Cleveland Metropolitan School District Performance in the First Year of the Cleveland Plan

A Report Prepared by the Center for Urban Education at Cleveland State University and the Office of Evidence and Inquiry at Cuyahoga Community College at the Request of Cleveland Metropolitan School District

MAY 11, 2015

The purpose of this report is to assess the performance of Cleveland Metropolitan School District (CMSD) in 2013-14, the first full year of the implementation of Cleveland's Plan for Transforming Schools ("the Cleveland Plan" herein). The report describes an analysis of the most recent publicly available school district data that compares the performance of CMSD to other districts in Ohio. The comparison is done in a way that takes into consideration the unique demography of each district as well as districts' prior performance. Not all districts are the same, and comparing their performance without taking into account demography and prior performance is akin to comparing "apples and oranges." The approach taken in this analysis puts districts on a level playing field, so to speak, for the purposes of comparing performance. This report is not a comprehensive impact evaluation of the Cleveland Plan but rather a description of district performance on indicators included in the 2013-14 state report cards that takes into account demography and past performance.

The results show that, after adjusting for demography and prior performance, CMSD performed above average compared to other statewide districts and other urban districts[1] in 2013-14 on five performance indicators and below average on one indicator. Its adjusted 2013-14 performance index score[2] was above the statewide and urban district average and ranked best among urban districts. It performed above the statewide and urban district averages on adjusted average days of student attendance in 2013-14 and average teacher value added score[3] in 2013-14, ranking second out of eight urban districts on each. It was above the statewide and urban district averages on adjusted four-year 2013 graduation rate and average 2013 ACT score, ranking third among urban districts on each. Before and after adjustments, CMSD's 3rd grade proficiency rate on the reading component of the Ohio Achievement Assessments (OAA) in 2013-14 was below the statewide and urban district average and lowest among urban districts. Background and details regarding the analysis are provided below.

Background of the Cleveland Plan

According to CMSD, the goal of the Cleveland Plan is to ensure that every child in Cleveland attends a high-quality school and that every neighborhood has a multitude of great schools from which families can choose. The Cleveland Plan has four major components: (i) growing the number of high-performing district and charter schools in Cleveland and closing and replacing failing schools; (ii) focusing the district's central office on key support and governance roles and transferring authority and resources to

[1] In this report "urban districts" refers to the Ohio 8 Coalition composed of Akron Public Schools, Canton City Schools, Cincinnati Public Schools, Cleveland Metropolitan School District, Columbus City Schools, Dayton Public Schools, Toledo Public Schools, and Youngstown City Schools.

[2] Performance index score is a measure of student performance on the Ohio Achievement Assessments and Ohio Graduate Tests at the 3rd, 4th, 5th, 6th, 7th, 8th, and 10th grade levels.

[3] Value-added is a calculation that uses student achievement data over time to measure gains in learning. It is used to determine the effect a school or teacher has on student academic performance over the course of a school year.

schools; (iii) creating the Cleveland Transformation Alliance to ensure accountability for all public schools in the city; and (iv) investing and phasing in high-leverage system reforms across all schools from preschool to college and career.

Legislation to support the Cleveland Plan was signed into law through House Bill 525 in July, 2012, and includes three broad areas of impact: district autonomy and flexibility, employment practices, charter quality and collaboration. In November, 2012, a majority of Cleveland voters demonstrated their commitment to the plan by voting for an unprecedented 15 mill, 4-year levy with one mill set aside for partnering charter schools.

Methodology for Determining Performance

This study used the most recent publically available data to examine CMSD's performance on six indicators. The *district performance indicators* included (i) the 2013-14 district performance index score; (ii) four-year graduation rate for students who entered 9th grade in fall 2010 and graduated by summer 2013; (iii) average student 2013 ACT score; (iv) average days of student attendance in the 2013-14 school year; (v) proficiency rate on the 3rd grade reading test of the Ohio Achievement Assessments (OAA) in the 2013-14 school year; and (vi) average teacher value added scores in the 2013-14 school year.

The performance of any individual district depends not only upon the practices, efficiency, and resources of the district, *per se*, but also upon factors outside of the district's direct control. A large body of research shows that districts' and schools' performance is in part a function of the types of students served. For example, district graduation rates may be affected by the extent to which students have adequate financial support while attending high school. Ranking districts by graduation rates typically produces a list that mirrors a ranking of districts by the socioeconomic background of their students. In order to allow for a fair comparison of the six performance indicators across districts, *adjusted scores* were calculated that take into consideration a district's demography and previous performance.[4] This study adjusted for the 11 *district demographic characteristics*, shown in Table 1.

