This PDF document was made available from www.rand.org as a public service of the RAND Corporation.

Jump down to document ▼

The RAND Corporation is a nonprofit research organization providing objective analysis and effective solutions that address the challenges facing the public and private sectors around the world.

Support RAND

Purchase this document
Browse Books & Publications
Make a charitable contribution

For More Information

Visit RAND at www.rand.org
Explore RAND Education
View document details

Limited Electronic Distribution Rights
This document and trademark(s) contained herein are protected by law as indicated in a notice appearing later in this work. This electronic representation of RAND intellectual property is provided for non-commercial use only. Permission is required from RAND to reproduce, or reuse in another form, any of our research documents.
This product is part of the RAND Corporation monograph series. RAND monographs present major research findings that address the challenges facing the public and private sectors. All RAND monographs undergo rigorous peer review to ensure high standards for research quality and objectivity.
Inspiration, Perspiration, and Time
Operations and Achievement in Edison Schools

Brian P. Gill, Laura S. Hamilton, J.R. Lockwood, Julie A. Marsh, Ron W. Zimmer, Deanna Hill, Shana Pribesh

Prepared for Edison Schools, Inc.
Summary

New forms of governing and managing public schools have proliferated in recent years, spawning the establishment and growth of companies that operate public schools under contract. Among these education management organizations, or EMOs, the largest and most visible is Edison Schools, Inc., with a nationwide network in 2004–2005 of 103 managed schools, including preexisting schools contracted to Edison by districts and charter schools that Edison played a role in starting up. In 2004–2005, Edison served approximately 65,000 students in the schools it managed and tens of thousands of additional students through other initiatives. The entry of EMOs, many of which operate as for-profit companies, into the public education system has generated fierce debate, and Edison has been the focus of much of that debate. To date, however, there has been little empirical evidence regarding EMOs’ effects on schools and students. In 2000, Edison asked the RAND Corporation to conduct a comprehensive analysis of its achievement outcomes and its design implementation. RAND designed an evaluation to address the following research questions:

• What are Edison’s strategies for promoting student achievement in the schools it manages?
• How are Edison’s strategies implemented in the schools it manages?
• How does Edison’s management of schools affect student achievement?
• What factors explain differences in achievement trends among Edison schools?

Data Collection and Research Methods

We gathered data from multiple sources to address these research questions. Our examination of Edison’s strategies relies on interviews with Edison staff at all levels of the organization, and on inspection of a variety of documents that Edison has produced over the years. To assess how Edison’s design has been implemented in schools, we visited 23 Edison elementary schools across the United States. We selected schools that provide a range of school contexts and operating characteristics.

Our student achievement analysis was designed to be as comprehensive as possible and to examine achievement in currently operating as well as formerly operating Edison schools for which data were available. An ideal analysis would use longitudinal, student-level data, but those data were not available for most of the districts included in our analysis, so we relied on school-level data. We gathered school-level test scores in mathematics and reading from the state tests that serve as schools’ primary measures of accountability. We obtained this information both for Edison schools and for matched comparison schools serving similar student populations in the districts and states in which the Edison schools are located.

Our first set of achievement analyses attempts to estimate the effect of Edison management on reading and mathematics achievement by examining longitudinal trends in average student proficiency levels. The second set of analyses uses both the school-level, systemwide achievement data and the case study data to identify factors that may explain differences in achievement among Edison schools.
Findings

Inspiration: Edison’s Strategies for Promoting Student Achievement

Edison’s strategies can be broadly classified into two categories: (1) providing resources in support of a coherent and comprehensive school design; and (2) implementing accountability systems that aim to ensure that the resources for the design are in place and used as intended. The resources that Edison seeks to provide to its schools begin with a curriculum that includes widely recognized programs in reading and math, along with science, social studies, foreign language, art, and music—a breadth that exemplifies Edison’s aim of providing a “world-class” education to all students. Edison invests in a substantial amount of professional development for its principals and teachers, both centrally provided and school based. And it supports data-driven decisionmaking in schools with an online “Benchmark” system of monthly diagnostic tests in reading and math, which provides immediate feedback to teachers and principals.

In terms of accountability systems, Edison (like other EMOs) is distinct from other comprehensive reform models in having operational authority over the schools, including the power to hire and fire principals. At the same time, Edison is distinct from conventional school districts in its favored modes of accountability, relying more on outcomes-based and market-based systems and less on political and bureaucratic accountability. Edison seeks to insulate its schools from the negative aspects of bureaucracy and politics with the aim of focusing school staff attention on raising student achievement, managing budgets effectively, and implementing Edison curriculum and school design.

