



Striving for Student Success

The Effect of Project GRAD
on High School
Student Outcomes
in Three Urban
School Districts

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Overview

Project Graduation Really Achieves Dreams (GRAD) is an ambitious education reform initiative designed to improve academic achievement, high school graduation rates, and rates of college attendance for low-income students. Recognizing that high schools inherit problems that have arisen earlier in the education pipeline, Project GRAD intervenes throughout an entire “feeder pattern” of elementary and middle schools that send students into each high school. This report presents results of MDRC’s multiyear evaluation of the effects of Project GRAD on student progress at three high schools in Houston (the initiative’s original site) and at high schools in two other school districts (Columbus, Ohio, and Atlanta, Georgia). A companion report discusses findings for Project GRAD elementary schools in four cities.

Project GRAD schools at *all* levels build support in the community for school improvement and college attendance, implement a classroom management program, provide students with access to needed social services, and receive special support from local Project GRAD organizations. Project GRAD elementary schools implement specific reading and math curricula, along with enhanced professional development for teachers. At the high school level, Project GRAD’s model assumes that better-prepared students would come from the Project GRAD feeder schools, would benefit from special academic counseling and summer academic enrichment in high school, and would qualify for a scholarship to attend college, which is the “cornerstone” of the Project GRAD reform.

The key findings of this report are:

- At Jefferson Davis High School in Houston — the initiative’s flagship school — Project GRAD had a statistically significant positive impact on the proportion of students who completed a core academic curriculum on time. As Project GRAD expanded into two other Houston high schools, these positive effects on students’ academic preparation were not evident.
- Improvements in graduation rates at the three Project GRAD Houston high schools were generally matched by improvements in graduation rates at the comparison schools.
- The Project GRAD high schools in Columbus and Atlanta in the early years of implementation showed improvements in attendance and promotion to tenth grade that appear to have outpaced improvements at the comparison schools, although the differences are only sometimes statistically significant.

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Preface

In the past decade, school districts around the country have sought to improve struggling urban high schools, where high dropout rates, poor student achievement, and low rates of graduation and college-going remain too prevalent. In a field crowded with reform initiatives, Project Graduation Really Achieves Dreams (GRAD) stands out as particularly ambitious, focusing as it does on improving conditions for high school students *before* they even reach high school.

First implemented in one high school in Houston, Texas, in the early 1990s, Project GRAD has evolved into a comprehensive reform model that intervenes throughout an entire “feeder pattern” of elementary and middle schools that send students into each Project GRAD high school. The developers of Project GRAD understand that high schools *inherit* struggling students, making it essential to improve both elementary and secondary schools in order to increase the rates of high school graduation, college-going, and college graduation. Project GRAD combines curricular reforms in the lower grades and the opportunity to qualify for a college scholarship in high school with a classroom management program, access to social services, and efforts to promote parental and community involvement at all grade levels.

With principal support from the Ford Foundation, MDRC has conducted an evaluation of Project GRAD in Houston and several expansion districts. This report focuses on student achievement at three high schools in Houston and at one high school each in Columbus, Ohio, and Atlanta, Georgia. A companion report offers findings on elementary school student achievement in Houston, Atlanta, Columbus, and Newark, New Jersey.

Taken together, the findings from both reports highlight the challenges that urban school districts face in significantly improving the academic performance of high school students. While Project GRAD schools made some significant gains in elementary test scores and for students at the flagship high school in Houston, in other areas they did not outpace the comparison schools, many of which were also engaged in local and districtwide reforms. Project GRAD USA, the dynamic organization that oversees the initiative, has already begun to refine its comprehensive approach to respond to some of the lessons suggested by this unusually rigorous evaluation — namely, the “leaky” nature of many feeder systems, the challenges of bringing reforms to scale, and the importance of taking action at the classroom level to get academic gains. Both the national organization and the local Project GRAD sites deserve credit for submitting their model to a rigorous comparative study.

This evaluation of Project GRAD is only one of several studies that MDRC has recently conducted of high school and district reform efforts, including Career Academies, First Things First, and Talent Development. For more information about MDRC’s education research and to download all MDRC reports, please visit our Web site at www.mdrc.org.

Gordon Berlin
President

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The national evaluation of Project Graduation Really Achieves Dreams (GRAD) benefited greatly from the extraordinary cooperation of the principals, teachers, and students in the study sites. They provided invaluable information during site visits and interviews and through surveys and focus groups. We are deeply grateful for the assistance of the superintendents, the district administrators, and other school staff who participated in interviews and shared important background material. Our work was greatly facilitated by each district's research department that prepared student record data and helped our team build a substantive database as the foundation for this impact study.

We deeply appreciate the assistance provided by the executive directors, board members, and staff of the local Project GRAD organizations and by the staff and leadership of Project GRAD USA. They facilitated site visits, participated in extensive interviews, and included MDRC in training sessions and special meetings, briefings, and conferences. They shared a wealth of background information and helped us keep abreast of new developments. We are especially grateful to Robert Rivera, President and Chief Executive Officer, for his assistance throughout the process, and to James L. Ketelsen for his support and helpful suggestions.

This report also benefited from the assistance of the developers of Project GRAD's components and their staffs, from both the national and the local organizations, and — most important — from the help of the coordinators, facilitators, and managers at the school-building level. We offer a special thank you to Kwame Opuni for sharing information about Houston and its scaling-up efforts and for his insights on the Project GRAD model.