Table 1. Demographic characteristics of CMSD, other urban districts, and districts statewide in 2013-14

District demographic characteristics	CMSD	Average of other urban districts	Statewide district average
Total enrollment	37,967	21,481	2,580
Percent of students eligible for free or reduced-price meals	>95	85	43
Percent Asian or Pacific Islander students	1	2	<1
Percent Black students	66	53	6
Percent Hispanic students	15	7	3
Percent multiracial students	3	7	3
Percent of students with limited English proficiency	8	6	1
Percent of students with disabilities	24	19	14
Percent of students in the district for less than a full academic year	5	4	2
Percent of students in the district for between one and two years	43	42	34
Poverty rate of school-age children in the district catchment area	46	40	18

[4] For references on adjusted scores, see: Rubenstein, R., Schwartz, A. E., Stiefel, L. (2003). Better than raw: A guide to measuring organizational performance with adjusted performance measures. *Public Administration Review*, *63*(5), 607-615 and Stiefel, L., & Rubenstein, R. (1999). Using adjusted performance measures for evaluating resource use. *Public Budgeting and Finance*, *19*(3), 67-87.

Table 1 includes the value of each demographic characteristic in CMSD in the 2013-14 school year, as well as the average among other urban districts, and the statewide district average. These characteristics of districts, as well as districts' performance in the previous school year, are all related to districts' performance in any given year (see Appendix A). This information was used to calculate adjusted scores on the six performance indicators for each district in Ohio.

Sources of data. For all 610 school districts in Ohio, publicly available data from the Ohio Department of Education (ODE) 2013-14 State Report Card[5] system was combined with data from the Small Area Income and Poverty Estimates (SAIPE) of the U.S. Census Bureau for the project analyses. This combined dataset included ODE data from both 2013-14 and 2012-13 for the six district performance indicators, SAIPE data indicating 2013 child poverty rates in district catchment areas, and ODE data from 2013-14 for the remaining ten district demographic characteristics.

Calculating predicted and adjusted scores. Adjusted scores suggest how a district would perform if its demographic characteristics and prior year performance were equal to the statewide average. For example, if CMSD had the same demographics as the average district in the state and performed like the average district in the state in the previous year, the adjusted score indicates what CMSD's score would be for a particular indicator. For each of the six performance indicators noted above, a multiple regression model was estimated to generate *predicted scores* for all school districts in Ohio based on the 11 demographic characteristics in Table 1 and prior year performance on the respective indicator.

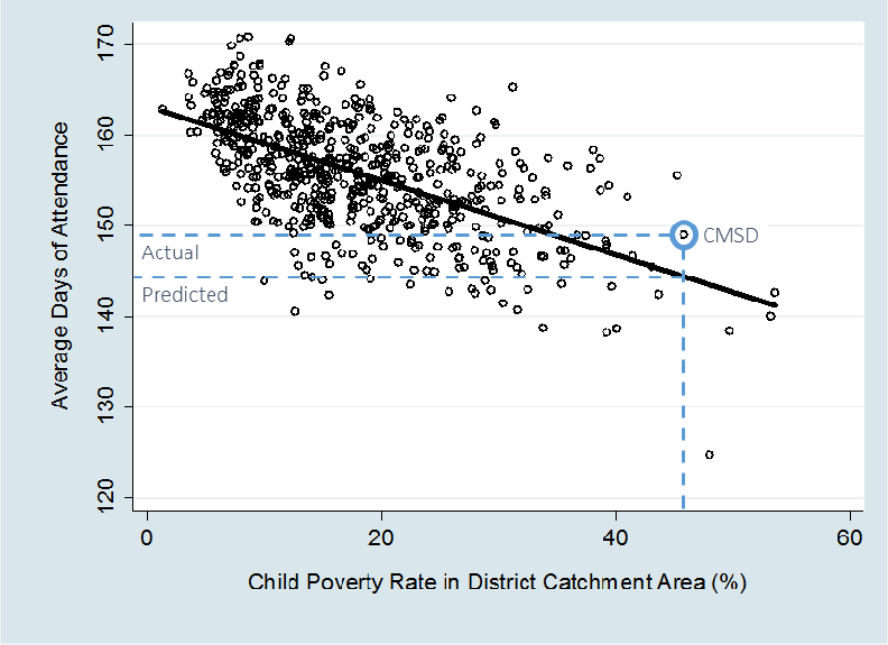


Figure 1. Illustration of the relationship between district performance indicators and demography

Figure 1 is a simplified illustration of this concept, using just one district performance indicator, average days of attendance (on the vertical axis), and just one district demographic characteristic, the child poverty rate in the district catchment area (on the horizontal axis). Each black circle in the figure represents the actual average days of attendance and child poverty rate of the 610 school districts in Ohio. On average, students in districts with a higher child poverty rate attend fewer days of school, as indicated

[5] The 2013-14 ODE State Report Cards include graduation rates and average ACT scores for the class of 2013.

by the solid black line in Figure 1. Given a district's actual child poverty rate, its predicted average days of attendance is indicated by this solid black line. For example, a district with a child poverty rate equivalent to CMSD's (46 percent) was predicted to have approximately 144 average days of attendance, as indicated by the dotted blue line labeled "Predicted" in Figure 1.

