



# School Turnaround After Five Years



*An Extended Evaluation of Tennessee's Achievement School District and Local Innovation Zones*

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## Introduction

Starting in the 2012-13 school year, Tennessee began a series of bold new initiatives to turn around its lowest performing five percent of schools, known as Priority schools. These initiatives were centered on two primary turnaround models: the state-run Achievement School District (ASD) and district-run Innovation Zones (iZones). Inspired by Louisiana's Recovery School District and supported by federal Race to the Top funding, the ASD is Tennessee's most radical turnaround strategy – a state-run district that removes some of the lowest performing schools from the governance of local education agencies (LEAs) and either manages them directly or places them under the management of a charter management organization (CMO). The state also allowed some other Priority schools to be placed into iZones under the governance of their LEAs and granted them greater autonomy and financial support. Throughout Tennessee, iZones have been created in four districts: Shelby County Schools (Memphis), Metro-Nashville Public Schools (Nashville), Hamilton County Schools (Chattanooga), and Knox County Schools (Knoxville).<sup>1</sup>

Previously, our research team at Vanderbilt University and the University of Kentucky evaluated the effectiveness of both ASD and iZone schools in the first three years of operation and found that, on average, iZone schools showed moderate to large positive effects on student test scores, and ASD schools did not gain more or less than other non-iZone, non-ASD, Priority schools (Zimmer, Henry, & Kho, 2017; Zimmer, Kho, Henry, & Viano, 2015). However, previous findings from the school reform literature suggest that improvements can take up to five years to achieve (Aladjem et al., 2010; Berends, Bodilly, & Kirby, 2002; Bloom, Ham, Melton, & O'Brien, 2001; Borman, Hewes, Overman, & Brown, 2003; Gross, Booker, & Goldhaber, 2009; Stuit, 2010). Other research suggests that effects of school reform can fade over time (Gill et al., 2007; Strunk et al., 2016). Therefore, it is important to examine student achievement to see if effects materialize after the first few years of implementation or, when reforms have been effective, if the effects are sustained. **In this research brief, we expand on our previous analysis with data through 2016-17, five years after the reforms began. This analysis provides a more definitive depiction of how the mature ASD and iZone reforms have affected student achievement.**

## RESEARCH QUESTION

THROUGH FIVE YEARS OF TURNAROUND, WHAT EFFECTS HAVE THE ASD AND iZONE REFORMS HAD ON STUDENT TEST SCORES?



## KEY FINDINGS

- 1** Overall, through five years of implementation, iZone schools have positive and statistically significant effects on reading, math, and science test scores relative to Priority schools receiving no interventions. The size of the gains in iZone schools are comparable to other successful school turnaround interventions across the U.S.
- 2** Overall, ASD schools did not gain more or less than Priority schools receiving no interventions during the five years of implementation.
- 3** Across each of the five years, iZone schools show mostly positive effects on student test scores, though these results are not always statistically significant. These results suggest that iZone schools have been relatively successful in sustaining the positive results they were able to achieve early on.
- 4** ASD schools did not gain more or less than comparison schools in any of the five years of turnaround intervention, including after four or five years of turnaround interventions.

### Data

We use data provided by the Tennessee Department of Education and compiled by the Tennessee Education Research Alliance (TERA). The data include student- and teacher-level demographic characteristics, student test scores from the Tennessee Comprehensive Assessment Program (TCAP), End of Course Exams (EOCs), and TNReady, and school enrollment data from 2006-07 to 2016-17.<sup>2</sup> Specifically, we use reading, math, and science scale scores which we convert to standardized units by subject, grade, year, and for EOCs, semester. This allows us to have a common metric across grades and years. To help interpret this metric, an increase of 0.10 standard deviation units is roughly equivalent to increasing from the 50th to the 54th percentile.