In sum, Edison distinguishes itself from most other school improvement strategies (e.g., school choice, high-stakes testing, comprehensive school reform, class-size reduction, teacher development) by addressing resources and accountability systems simultaneously, rather than focusing on one or the other. Together, the resources and accountability systems that constitute Edison’s design represent a coherent, comprehensive, and ambitious strategy to address key elements relevant to providing high-quality education, including capaci-
ties, motivation, and opportunities for school staff. Edison’s well-developed information systems and focus on achievement-based accountability should make it especially well suited to the high-stakes testing environment of No Child Left Behind (NCLB), the federal law that now demands improvement in student achievement in public schools across the country.

**Perspiration: Implementation of Edison’s Strategies in Schools**

The comprehensive ambitions implicit in Edison’s model suggest that successful implementation requires whole-hearted commitment—and hard work—from its clients and the staff in its schools. In fact, our case study analysis suggests that the best-functioning Edison schools demonstrate the promise inherent in Edison’s model. They are schools with strong instructional leadership, motivated teachers, effective use of achievement data, high-fidelity implementation of the Edison curricula, and high levels of professional collaboration.

Nearly all of the Edison schools we visited across the country showed enough consistency of implementation to be clearly recognizable as Edison schools, but we observed considerable variation in the extent to which the schools realized the Edison ideal.

Among the 23 Edison schools we visited, several factors appear to be important in explaining some of the variation in implementation of the Edison model:

- Full implementation of the Edison design takes time—as might be expected in the implementation of a comprehensive, ambitious reform. Schools in the first year of operation had frequent challenges in implementing various elements of the design. Edison has been largely, but not entirely, successful in keeping its contracts long enough to ensure the opportunity for full implementation: Through spring 2005, 87 percent of Edison schools had remained under contract at least four years,¹ a record that appears to compare favorably to those of comprehensive reform

---

¹ This figure includes only schools that could have been under Edison management for at least four years, i.e., schools that initiated Edison management between 1995 and 2001.
models. Edison’s charter schools have been somewhat more stable contractually than its district schools.

- Strong instructional leadership by principals is associated with stronger implementation of the curriculum, not only in high-stakes subjects (reading and math) but also in other areas of the curriculum such as science, social studies, art, and music.

- Among the case study schools, strong instructional leadership by principals appeared to be somewhat more prevalent in charter schools than in district schools. But charter status did not appear to affect curriculum implementation directly.

- Local constraints, sometimes resulting from compromises required by local contracts, undermine the implementation of Edison’s preferred professional environment in some schools.

These findings bear out the importance of the sustained commitment of clients and school staff in promoting effective implementation of the Edison model.

**Time: Effects of Edison Management on Student Achievement**

Our analysis seeks to identify the effects of Edison management on student achievement by examining Edison’s longitudinal trends in schoolwide test results. In absolute terms, Edison schools are showing gains in the proportion of their students achieving proficiency: From 2002 to 2004, average proficiency rates in currently operating Edison schools increased by 11 percentage points in reading and 17 percentage points in math. Meanwhile, average proficiency rates in a matched set of comparison schools serving similar student populations increased by lesser amounts, nine percentage points in reading and 13 percentage points in math (although the Edison advantage is statistically significant only in math).

The results for 2002–2004 provide incomplete information about Edison’s effects because they do not include the full period of Edison management for most schools. Using spring of the first year under Edison management as a baseline for examining more complete achievement trends in Edison schools, both Edison schools and comparison schools show test-score gains, as indicated in Figures S.1
Operations and Achievement in Edison Schools

and S.2 (where results are indicated in standardized z-scores, because measures used to determine proficiency changed over time in many states). In the first three years of Edison management, gains for Edison schools in reading and math are similar to the gains of matched comparison schools. By their fourth year of operation, Edison schools demonstrate larger test-score gains than their comparison schools in both reading and mathematics, and they generally retain this relative advantage in later years.2

The improving trend is partly, but not entirely, attributable to the termination of the contracts of some low-performing Edison schools prior to Y4. A policy impact analysis that includes the terminated schools (during and after Edison management) alongside continuing Edison schools likewise shows an improving trend, with positive results in Y4 and beyond (although those results achieve statistical significance only in math). While the results of this analysis cannot be attributed entirely to Edison’s management, they provide information that is useful for understanding what happens to all schools that are ever managed by Edison—a key question for clients and prospective clients, who need to consider effects on schools that discontinue their relationships with Edison as well as schools that remain under Edison management.