Howard Bloom, MDRC's Chief Social Scientist, provided the technical framework for the evaluation as well as ongoing guidance about the impact analysis. Robert Ivry, MDRC's Senior Vice President for Development and External Affairs, played a major role in shaping the study from its inception, and this report benefited from his insights and guidance. We also thank Judith Gueron, former MDRC president, who provided feedback in earlier phases of the project.

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At MDRC, Vivian Mateo provided research assistance, prepared the tables and figures, and coordinated the production of the report. Mona Grant prepared sections of the report and served as the archivist for implementation data and other source documents. Gordon Berlin, James Kemple, Corinne Herlihy, Amy Rosenberg, Robert Ivry, Charles Michalopoulos, and John Hutchins reviewed drafts of the report. Robert Weber edited the report, and Stephanie Cowell prepared it for publication.

The Authors

Executive Summary

Project Graduation Really Achieves Dreams (GRAD) is an ambitious education reform initiative designed to improve academic achievement, high school graduation rates, and rates of college attendance for low-income students. It is an unusual reform model in that it intervenes throughout an entire “feeder pattern” of elementary and middle schools that send students into each Project GRAD high school. The initiative recognizes that high schools inherit problems that have arisen earlier in the education pipeline, making it essential to improve both elementary and secondary schools in order to increase the rates of high school graduation, college-going, and college graduation.

Project GRAD schools at all levels build support in the community for school improvement and college attendance, implement a classroom management program, provide students with access to needed social services, and receive special support from local Project GRAD organizations. To help students arrive at middle and high school better prepared academically, Project GRAD elementary schools implement specific reading and math curricula, along with enhanced professional development for teachers. At the high school level, Project GRAD’s model assumes that better-prepared students would come from the Project GRAD feeder schools, would benefit from special academic counseling and summer academic enrichment in high school, and would qualify for a scholarship to attend college, which is the “cornerstone” of the Project GRAD reform.

This report describes the effects of Project GRAD on student progress at three high schools in Houston (the initiative’s original site) and at high schools in two other school districts (Columbus, Ohio, and Atlanta, Georgia). MDRC — a nonprofit, nonpartisan research organization — conducted a third-party evaluation to determine the effects of Project GRAD by comparing the changes in student outcomes at Project GRAD schools with changes at similar, non-Project GRAD schools in the same districts. (A companion report discusses findings for Project GRAD elementary schools.)¹ In general, Project GRAD student outcomes are tracked from the implementation of the first components of the model at each site until the 2002-2003 school year. The key findings of this report are:

- **At Jefferson Davis High School in Houston, the initiative’s flagship school, Project GRAD had a statistically significant positive impact on the proportion of students who completed a core academic curriculum on time — that is, received an average grade of 75 out of 100 in their core courses;**

¹Jason C. Snipes, Glee Ivory Holton, and Fred Doolittle, *Charting a Path to Graduation: The Effect of Project GRAD on Elementary School Student Outcomes in Four Urban School Districts* (New York: MDRC, 2006).

earned four credits in English, three in math, two in science, and two in social studies; and graduated from high school within four years.

- **As Project GRAD expanded into two other Houston high schools, these positive effects on students' academic preparation were not evident. Student outcomes at the newer Project GRAD high schools improved, but generally this progress was matched by progress at the comparison high schools.**
- **Improvements in graduation rates at the three Project GRAD Houston high schools were generally matched by improvements in graduation rates at the comparison schools.**
- **Looking at early indicators of student success, the initial Project GRAD high schools in Columbus and Atlanta showed improvements in attendance and promotion to tenth grade that appear to have outpaced improvements at the comparison schools, although the differences are only sometimes statistically significant.**

The remainder of the Executive Summary describes the Project GRAD model and how it was implemented in the school districts, explains how the evaluation was conducted, and summarizes the study's findings and explores their implications.

What Is Project GRAD and How Was It Implemented?

Project GRAD originated in 1993 at Jefferson Davis High School in Houston, Texas, when business leaders sought to increase the rate of college-going among the school's mostly low-income students by offering scholarships to students who qualified. When this offer did not generate a significant increase in high school graduation and college enrollment, Project GRAD was expanded to include school improvement efforts at the associated middle and elementary schools that fed into the high school.

A complex, multilayered initiative, Project GRAD includes a set of core components for all the schools in a feeder pattern as well as components for the schools at each level, as described below. It is important to note that these components were phased in over time at each site.

Components at Project GRAD High Schools

At the high school level, Project GRAD's strategy relies on the *demand push* for change from better-prepared students coming from Project GRAD feeder schools and the *opportunity pull* toward success provided by the promise of the Project GRAD scholarship. Unlike its inter-

vention in the lower grades, Project GRAD at the high school level does not modify the curricula in school, provide substantial professional development for teachers, change the way instruction is offered in the classroom, nor directly address skill deficits of entering students. Instead, it offers two particular components that encourage planning for college, as well as three components that seek to create an environment that is conducive to learning:

- **Project GRAD college scholarships** are provided to students who have a cumulative 2.5 grade point average, graduate within a four-year time period, complete a recommended college preparatory curriculum, and participate in two summer institutes. Scholarship amounts and criteria vary slightly by site but usually average \$1,000 to \$1,500 each year during the four years of college. Each Project GRAD high school has a scholarship coordinator who provides counseling, tutoring, and college admission preparation.
- **Summer institutes** provide an opportunity for qualifying Project GRAD students to experience a college campus-based program taught by college faculty and to enhance their academic skills. The activities vary by site but typically include reading, writing, math, science, enrichment, and remedial activities. The institutes usually consist of four to six hours of instruction and related activities per day for four to six weeks.
- **Parental and community involvement** to engage parents and the community in the work of the schools, build awareness of the opportunity to attend college, and support the learning of students. At the high school level, annual Walks for Success are conducted, in which principals, teachers, Project GRAD staff, and community leaders visit students' homes to explain the program and encourage parents and students to participate.
- **Social services and academic enrichment** through one of two programs — Communities In Schools (CIS) or the Campus Family Support (CFS) Plan (developed by Project GRAD) — which bring additional social services, academic activities, and volunteers into Project GRAD schools to address issues that students and their families face and to build commitment to academic success.
- **Classroom management programs** developed by Consistency Management & Cooperative Discipline (CMCD)SM that are designed to produce orderly classrooms focused on learning, by promoting student responsibility and self-discipline and positive relationships among students, teachers, and other adults in the school.

Components at Project GRAD Elementary Schools

During the time covered by this study, Project GRAD influenced instruction at elementary schools directly by putting in place reading and mathematics curricula. Most Project GRAD sites used Success for All (SFA), a nationally recognized reading program that focuses on the key elements of reading instruction during concentrated instructional time (90 minutes each day), with the goal of bringing students to grade-level reading by third grade. Math Opportunities, Valuable Experiences, Innovative Teaching (MOVE IT™ Math) was Project GRAD's recommended math curriculum. It offers elementary school teachers professional development and instructional materials organized around the National Council of Teachers of Mathematics (NCTM) Standards program, involves heavy use of manipulatives to address a wide variety of learning styles, emphasizes daily problem solving, and introduces algebra in the early grades. (Currently, Project GRAD supports whatever reading and math curricula that participating districts adopt.) In addition, Project GRAD elementary schools also offer the three core components focused on parent and community involvement, social services and academic enrichment, and classroom management.

In 1998, Newark, New Jersey, became the first site outside Houston to implement Project GRAD; Columbus, Ohio, and Atlanta, Georgia, followed soon thereafter. Currently, Project GRAD operates in five feeder patterns in Houston and in 12 school districts and 211 schools in eight states across the country, serving more than 131,000 students. To manage and support each Project GRAD initiative, local not-for-profit organizations were established in Houston and the expansion sites.

Five important points should be noted about the implementation of Project GRAD in the three study sites — Houston, Atlanta, and Columbus:

- **The schools in this study *did* implement the core Project GRAD components and followed the general approach set forth in the model. However, the Project GRAD strategy takes time to unfold; in each site, the various components at all schools were rolled out gradually.**
- **Expansion within the Houston schools and to other school districts stretched the capacity of some program developers to support the model's components and prompted the development of a national organization in 2000 — Project GRAD USA — to sustain implementation efforts and to address implementation issues across sites.**
- **The model's theory presumes that feeder patterns are sufficiently “self-contained” so that better-prepared students would come to Project GRAD high schools from Project GRAD feeder schools. However, the**

feeder patterns in the districts studied were more “leaky” than expected, in part as a result of high rates of student mobility and of policies that allowed students to choose the high school they attended.

- **This evaluation covers a period in which many efforts were being launched in the districts under study to improve student performance, including reforms specifically focused on high schools. Thus, “business as usual” — as represented by the experiences of the comparison schools — was neither static nor absent reforms.**
- **The Houston experience provides the clearest opportunity to examine Project GRAD at the high school level, for several reasons: There was longer and stronger implementation; a greater percentage of students entered the high schools with Project GRAD exposure in earlier grades; and — because of Houston’s earlier start — there were fewer competing high school reform efforts.**

How Was the Evaluation Conducted?

The goal of this evaluation is to understand whether Project GRAD changed the academic outcomes of high school students from what they would have been absent Project GRAD — and, if so, how. To estimate the program’s effect on achievement, MDRC used an approach called “comparative interrupted time series analysis,” which compares the performance of Project GRAD schools with similar schools that have not implemented the reform. The first step in estimating program impacts with this design is to compare the change at Project GRAD schools in a given student outcome after the schools began implementing Project GRAD with the average outcome during a baseline period, before implementation. This estimate represents how student performance changed in the presence of Project GRAD but does not, by itself, provide a measure of the *effect* of Project GRAD. The next step is to measure the corresponding change during the same period for similar schools in the same districts that were not implementing Project GRAD. This measurement provides an estimate of how student performance would most likely have changed at the Project GRAD schools had Project GRAD not been implemented. The *difference* between these two changes is an estimate of the *impact* of the Project GRAD reform — the effects that can be attributed to Project GRAD.

This evaluation examines a number of student outcomes over varying numbers of years, depending on the site. For Houston, the study tracked attendance rates, test scores, promotion rates, credits earned, graduation rates, and the proportion of students completing a core academic curriculum — for up to ten years at Jefferson Davis High School and its comparison schools and for seven or eight years at the two other Project GRAD high schools and their

matched comparisons. For the expansion sites in Atlanta and Columbus, data limitations allowed for only a maximum of three years of follow-up on two outcome measures: attendance rates and promotion rates.