### Research Approach

Consistent with our prior analysis, we present the findings from models that compare the changes in test scores from the baseline year in the ASD and iZone schools (separately) to the scores after they initiated the reforms with the changes in test scores during the same period in the other Priority schools that did not receive a reform.<sup>3</sup> This approach is commonly referred to as a difference-in-differences (DiD) approach. The logic of this approach closely corresponds to the way school improvement is judged – from the schools' test scores in the year before the reform began. To check the validity of these results, we compared this approach to other approaches using more years of data prior to the reform and found very similar results.<sup>4</sup>

# OVERALL RESULTS



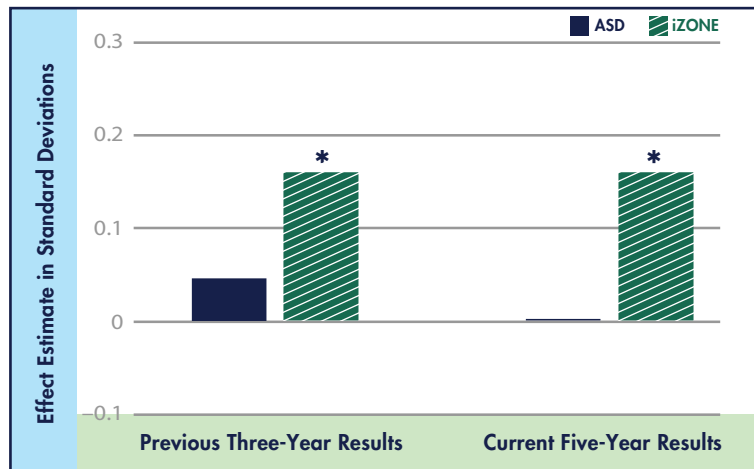
We present effect estimates in Figure 1, and as a reference, we also show results from our previous three-year analysis. Figure 1 shows results for reading, math, and science in panels (a), (b), and (c), respectively. The iZone effects are shown in striped bars, and the ASD effects are shown in solid bars. In each graph, the first set of bars shows our previous three-year results. The second set displays the current five-year results. We focus our discussion on these five-year results.

The iZone schools, as shown in Figure 1, have moderate to large positive and statistically significant effects in all three subjects in the five-year analysis. **For example, in reading, the difference in average test scores for iZone schools before and after the reform is 0.14 standardized units larger than the difference during the same period for comparison schools.** To help put these results in context, the 0.14 standard deviation increase in reading scores is the same as saying the schools' scores improved from, say, the 50th percentile to about the 56th percentile. These results are similar to our previous three-year analysis, indicating that the effects have been sustained for an additional two years.

ASD schools show statistically insignificant results across all three subjects across both the three- and five-year analyses, which is also shown in Figure 1. For example, in reading, the difference in average test scores for ASD schools before and after the reform is no different from the difference during the same period for comparison schools. **Overall, the ASD schools exhibited similar growth to comparison schools receiving no interventions.**

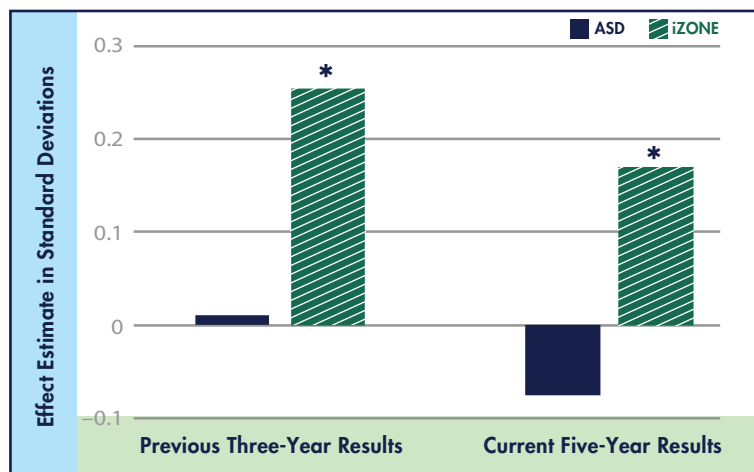
**FIGURE 1: Overall Effect Estimates for ASD and iZone Schools in (a) Reading, (b) Math, and (c) Science**