Because the tests used for baseline purposes are typically conducted in spring or late winter, trends from Y1 exclude most of the first year of operation of each Edison school and consequently might not accurately capture Edison’s net long-term effects. We therefore also examine performance using a pre-Edison baseline (spring of the year before Edison began managing the school, which we label as year zero [Y0]). This baseline includes the entire period of Edison management, but its interpretation is complicated by the possibility that student populations may change when Edison takes over management. Moreover, it is not comprehensive in scope: Because a substan-

---

2 As operation year increases, the number of Edison schools with data decreases (as indicated in the Edison sample sizes provided in the charts), so these figures should not be interpreted as depicting trends over time for a common set of schools.
Figure S.1
Z-Score Changes in Reading from Year-One (Y1) Baseline, Edison Schools and Matched Comparison Schools

Summary

A substantial number of Edison’s schools (typically charter schools) were new start-ups that did not exist prior to Edison’s management, this analysis includes only conversion schools (i.e., schools that existed prior to being managed by Edison), and in years one through three it is dominated by a large number of schools from only three districts (Chester, Pennsylvania; Philadelphia; and Dallas), so it does not accurately represent the range of Edison’s clients. Despite these limitations, the Y0 analysis provides the only available evidence on achievement results in the first year of Edison operation. Unlike the Y1 analysis, it is comprehensive in including the entire period of operation of each included Edison school.

3 Sample sizes in the Y0 analysis are typically about half as large as sample sizes in the Y1 analysis; details are in Chapter Six.
Edison conversion schools show a decline in average proficiency rates between the pre-Edison year and the first year of Edison operation. Edison results relative to pre-Edison scores are therefore less favorable than they are relative to first-year scores. Edison conversion schools' test-score trends from the pre-Edison baseline fall short of the trends of comparison schools in the first three years of Edison management, in both reading and math, as indicated in Figures S.3 and S.4. As in the first-year baseline analysis, however, Edison results improve as schools gain experience implementing the Edison design. By year five (Y5), conversion schools that remain under Edison’s management appear to catch up to comparison schools in reading and exceed the gains of comparison schools in math (although the sample is small.
and the favorable math results in Y5 are not statistically significant). Again, a policy impact analysis that includes post-termination results as well as results for continuing Edison schools shows slightly less favorable estimates in years four and five, with gains that are statistically indistinguishable from those of comparison schools.

The out-year results from the Y0 baseline should be interpreted with considerable caution given the small number of schools involved: We have a fifth year of data from pre-Edison baselines for only 11 Edison schools. Moreover, those 11 schools experienced substantially larger first-year declines than did other Edison conversion schools—which, if current trends continue, may show better results by the time they reach Y5.

---

4 Again, as operation year increases, the number of Edison schools with data decreases (as indicated in the Edison sample sizes provided in the charts), so these figures should not be interpreted as depicting trends over time for a common set of schools.
Still, the first-year decline is apparent across the full range of Edison conversion schools (including 50 schools with data). In reading, Edison conversion schools’ first-year deficit relative to comparison schools is approximately equivalent to the Edison schools’ relative gain between years one and five. In math, Edison conversion schools’ first-year deficit relative to comparison schools is approximately three-fifths as large as the Edison schools’ relative gain between years one and five. Including the first year in the analysis substantially reduces our estimates of net long-term Edison effects in conversion schools. Whether the first-year decline occurs in start-up schools is unknowable, unfortunately, with school-level data.

In short, estimates of Edison’s effects depend to some extent on the assumptions used in the analysis. Nevertheless, these varied results provide considerable guidance about the range of possible effects. In absolute terms, Edison schools are making gains: Average rates of proficiency in Edison schools improve as schools gain experience with
Edison. In relative terms, Edison schools also improve: On average, gains of Edison schools during the first three years of Edison operation do not exceed the gains of matched comparison schools, but Edison results improve in years four and five. Although the specific trajectories vary in different analyses, all analyses indicate that the performance of Edison schools improves as the schools gain experience with Edison.

Whether those improvements ultimately yield net positive effects is the key question. The positive long-term results from Y1 are comprehensive in their coverage of Edison schools but incomplete in their chronological coverage of Edison management. The results for Edison conversion schools from Y0—which are comprehensive in their chronological coverage of Edison management but incomplete in their coverage of Edison schools—suggest, by contrast, that the improving trends may be only enough to compensate for first-year declines, leaving the Edison conversion schools approximately on par with comparison schools after four or five years. We are therefore left with some uncertainty about whether gains of Edison schools after four or five years are comparable to or superior to those of matched comparison schools. Given this uncertainty, an examination of differences in achievement among Edison schools, and the factors that might explain those differences, is particularly important. We now turn to those differences.