The very nature and complexity of the Project GRAD feeder system intervention, which posits that students would need to be exposed to the program over many years, combined with the limited amount of follow-up in the expansion sites, created a challenging set of conditions for a meaningful evaluation. While the Houston feeder patterns provide a reasonable test of the intervention, the results for Atlanta and Columbus should be treated as more provisional. In addition, because the high school evaluation began concurrently with the implementation of Project GRAD in the expansion site feeder elementary and middle schools, the study was not in a position to capture cumulative effects of students' exposure to the intervention in the earlier grades in those districts. Only in the latter years of follow-up in Houston did this become possible. Finally, findings from the single high schools in Atlanta and Columbus — as well as from Davis High School in Houston — should be interpreted with some caution.

How Did Project GRAD Affect High School Student Outcomes?

The findings from this study — combined with results from the companion report on elementary schools — provide insights into the strengths and limitations that Project GRAD brings to school improvement efforts as well as into the challenges that it still faces. MDRC's elementary school evaluation found that students at Project GRAD schools generally showed as much improvement on high-stakes state achievement tests as students at similar local schools — but *without* suffering the decline seen in comparison schools on national tests, which measure achievement more broadly. This suggests that Project GRAD can modestly improve the academic achievement of students leaving elementary school — an essential element of its strategy to develop better-prepared students entering high school.

The findings from the high school study tell a more complicated story:

- **Focusing on early indicators of high school success (like credits earned and test pass rates in ninth and tenth grades), trends were generally similar and improving at the Project GRAD and comparison high schools in Houston, and any differences in the extent of improvement are not statistically significant.**

For example, average credits earned during ninth-grade and the percentage of students earning an algebra credit in ninth grade generally increased at both Project GRAD and comparison schools. In addition, the percentage of ninth-graders at the Project GRAD and compari-

son schools who took and passed the tenth-grade reading and math portions of the state achievement test increased.

- **At Davis High School in Houston, increases in the percentage of ninth-graders who completed a core academic curriculum on time outpaced increases at the comparison schools. However, this effect did not hold up across the three original Project GRAD Houston high schools as a whole.**

Completing a core academic curriculum on time is defined in this study as graduating from high school within four years; earning four credits in English, three in math, two in science, and two in social studies; and maintaining an average grade of 75 out of 100 in core classes. During the baseline period at Davis High School, 9 percent of first-time ninth-graders met these requirements. In the years following Project GRAD's implementation, the percentage of ninth-graders meeting these criteria at Davis increased by 12 percentage points, to 21 percent. This exceeds the progress at the comparison schools, which improved from 11 percent during the baseline period to 17 percent by the end of the follow-up period. The gain at Davis represents a statistically significant positive effect of nearly 7 percentage points. When the results from Davis are pooled with the results from the other two high schools in Houston, however, improvements at Project GRAD and comparison schools are very similar.

- **Project GRAD does not appear to have had an independent effect on the percentage of ninth-graders who later graduated from a Houston high school. At both the Project GRAD and the comparison schools, the graduation rate slowly improved over the period of the study, but any differences between schools in the extent of improvement are not statistically significant.**

In this study, the graduation rate was defined as the proportion of first-time ninth-graders who graduated four years later. Although graduation rates improved at both Project GRAD and comparison high schools in Houston, the majority of ninth-grade students in any particular follow-up year did not graduate within the next four years.

- **Neither Atlanta nor Columbus has operated the program enough years to assess its effects on graduation rates or completion of a core academic curriculum, but early indicators suggest that Project GRAD may have had a positive influence on two precursors to graduation.**

The initial Project GRAD high schools in Columbus and Atlanta showed improvements in attendance and in promotion from ninth to tenth grade that appear to have outpaced improvements at comparison schools, though the differences are only sometimes statistically significant.

What Are the Implications of These Findings?

What accounts for this pattern of findings? The evidence points to at least two hypotheses. First, it may be more difficult than expected to quickly improve the academic performance of incoming high school students by intervening in feeder schools — a core tenet of Project GRAD’s strategy. The implementation research highlights the fact that the Project GRAD strategy takes considerable time to unfold. In addition, it turns out that the feeder patterns for the high schools in this study were “leaky” — as a result of high rates of mobility and school-choice options, many students in the Project GRAD high schools had not benefited from exposure to the model in elementary or middle school. For example, after ten years of program implementation in the Davis High School feeder pattern, the *average* pre-high school exposure to Project GRAD for incoming ninth-graders was approximately 4.5 years. In addition, by Year 6 of implementation across the three Houston high school feeder patterns, when ninth-grade students could have had up to five years of Project GRAD exposure in earlier grades, they had had only three years on average. Therefore, a considerable proportion of ninth-grade students in the Project GRAD high schools had not been exposed to Project GRAD in earlier grades, and among those students who *had* pre-high school Project GRAD exposure, many did not receive the full treatment.