## READING



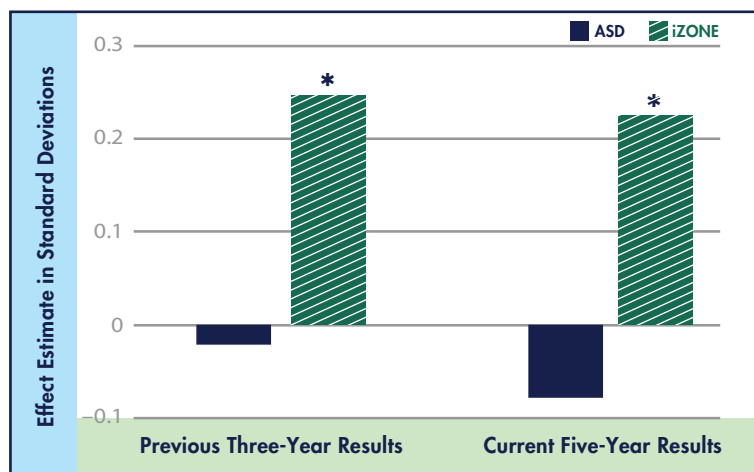
\*Statistically Significant Result

## MATH



\*Statistically Significant Result

## SCIENCE



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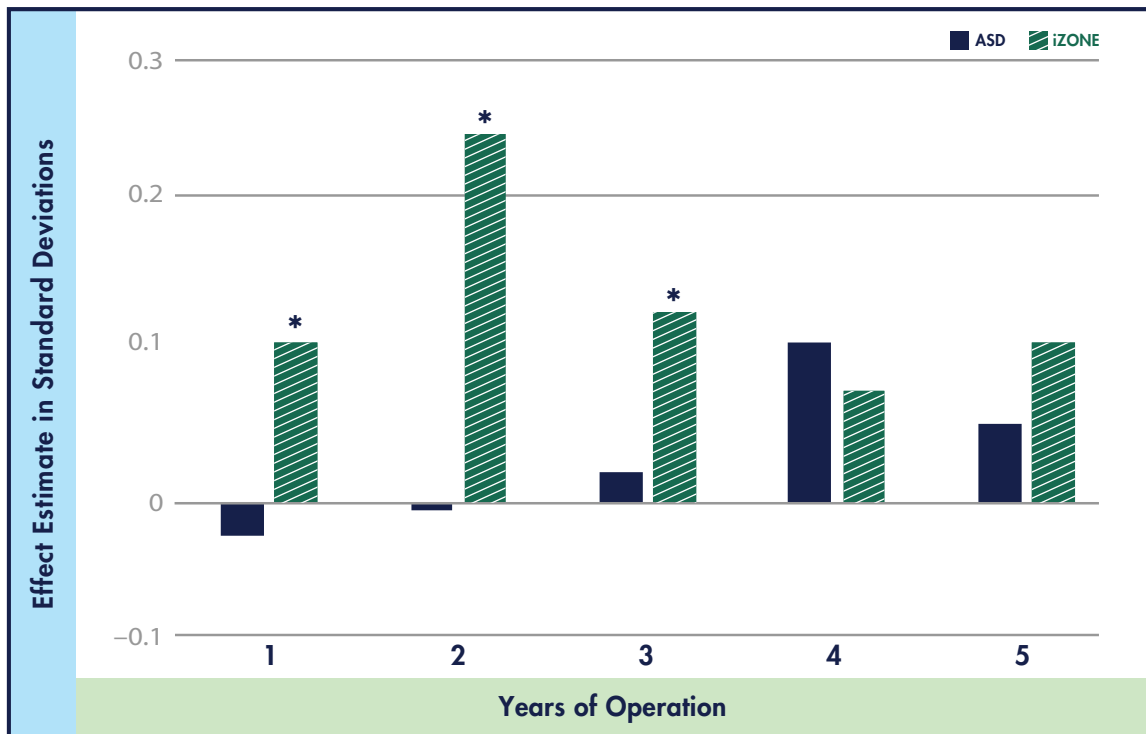
## Results Across Each Year of Turnaround Intervention

Based on prior research showing that school reforms can take up to five years to fully take hold and may not be sustained, we examined the effects in each year of the turnaround intervention. We show the effects on reading after each year of turnaround intervention for the ASD schools and iZone schools in Figure 2. The results for math and science produce substantively similar conclusions and are available upon request.

The effects on average test scores in ASD schools are not statistically significant in any of the five years, suggesting no differences in average scores from the baseline between ASD schools and comparison schools. The effects on iZone schools are positive across all five years but are not statistically significant in the fourth or fifth years. These results suggest that iZone schools were mostly able to sustain positive effects through five years of implementation.

