cited from: Massey, D. S., & Denton, N. A. (1988). The dimensions of residential segregation. *Social Forces*, 67(2), 281-315 and National Academies of Sciences, Engineering, and Medicine. 2019. Monitoring Educational Equity. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25389>.