Understanding Variation in Performance Among Edison Schools
The variation in the achievement trajectories of individual Edison schools is extensive, with some schools showing strong performance relative to comparison schools and others falling behind. In most years, achievement gains for Edison schools vary from approximately two standard deviations ahead of matched comparison schools to approximately two standard deviations behind matched comparison schools. These results correspond to differences on the order of plus or minus 30 percent of students achieving proficiency according to state standards. Some understanding of the factors that explain this variation among Edison schools is necessary for predicting how any
particular Edison school (or prospective Edison school) might perform in the future.

We examined several factors that might be related to the variation in performance among Edison schools. First, we assessed whether there is any evidence that Edison is producing better results system-wide in recent years than it did in its early years of operating schools. This involved a comparison of test score trends in older and newer Edison schools using a common set of operation years. Schools that opened in 2000 or later showed slightly larger relative gains than those that opened earlier, but sample sizes were small and most of the pre- and post-2000 differences did not achieve statistical significance. Thus, there is some evidence that Edison’s effectiveness as an organization might have improved over time, which may justify some optimism about the different overall trends discussed above.

To understand whether any of the variation in the performance of Edison schools could be explained by differences in the types of Edison schools examined, we compared achievement results for Edison’s charter schools versus district schools, and elementary schools versus secondary schools. We observed some small differences in a few cases, but trends were generally consistent across categories of Edison schools.

Finally, we used findings from the case study schools to shed light on differences in achievement trajectories among Edison schools. Case study findings are not definitive, because the sample is small and relationships can be measured only in simple, correlational terms, but they are nevertheless suggestive. Among Edison case study schools, curriculum implementation, full implementation of the Edison professional environment, and principal instructional leadership are associated with higher achievement in both subjects. Moreover, implementation of the Edison curriculum in subjects other than reading and math (i.e., science, social studies, foreign language, and the arts) is correlated with stronger achievement results in reading and math, suggesting that schools need not neglect the broader aspects of the curriculum in order to achieve gains in basic skills. Finally, there is limited evidence that Edison schools that operate with fewer local constraints on the model, and where principals have full
authority over hiring and firing teachers, may have better achievement trends. In particular, the challenges of the first year of Edison management in some instances appear to be at least partly attributable to local opposition to Edison.

**Recommendations**

This monograph aims not only to describe Edison’s historical record in managing schools, but also to provide guidance to policymakers, clients, prospective clients, parents, and Edison staff about what to expect in the future and how to promote favorable outcomes in the future. The historical record provides considerable evidence that Edison’s existing schools, on average, are likely to continue to improve, both in absolute terms (as measured by proficiency levels on state high-stakes tests) and relative to matched comparison schools. Most Edison schools have raised their students’ achievement results as they have gained experience with Edison, and there is evidence that Edison’s systemwide achievement trends have also improved in recent years.

Unfortunately, the data limitations described above render equivocal the historical evidence for Edison’s net long-term effects. Predicting future long-term effects is therefore doubly challenging, subject not only to the inherent uncertainty of anticipating Edison’s systemic performance over the next four to five years, but also to the ambiguity in Edison’s historical long-term effects. In consequence, we cannot make strong predictions for prospective clients about whether they will achieve better long-term results with Edison or with an alternate approach. Nevertheless, Edison’s improving trends are encouraging, and some schools have clearly done well under Edison management, making it clear that Edison is capable of producing favorable results.

Together, our achievement results and our case study observations suggest some actions that Edison and its clients can take to improve the likelihood of successful implementation. We present two
sets of recommendations: one for Edison, and another for district staff and other policymakers considering hiring Edison.

**Recommendations for Edison**

1. **Provide improved support and oversight during the first year.** In conversion schools with pre-Edison achievement data, Edison’s achievement results appear to be weakest in the first year of management, and the case study findings confirm that the first year is difficult. The challenges of the first year were apparent in start-up schools (typically charter schools) and conversion schools (typically district contract schools) alike. Edison provides extensive professional development during the first year as well as in subsequent years, but our interview participants told us they would benefit from additional, ongoing support throughout the first year.

2. **Apply value-added assessment (VAA) methods to benchmark data.** One of the strengths of Edison’s design is its high-quality assessment system for helping principals and teachers track student progress. The benchmark assessments are used not only as a tool to help school staff improve their instruction, but also as a monitoring device to help Edison improve its oversight of and services to schools. To improve the utility of the benchmarks for this latter purpose, Edison should consider applying VAA methods to identify which schools and teachers have been most successful at improving the performance of individual students, and which appear to need more assistance in this regard.