Second, other research has zeroed in on the crucial transitions that students must make as they enter high school, particularly on the central role that completing ninth grade on time plays in a student’s eventual completion of high school.² Being “on track” at the end of the first year of high school is a stronger predictor of eventual on-time graduation than a student’s entering achievement level is.³ One explanation for the lack of impacts by Project GRAD on most ninth- and tenth-grade measures (and perhaps on graduation rates) could be the initiative’s lack of a direct intervention in ninth-grade instruction during the time period covered by the study. On the other hand, while Project GRAD did not produce improvements in graduation rates, its services were able to affect the course-taking of students at Davis High School who were already headed toward graduation. The scholarship requirements, counseling on the best academic preparation for college, and social service supports are likely reasons for the impacts on the academic preparation of graduates at the flagship high school in Houston.

What do these findings mean for the future of Project GRAD? Given Project GRAD’s long-view strategy of developing better-prepared students in feeder schools, this evaluation of its high school intervention has come relatively early in its development, particularly in the expansion sites outside its home district of Houston, where high school students would not have had the opportunity to participate in Project GRAD in earlier grades. At the same time, the mar-

²Janet Quint, *Meeting Five Critical Challenges of High School Reform: Lessons from Research on Three Reform Models* (New York: MDRC, 2006); Melissa Roderick, *Closing the Aspirations-Attainment Gap: Implications for High School Reform. A Commentary from Chicago* (New York: MDRC, 2006).

³Roderick (2006).

ketplace in which Project GRAD operates is highly competitive. Local decision-makers, who face intense pressure to improve high schools quickly, are weighing the long-term Project GRAD strategy against other reforms that intervene more directly in the daily educational experience of high schools — many of which have not taken on a comparative study like this to understand their own added value.

One of the key implementation findings of MDRC’s study is that Project GRAD is a dynamic organization that has responded to operational lessons and research evidence to modify its strategy over time. In fact, it has already begun to refine its high school approach to address some of the challenges suggested by this evaluation, including the effects of “leaky” feeder patterns, of the relatively slow rollout of the components of the Project GRAD intervention, and of the difficulties of transforming high schools without directly intervening in the classroom.

A recent study identifies “twin pillars” of successful high school reform efforts: personalizing the learning environment and improving instruction.⁴ Project GRAD’s high school intervention appears to focus more on the first pillar. To accomplish its goals of improving academic achievement, high school graduation rates, and rates of college attendance for low-income students, Project GRAD may need to make a strategic choice: to intervene directly in classrooms (on its own or in partnership with curricular reformers) or to target high schools where curricular reform is already under way and where Project GRAD’s services and scholarship offer would provide added value.

In many ways, Project GRAD’s multifaceted strategy was ahead of its time, prefiguring a variety of current reform approaches. The focus on the full span of grades, the connection to postsecondary education, and the need to work above the level of individual schools are now appreciated as important aspects of many district-level reforms. Project GRAD now has the opportunity to build on its strengths, incorporate additional components into its strategy to address its weaknesses, and develop strategic partnerships with other complementary school improvement efforts to create the next generation of its reform model.

⁴Quint (2006).

Chapter 1

What Is Project GRAD?

Introduction

Project Graduation Really Achieves Dreams (GRAD) is an education reform initiative that targets a high school and the middle and elementary schools that feed into that high school. It combines a number of reforms with the objectives of increasing reading and math achievement test scores, improving classroom behavior, providing a safety net for students to help reduce dropout rates, and increasing rates of college enrollment and graduation for students at risk. The initiative originated at Jefferson Davis High School in Houston, Texas, and subsequently expanded to other high school feeder patterns in Houston and in other school districts across the country, including the two expansion sites included in this evaluation: Atlanta, Georgia; and Columbus, Ohio.¹ This report provides an overview of Project GRAD's approach at the high school level and describes the experiences and findings at the first high schools to implement Project GRAD in Houston and at the high schools in the early expansion sites.

Project GRAD is intended to improve student outcomes and close the academic achievement gap between low-income and minority students and their more advantaged counterparts. The mission of Project GRAD is to ensure a quality public school education for all children in economically disadvantaged communities, so that high school graduation rates increase and students are prepared to enter and graduate from college. Specifically, Project GRAD has two goals: (1) to ensure that 80 percent of all entering ninth-graders in its high schools graduate and (2) to ensure that 50 percent of Project GRAD high school graduates go on to college.

Originally built around a college scholarship offered to high school students who qualified, Project GRAD has evolved into a "feeder pattern" approach to improving education: Special attention is given to the elementary and middle schools that feed into an individual high school. In a clear break from attempts at systemic reform that assume that school-by-school transformations will eventually reach all children, Project GRAD targets an entire feeder pattern, seeks to be involved academically with students from preschool through high school (and for the four years of college), and aims to influence the school staff members whom students

¹Project GRAD USA (a national nonprofit organization that coordinates the initiative) now works with 12 districts, including rural sites in Alaska, and anticipates that several additional districts will join the initiative soon. Currently, 211 schools and over 131,000 students are part of a network that includes 21 high schools, 34 middle schools, and 149 elementary schools. (Alaska's Kenai Peninsula has 7 schools that contain both elementary and secondary grades.) Project GRAD Ohio is a special statewide effort in which four of the state's largest districts are implementing the initiative.

encounter from school to school and from grade to grade. The initiative has adopted this approach for several reasons:

- Project GRAD seeks to affect the prospects of large numbers of students and thus must move beyond small-scale reforms in which results might be seen as the product of unusual circumstances in a school or of the individual efforts of exceptionally talented principals and teachers.
- High student mobility among schools in the districts where Project GRAD operates puts a premium on consistency in the educational approach across those schools.
- Project GRAD is based on the ideas that early-grade curricular components will produce a core of solid basic skills that are needed for high school success and that successive cohorts of students who have stronger skills will both allow and push high schools to build challenging curricula. Over time, the students entering high school will be at grade level in reading and math and will become accustomed to high expectations; schools thus can expand their curricula to include more college-preparatory and advanced-placement offerings.