To calculate a district's *adjusted score*, its predicted score on each of the six performance indicators was subtracted from its actual score, and this difference was added to the statewide district average for the indicator:

$$\text{Adjusted Score} = (\text{Actual Score} - \text{Predicted Score}) + \text{Statewide District Average}$$

The result was an adjusted score for each district that suggests *how a district would have performed in 2013-14 if it had statewide average demographics and had performed at the statewide average on the indicator the year prior*.

Using Figure 1 as a simplified illustration, the difference between a district's actual and predicted scores is indicated by the vertical distance between its circle and the solid black line. The circle representing CMSD (outlined in blue) in Figure 1 is above the predicted score line, indicating that its actual average attendance in 2013-14 (indicated by the dotted blue line labeled "Actual") was approximately five days higher than the predicted average. In this simplified illustration, CMSD's adjusted score would be higher than its actual score. If a district's circle were below the solid black line, its adjusted score would be lower than its actual score.

Figure 1 is a simplified illustration of the methodology employed in this analysis for generating predicted and adjusted scores, using just one district demographic characteristic. Predicted and adjusted performance scores presented below were generated using information on all 11 demographic characteristics in Table 1 as well as prior year performance on the respective indicator.

Performance of Cleveland Metropolitan School District

Adjusting for demographic characteristics and prior performance results in substantial shifts in districts' 2013-14 performance indicator scores. The actual, predicted, and adjusted scores on the six performance indicators for CMSD, the seven other urban districts in Ohio, on average, and districts statewide, on average, are shown in Table 2.

Table 2. Actual, predicted, and adjusted performance indicators of CMSD, other urban districts, and districts statewide in 2013-14

District name	Performance Index Score			2013 Graduation rate, 4-year			Average ACT score		
	Actual	*Pred*	*Adj*	*Actual*	*Pred*	*Adj*	*Actual*	*Pred*	*Adj*
Cleveland Metropolitan School District	76.1	74.8	100.4	64.3	64.2	92.0	16.0	15.7	21.8
Other urban district average	81.4	81.7	98.8	72.8	74.1	90.6	17.7	17.9	21.3
State district average	99.1			91.8			21.5		
District name	**Average days of student attendance**			**3rd grade OAA reading proficiency rate**			**Average teacher value added score**		
	Actual	*Pred*	*Adj*	*Actual*	*Pred*	*Adj*	*Actual*	*Pred*	*Adj*
Cleveland Metropolitan School District	149.1	143.8	161.1	57.9	61.6	83.5	-5.4	-6.6	3.4
Other urban district average	148.9	149.6	155.2	68.2	67.7	87.7	-5.3	-2.7	-0.5
State district average	155.9			87.2			2.1		

Notes: Pred = Predicted score. Adj = Adjusted score (if district had statewide average demographic characteristics and prior year performance). ODE reports district average ACT scores that are rounded to the nearest integer.

Adjusted performance scores. Compared to districts statewide, CMSD's *actual* performance on all six indicators was below average. Due to its challenging demography and generally low performance the previous year, all adjusted 2013-14 performance scores for CMSD were adjusted favorably. CMSD serves more students, overall, and a higher proportion of students who are low-income, are racial or ethnic minorities, have limited English proficiency, have a disability, and are moderately or highly mobile than other urban districts in the state, on average. As a result, *predicted* performance scores for CMSD were low. For five of the six indicators, the 2013-14 performance index score, 2013 graduation rate, average 2013 ACT score, average days of attendance in 2013-14, and average teacher value added score in 2013-14, CMSD's actual scores were higher than its predicted scores. Conversely, CMSD's actual 3rd grade OAA reading proficiency rate in 2013-14 was lower than its predicted rate.

Compared to districts statewide, CMSD's *adjusted* performance was mostly above average. CMSD was above the statewide district average and urban district average in 2013-14 adjusted performance index score (by one and two points, respectively), 2013 four-year graduation rate (by less than one and one percentage points, respectively), average 2013 ACT score (by less than one point in both comparisons), average days of student attendance in 2013-14 (by five and six days, respectively), and average teacher value added score in 2013-14 (by one and four points, respectively). CMSD's adjusted 3rd grade reading OAA proficiency rate in 2013-14 was lower than the statewide and urban district average by four points in both comparisons. In terms of rank order among the eight urban districts in Ohio, CMSD ranked first in adjusted 2013-14 performance index score, second in average days of student attendance in 2013-14 and average teacher value added score in 2013-14, third in 2013 graduation rate and average 2013 ACT score, and last in 3rd grade reading OAA proficiency rate in 2013-14.