Finally, the analyses described above include some more recent cohorts of reformed schools (schools with only one to three years of reform). To assess whether ASD schools with longer term interventions demonstrated positive effects, we re-examined the data using only the first two cohorts of ASD schools which had four to five years of reform. While the results are not shown here to conserve space, the effect of ASD interventions on these first two cohorts of schools are not substantively large or statistically significant in any subject. Combined with the results from Figure 2, we conclude that after four or five years, ASD schools are not exhibiting growth that differs from comparison schools receiving no intervention.

**FIGURE 2:** Effects on Reading across Five Years for ASD and iZone Schools



\*Statistically Significant Result

# CONCLUSION



Since the 2012-13 school year, Tennessee's two primary turnaround models, the ASD and LEA iZones have intervened with five different cohorts of Priority schools. Because previous research suggests that turnaround interventions may require up to five years before discernible changes can occur, it is important to examine the effects of the ASD after five years of implementation when enough time has passed for the changes to be fully realized. This longer-term analysis also allows for an investigation of whether positive results in the first few years of implementation for iZone schools were sustained as these reform strategies continued to mature.

Our findings suggest that iZone schools, overall, continue to demonstrate moderate to large positive

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results in reading, math, and science. These effects are comparable to improvements seen in other turnaround models, which we review briefly in the following pages. In reading, the 0.14 standard deviation increase is similar to the improvements seen in both the School Redesign Grants model in Massachusetts (Papay, 2015) and the state takeover in Lawrence Public Schools (Schueler, Goodman, & Deming, 2017). In math, the iZone effect sizes were between 0.16 and 0.20, which are similar to the gains observed in Philadelphia's restructured schools (Gill et al., 2007). Moreover, across the five years of implementation, results suggest that iZone schools sustained the positive results they achieved early on.

Overall, ASD schools have not gained more or less than comparison schools. When comparing results across four to five years of implementation, ASD schools do not appear to improve. In a previous research brief, we found that while the first three cohorts of both ASD and iZone schools had high rates of teacher turnover, the turnover rates in ASD schools have been higher than iZone schools (Henry, Zimmer, Kho, & Pham, 2017). In future work, we hope to explore the extent to which teacher turnover or other possible barriers to improvement, such as chronic absenteeism or principal turnover, have suppressed more positive effects of Tennessee's turnaround interventions.

# REVIEW OF SCHOOL TURNAROUND MODELS



In order to contextualize Tennessee’s school turnaround strategies, we describe a number of recent turnaround models implemented across the U.S. We note that the vast majority of these models were evaluated in the first two to four years of implementation, suggesting that more evidence after the five-year mark is a unique contribution of this brief. The table briefly outlines school turnaround models organized into three categories that vary in how much autonomy and support are given to schools and districts:

- 1 Models that give schools and districts extensive autonomy and then rely on competition and choice;**
- 2 Models that give schools and districts autonomy to plan, but provide them with sustained and targeted support;**
- 3 Models that support schools through a focused turnaround process, usually with emphasis on building the capacity of teachers and leaders.**

The iZone approach is similar to the models in the second category given the autonomy that schools were provided, coupled with support from iZone leadership. The ASD model is more similar to a hybrid approach between the first and second categories, because CMOs were given autonomy to manage schools, but these schools never became schools of choice. Though the effectiveness of the models listed below varies, the existing evidence suggests that a coherent theory of action with attention to recruiting, retaining, and developing human capital tends to be more successful.

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## 1

### GIVE SCHOOLS EXTENSIVE AUTONOMY, THEN RELY ON COMPETITION AND CHOICE.

#### RECOVERY SCHOOL DISTRICT (RSD) IN NEW ORLEANS, LA

After Hurricane Katrina, the state took over the entire school district, fired all educators, eliminated attendance zones, converted most of the district schools into charters, halted the renewal of union contracts, and reduced the local agency role from governance to mostly oversight. According to research by Harris and Larsen (2016), these wide-sweeping reforms produced significant student achievement gains compared to pre-Katrina achievement, and lasted at least seven years after the reforms began.

#### PUBLIC SCHOOL CHOICE INITIATIVE (PSCI) IN LOS ANGELES, CA

Under PSCI, Los Angeles Unified School District called for internal and external teams to submit plans for operating the district's lowest-performing schools, relying on competition among applicants for each school site. The model yielded statistically insignificant improvements in the first cohort of PSCI schools, significant gains in ELA in cohort 2, and significant decreases in cohort 3 (Strunk et al., 2016).