The Project GRAD Theory of Change

Although Project GRAD is ultimately a high school reform effort, many of its strategies focus on the lower grades, to prepare students to be more successful once they reach high school. At the elementary level, Project GRAD focuses on mathematics and literacy as two core components. *MOVE IT™ Math* (a K-8 program) is the preferred math program, and *Success for All (SFA)* is the reading program in most Project GRAD schools (Pre-K-5).² Combined with a classroom management component — *Consistency Management & Cooperative DisciplineSM (CMCDSM)* — and a social service/parental involvement component (either *Communities In Schools [CIS]* or the *Campus Family Support [CFS] Plan* developed by Project GRAD) that operate in all grades, the curricular components lay the foundation for anticipated longer-term results. (Box 1.1 explains Project GRAD’s operational strategies, and Box 1.2 describes its core components across all grades.)

In its theory of change, Project GRAD hypothesizes that the model’s components at the elementary and middle school levels will create an improved educational climate and better

²SFA has also developed a middle school component that is used in some Project GRAD sites.

Box 1.1

Project GRAD's Operational Strategies

- **Creating a school and classroom environment that is conducive to learning.** Project GRAD is typically introduced in schools that have discipline problems, weak student engagement, and a low sense of efficacy and pessimism about the possibility of academic success. Project GRAD feeder patterns are frequently described as those serving the lowest-performing high schools and/or many of the most troubled elementary schools. In response, Project GRAD seeks to address students' social service needs and strengthen school-community linkages (through *Communities In Schools [CIS]* or *Campus Family Support [CFS]*), promote student self-discipline and engagement (through *Consistency Management & Cooperative DisciplineSM [CMCDSM]*), and create excitement about the possibility of going to college (through a scholarship offer and summer institutes on college campuses and special Project GRAD activities such as the *Walk for Success*). The annual Walk for Success — which includes visits to the homes of students in the feeder pattern by school staff and community representatives — is sponsored each year by the local Project GRAD office to build awareness of the scholarship offer and the goals of the initiative and to encourage parental involvement. Both CIS (or CFS) and CMCDSM are offered at all grade levels. Any high school student who meets Project GRAD's requirements can receive a scholarship, which is publicized in elementary and middle schools as well, to help improve students' (and teachers') motivation and to foster a sense of the possibility of real change.
- **Strengthening opportunities to learn.** Low student achievement is often one reason that a district or group of schools adopts Project GRAD. Typically, an early goal of the initiative is to strengthen instruction in the lower grades, to help improve the basic academic skills of students and to prepare them for the secondary grades. Key Project GRAD components focus on reading (typically, *Success for All [SFA]*) and mathematics (preferably, *MOVE ITTM Math*) in grades 1 through 6, to provide students with the skills they need to succeed in other subjects and in later grades. SFA has pilot-tested a middle school program in some Project GRAD sites, and MOVE ITTM Math has expanded to the middle school grades.* The use of these middle school curricular components has varied from site to site. The summer institutes for high school students (some of which are residential) also provide an opportunity to address specific skills gaps and to enrich the educational offerings in the Project GRAD schools.

(continued)

Box 1.1 (continued)

- **Enhancing school-level capacity for management and implementation.** In each Project GRAD site, a *local nonprofit organization* is formed to support the implementation of the program through the feeder pattern(s) and to coordinate with the local district. Project GRAD works with the existing students, school staff, and organizational structure; it does not require that the district reassign, alter, or adjust basic assets to implement the initiative. The local organization works with staff at the district and school-building level to implement the various components effectively, and it plays a key role in building local support for the initiative, by developing strategic partnerships with other institutions and by fundraising. Project GRAD's outreach activities help foster higher community expectations for reform and school improvement. Although the degree to which the local organizations are connected to the school district varies, a partnership with the district is an important element in the Project GRAD implementation strategy, even though the local organizations are viewed largely as independent catalysts supporting improvement in the Project GRAD schools. The *national Project GRAD organization* — Project GRAD USA — provides technical assistance, coordinates component service delivery, develops new components and approaches, and provides funding support to the local organizations. Project GRAD USA also regularly convenes the Project GRAD network of districts and administrators that are implementing the initiative.

*When districts do not implement SFA or MOVE IT™ Math in Project GRAD feeder patterns, Project GRAD endeavors to support or supplement the district's curriculum choice. Typical reading support, for example, might include reading consultants or a reading manager for each school, along with special training and materials.

classroom instruction.³ Indicators of success in inducing the intended changes in students' educational experiences include reduced discipline referrals and suspensions, improved attitudes toward school, higher expectations, improved attendance, greater time on task, and increases in the school's offering and the students' completing more demanding courses. These changes, in turn, are expected to lead to improved student achievement in elementary and middle grades, as indicated by higher achievement test scores and greater numbers of students performing at grade level. Such improvements in achievement are also expected to further improve the schools' climate and instruction. The feeder-based activities of Project GRAD — its academic

³See Project GRAD USA (2004b, 2004c).