Questions this report cannot answer. This report compared the performance of CMSD with other districts in Ohio. Many questions were *not* answered in this report. For example, this report did not examine differences in performance among different types of students within CMSD. It did not examine how certain characteristics of an individual student are associated with her or his individual performance. Further, it did not examine the performance of individual schools within CMSD. The analyses are descriptive in nature and limited to the district level. It is important to acknowledge that this analysis does not represent a comprehensive impact evaluation of the Cleveland Plan, nor can it assess the effect of other specific district strategies or interventions.

Conclusions. The demography and prior performance of a school district are related to its present performance. Comparing the performance of districts in a way that does not take into account demography and prior performance typically results in a ranking of districts by these very factors, such as student socioeconomic status. Adjusting district performance scores in a way that takes into account demography and prior performance may allow for a more useful comparison.

Adjusted scores allow for an assessment of how well a district performs in any year, given the students it serves and given its performance in the previous year. These adjustments are made in part because there is strong evidence to suggest that low-income students, racial and ethnic minority students, students with limited English proficiency, students with disabilities, and transient students all suffer disproportionately worse outcomes, on average, than their peers. If these disparities did not exist, there would be no cause for adjusting district performance based on demography. Adjusted performance scores assist with comparisons, but improving the *actual* academic performance, learning, graduation rates, and attendance for all students, regardless of socioeconomic status, race/ethnicity, English language proficiency, disability, or mobility remains a priority for educational equity and excellence.

Appendix A. Correlations among district performance indicators and demographic characteristics

Correlations (Pearson's *r*) among the six 2013-14 district performance indicators and 11 demographic characteristics for the 610 districts in Ohio are shown in Table A1. These correlations indicate the degree of association between each performance indicator and each demographic characteristic.

Table A1. Correlations among 2013-14 district performance indicators and demographic characteristics

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Performance Index Score																
2. 2013 graduation rate, 4-year	.74															
3. Average 2013 ACT score	.79	.58														
4. Average days of attendance	.62	.48	.54													
5. 3rd grade read. OAA prof. rate	.80	.64	.59	.52												
6. Teacher value added	.46	.23	.40	.30	.22											
7. Total enrollment	-.19	-.32	-.08	-.04	-.20	.13										
8. % FRPM	-.85	-.65	-.77	-.62	-.71	-.35	.10									
9. % Asian/Pacific Islander	.31	.11	.44	.28	.18	.40	.35	-.35								
10. % African American	-.57	-.59	-.49	-.26	-.46	-.10	.38	.41	.13							
11. % Hispanic	-.18	-.26	-.13	-.14	-.22	.04	.21	.16	.08	.17						
12. % Multiracial	-.34	-.39	-.19	-.23	-.32	.02	.26	.35	.19	.40	.36					
13. % LEP	-.09	-.21	-.02	-.04	-.16	.14	.38	.08	.30	.25	.48	.22				
14. % students with disabilities	-.60	-.45	-.51	-.45	-.46	-.24	.06	.64	-.25	.27	.04	.16	-.03			
15. % highly mobile	-.71	-.62	-.62	-.63	-.62	-.21	.14	.73	-.13	.53	.14	.39	.12	.48		
16. % moderately mobile	-.49	-.46	-.40	-.33	-.40	-.08	.14	.41	.04	.54	.17	.37	.19	.25	.49	
17. Area poverty rate	-.78	-.66	-.70	-.58	-.67	-.29	.13	.87	-.29	.41	.12	.36	.09	.61	.68	.39

Notes: Percents (%) refer to the percentage of students in the district. FRPM = eligible for free or reduced-price meals; LEP = limited English proficiency; high mobile = in the district for less than a full academic year; moderately mobile = in the district for between one and two academic years; area poverty rate = poverty rate of school-age youth in the district catchment area.

Correlations between 2013-14 district performance indicator scores and the scores from the prior year for the 610 districts in Ohio are shown in Table A2. These correlations indicate the degree of association between a district's performance from one year to the next.

Table A2. Correlations between 2013-14 district performance indicators and prior year performance

	Score correlation with prior year
Performance index score	.98
Graduation rate, 4-year	.82
Average ACT score	.86
Average days of attendance	.74
3rd grade OAA proficiency rate	.75
Teacher value added	.82