#### DIVERSE PROVIDER MODEL IN PHILADELPHIA, PA

Within the diverse provider model, the district turned over 45 of its lowest performing schools to external management organizations, but no competition existed among these providers nor were families given choice among the multiple operators. Researchers found that the diverse provider schools produced no statistically significant gains in the first four years (Gill et al., 2007).

## 2

### GIVE SCHOOLS AND DISTRICTS AUTONOMY TO PLAN, BUT PROVIDE THEM WITH SUSTAINED AND TARGETED SUPPORT.

#### SCHOOL REDESIGN GRANTS IN MASSACHUSETTS

In 2010, Massachusetts began offering districts and schools flexibility with respect to choosing turnaround strategies by asking them to create improvement plans, but coupled this autonomy with substantial technical assistance in developing, implementing, monitoring, and evaluating their plan (LiCalsi et al., 2015). Impact evaluations found that the state's lower achieving schools showed large positive gains over four years (Papay, 2015).

#### STATE TAKEOVER IN LAWRENCE PUBLIC SCHOOLS (LPS), MA

Upon taking over LPS, the state appointed a Receiver with wide authority to alter the collective bargaining agreement, require staff to reapply for their position, and extend both the school day and school year. Evaluations found that the Receiver's turnaround strategy produced large positive effects in math and modest effects in ELA during the first two years of implementation (Schueler, Goodman, & Deming, 2017).

#### FLEXIBLE OPTIONS MODEL IN RHODE ISLAND

Rhode Island implemented a flexible model where under-performing schools were required to choose from a list of interventions. However, the state did not give schools and districts strong support during implementation. Researchers found statistically insignificant student gains in targeted schools in the first two years. Moreover, schools required to implement more interventions eventually performed worse than similar schools implementing fewer interventions (Dougherty & Weiner, 2017).



# 3

## SUPPORT SCHOOLS THROUGH A FOCUSED TURNAROUND PROCESS, USUALLY WITH EMPHASIS ON BUILDING THE CAPACITY OF TEACHERS AND LEADERS.

### RESTRUCTURED SCHOOLS IN PHILADELPHIA, PA

In addition to the previously mentioned Diverse Providers model, turnaround efforts in Philadelphia also included schools managed by an Office of Restructured Schools (ORS). These schools received extra funding, intensive professional development for school leaders, instructional coaches, monthly professional development for teachers, and bimonthly benchmarks to monitor student growth. The cohesive set of interventions led to restructured schools outgaining the rest of the district in math during all three years of restructuring (Gill et al., 2007).

### TURNAROUND MODELS IN CHICAGO, IL

In Chicago, early forms of federal turnaround models focused on improving school leadership either through intensive development or replacement of the school principal. Within four years, these dramatic interventions resulted in statistically significant student achievement gains in reform schools compared to similar schools not experiencing any turnaround interventions (De la Torre et al., 2013).

### TURNING AROUND THE LOWEST ACHIEVING SCHOOLS (TALAS) IN NORTH CAROLINA

Under TALAS, North Carolina supported low performing schools with a Comprehensive Needs Assessment that served as a foundation for developing School Improvement Plans. Then, the schools were supported in implementing improvement plans with leadership coaching, instructional coaching, and district-level coaching. While the evaluations of TALAS are mixed (Heissel & Ladd, 2016), some evidence exists to support the positive and significant impacts of TALAS on student achievement over four years (Henry, Guthrie & Townsend, 2015).

## ENDNOTES

- 1 Throughout this report, any schools in one of these four district Innovation Zones are referred to as “iZone schools.”
- 2 In 2015-16, Tennessee transitioned from using the Tennessee Comprehensive Assessment Program (TCAP) to a new instrument called TNReady to serve as the statewide assessment for students in grades 3 to 8. Due to testing complications in the first year of the new test that precluded many TNReady scores from being reported, we do not use any test score data from the 2015-16 school year in this analysis.
- 3 In this analysis, we use schools on the 2012 priority list that have not become part of either the ASD or iZone as comparison schools.
- 4 These effect estimates using an approach known as comparative interrupted time series are available on request.
- 5 These results are not displayed here, but are available upon request.



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