Box 1.2

The Core Components of Project GRAD

- **The Project GRAD college scholarship.** The program's offer of a college scholarship is often referred to as the cornerstone of Project GRAD because it most directly represents the ultimate goal of the initiative: increasing student enrollment and success in college. Through this component, Project GRAD seeks to raise the academic expectations of students in grades K-12* by providing a financial incentive and college awareness, preparation, and recruitment activities. Scholarship amounts and criteria vary slightly by site but usually average \$1,000 to \$1,500 each year during the four years of college. Project GRAD scholars are high school youth who sign a contract to document their intent to meet the program's scholarship criteria.† The Project GRAD scholarship coordinator is a critical part of the high school features of the initiative. The coordinator serves as a college access counselor for potential Project GRAD scholars and provides counseling, tutoring, college awareness, and college admission preparation.
- **Summer institutes.** This component provides an opportunity for Project GRAD scholars to experience a college-campus-based program taught by college faculty and to enhance their academic skills. The institutes vary by site but typically include reading, writing, math, science, and enrichment and — as needed — remedial activities. The summer institutes typically include four to six hours of instruction and related activities per day for four to six weeks.
- **Classroom management.** Consistency Management & Cooperative DisciplineSM (CMCDSM) is a classroom management and discipline program that seeks to build student support for classroom management, responsibility, and self-discipline by promoting cooperative learning and positive working relationships among students, teachers, and other adults in the school. It moves beyond the traditional concept of student discipline as a set of adult responses to a student's negative behavior to offer a comprehensive classroom management program that is intended to build a shared sense of responsibility among students and adults in the building. CMCDSM is put in place in all grades at the Project GRAD schools.‡
- **Social services and parental involvement.** Communities In Schools (CIS) is a national program that brings additional support (that is, volunteers, social services, and academic enrichment and support activities) directly into schools. It is implemented in all grades at Project GRAD schools. In some sites, each school has a full-time CIS

(continued)

Box 1.2 (continued)

staff person. This component seeks to enhance social and academic support services that are available through the school and to provide targeted assistance to students who have problems outside school that may affect their classroom performance. A key objective of Project GRAD's focus on community involvement is to build family aspirations for academic success and college-going. The range of activities may include guidance counseling, community outreach, and family case management. For school districts that do not have an existing CIS program, Project GRAD USA, the national coordinator for the initiative, has developed the Campus Family Support (CFS) Plan, which contains similar elements. Coordinated by staff from either CIS or CFS, Project GRAD conducts an annual Walk for Success, during which students' homes are visited by the program's staff, district staff (including principals and teachers), and community leaders, who explain Project GRAD and the scholarship offer and encourage parents to connect with their child's school.

- **A research-based literacy program.** A reading program is put in place in the Project GRAD elementary schools. Most but not all sites use Success for All (SFA), a nationally recognized reading program that promotes comprehensive restructuring of most school resources to provide concentrated instructional time for reading (90 minutes per day), to bring students to grade level in this subject area by the third grade.
- **A research-based math curriculum.** This component is also put in place in the elementary schools. Project GRAD's preferred math curriculum is Math Opportunities, Valuable Experiences, Innovative Teaching (MOVE IT™ Math), which is a K-8 professional development program that advocates math instruction based on the use of manipulatives to address a wide variety of learning styles. It emphasizes daily problem solving and introduces algebra in the early grades.

*In some sites, Project GRAD also operates in pre-K classes.

†Project GRAD's college scholarships are for students who have a cumulative 2.5 grade point average, graduate within a four-year time period, complete a recommended college preparatory curriculum, and participate in two summer institutes that are designed to expose students to an enhanced curriculum while introducing them to college.

‡Project GRAD USA now has an agreement with CMCDSM that allows it to manage the component at each site after two and a half years of implementation.

support, social services, parental involvement, and community outreach — are geared to motivate students and to build the community’s expectations for school reform.⁴

The momentum created by improved student achievement at the lower grades is hypothesized to drive up achievement at the high school level as well, particularly as better-prepared students’ performance in existing courses improves and creates demand for higher-level courses. Better-prepared students also result from the improved motivation caused by Project GRAD’s scholarship offer, which is emphasized to students and their parents beginning in the earliest grades. When students reach the high school level, the offer becomes a more immediate reward: the opportunity to earn a scholarship to go to college. Improved student achievement then produces more students who are able to complete a college preparatory curriculum and more who complete high school, go on to college, and earn a postsecondary degree. Figure 1.1 presents the sequence of high school effects that Project GRAD intends to produce.