3. **Continue to promote a comprehensive vision of the curriculum.** Although the achievement measures that are typically used to evaluate public schools focus heavily on mathematics and reading, our case study visits provide evidence that schools need not neglect other subjects in order to improve achievement in math and reading. The schools that had the best achievement results typically had strong implementation of the full range of Edison’s broad curriculum.

4. **Take further steps to ensure the development of principals’ instructional leadership skills.** Evidence from the case study schools suggests that principals’ instructional leadership is directly related not
only to effective implementation of Edison curricula but also to student achievement.

5. Avoid compromises to the design that may undermine the professional environment in the schools. The professional environment component of Edison’s school design—its use of house teams, planning time, and on-site professional development—appears to be important, and there is suggestive evidence that its full implementation may contribute to better student achievement outcomes.

Recommendations for Clients and Prospective Clients

1. Manage the transition with care. The first year often presents challenges that hinder effective implementation of Edison’s design, and Edison’s achievement trajectories from pre-Edison baselines suggest that these challenges reduce early levels of student achievement in some schools. Our case studies suggest that some of those challenges (at least in conversion schools) are attributable to local opposition to Edison. District staff (or chartering authority staff, in the Edison schools that are chartered by organizations other than the local district) should work closely with Edison before and during the first year of Edison operation to reduce problems associated with the transition or start-up.

2. Give Edison full authority to implement its design. Implementation of the Edison design is stronger in schools where clients have imposed fewer constraints on Edison’s operation. Moreover, Edison schools operating under more local constraints appear to have lower achievement gains. Edison’s comprehensive approach to school management is designed on the assumption that all aspects of schooling need to be addressed in order to promote real reform. School districts that hire Edison should accept what the contracting model requires.

3. Ensure that teachers and principals support the model. Committed principals and teachers are critical for the effective implementation of the Edison design, and Edison schools should be staffed only with those educators who believe in the approach and want to work toward the goal of fully implementing the model.
4. **Do not expect instant improvement.** In today’s high-stakes accountability environment, district and school staff typically face pressure to demonstrate immediate gains in student achievement. But reforming schools takes time. It is important that everyone involved in the decision to bring in a school management company understand that the desired results might not materialize for a few years.

5. **Develop data systems that facilitate following individual students.** Longitudinal, student-level data are essential for rigorous evaluation of Edison’s effectiveness in individual schools and districts. Such data are not only useful for evaluations of large-scale programs like Edison, but would also be invaluable for districts that want to evaluate their own local initiatives. In addition to promoting better research and evaluation, this type of data system could be used as a resource for teachers and principals who want to use data to inform decisions about curriculum and instruction.

6. **Carefully consider the incentives created by state and local accountability systems.** All public schools are currently facing pressure under NCLB to increase proficiency levels on state achievement tests, and districts often impose their own accountability systems to supplement the state rules. Edison’s accountability system creates additional incentives to raise test scores, but includes other elements of accountability as well. District staff need to understand the pressures facing schools and the extent to which the goals imposed on schools by the state, the district, and Edison are compatible with one another. If undesirable incentives are identified, districts can work to address them through training or through modification of their own approaches for motivating and rewarding school staff.

As the largest private manager of public schools, Edison’s experiences provide a model to help policymakers and members of the public understand the benefits and limitations of nontraditional forms of school management. Interest in alternative management is likely to increase under NCLB as schools and districts that fail to meet their annual targets face some of the more severe sanctions of the law. Our analyses provide evidence regarding what can be expected when schools are turned over to Edison management, both in terms of how the program is implemented in schools and what hap-
pens to student achievement over time. Edison has a comprehensive and ambitious set of strategies for school improvement, encompassing both resources and accountability systems. Successful implementation of the Edison model requires a sustained commitment from clients and hard work from Edison’s school staff, but there is evidence of an eventual benefit: Given sufficient time, achievement trends in Edison schools generally move upward, particularly when the model is faithfully implemented. Whether Edison’s average achievement effects ultimately exceed those of comparison schools is not certain, but the Edison model is capable of producing positive effects: Our case study sample suggests that schools that effectively implement the wide-ranging Edison curriculum, that establish Edison’s professional environment, and that operate with strong instructional leaders under limited constraints have positive achievement results. Given that Edison’s results have not been uniformly positive, the findings of this monograph suggest some actions that Edison and its current and future clients can take to promote greater consistency of results, in terms of both implementation and student achievement.