Description of the Project GRAD High School Program

At the high school level, Project GRAD consists of the following components:⁵

- **The college scholarship offer.** To make college enrollment and completion more realistic for low-income students and their families — who may have had little exposure to college — the Project GRAD college scholarship program offers high school graduates \$1,000 to \$1,500 (depending on the Project GRAD site) for each of the four years of college. The scholarship offer is often referred to as the cornerstone of Project GRAD, because it most directly represents the ultimate goal of the initiative: increasing students’ enrollment and success in college. Students and their families in the elementary and middle schools are made aware of the scholarship offer, and it is frequently used as a motivational tool and combined with other activities to foster college awareness. At the high school level, efforts to emphasize the scholarship are intensified. Ninth-graders at Project GRAD high schools can choose to sign a “contract” expressing their commitment to strive for the scholarship, and they are

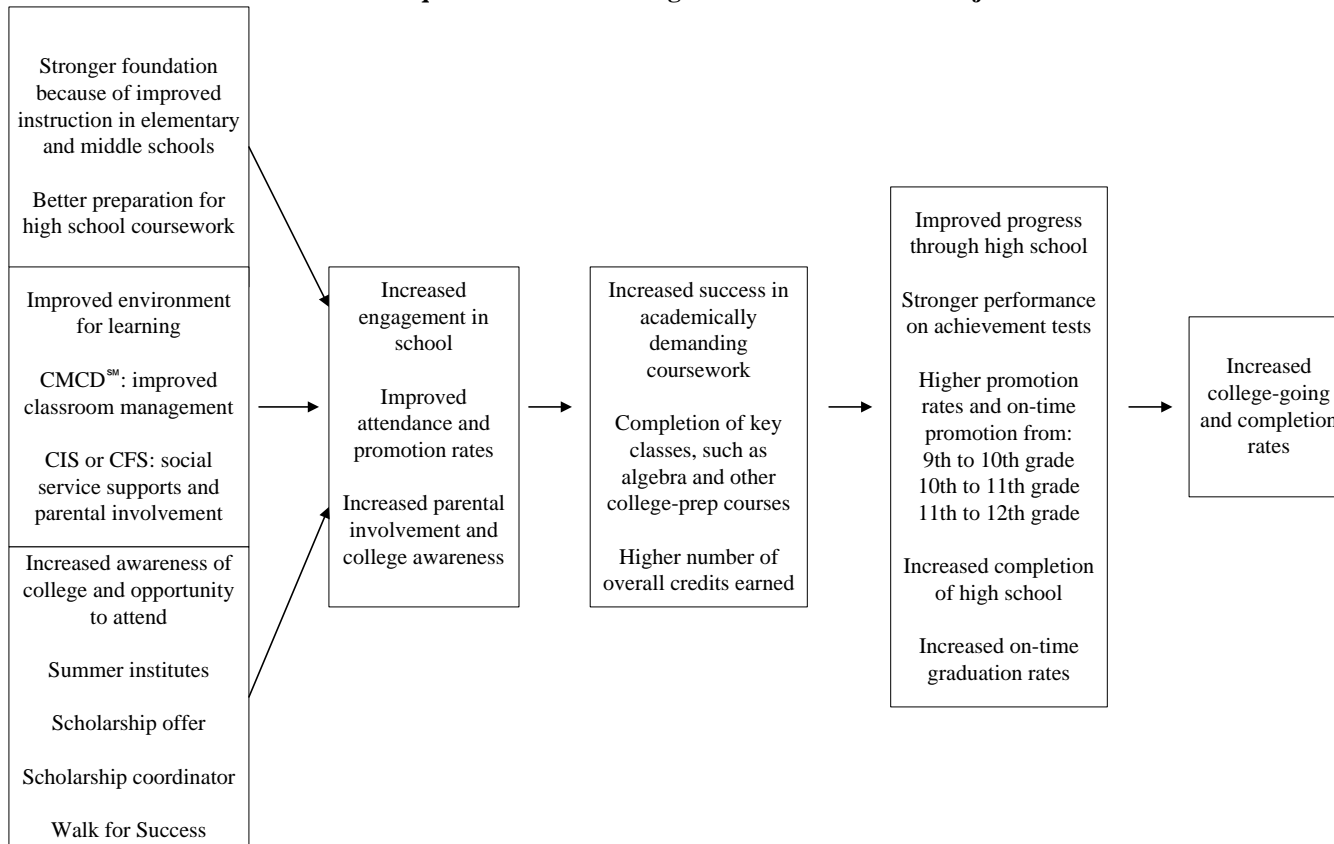
⁴For a description of the development of Project GRAD, see Holland (2005).

⁵For additional information about the program’s components at the elementary school level, see Snipes, Holton, and Doolittle (2006). In addition, *New Site Development Handbook* (Project GRAD USA, 2004a) details the program’s components and outlines the process and requirements that potential sites must follow in order to become a Project GRAD site. The handbook includes information about the high school program and which elements need to be put in place to support it.

The Project GRAD Evaluation

Figure 1.1

The Sequence of Intended High School Effects from Project GRAD



then designated as “Project GRAD scholars.” To be eligible for the scholarship, these students must graduate on time from a Project GRAD high school, have at least a 2.5 grade point average, attend at least two summer institutes, and complete the district’s college preparatory courses.

- **The scholarship coordinator.** The coordinator works with the Project GRAD scholars to ensure that they are on track for graduation and that they meet the scholarship criteria. The coordinator also helps encourage students to sign up for the scholarship and identifies additional scholarships and financial aid that might be available. The social services and parental involvement component of Project GRAD (described below) also provides a range of additional supports for the scholars, such as tutoring, career counseling, and college awareness activities. Unless a scholar enrolls in the military, he or she has only one year after graduation to enroll in a college, a university, or an accredited degree-conferring institution.
- **The summer institutes.** Targeted to Project GRAD scholars in the tenth and eleventh grades, the summer institutes are held on college campuses, and classes are usually taught by college faculty. Some sites have offered residential programs. For four weeks, Project GRAD scholars are exposed to a range of college experiences, and — depending on their individual needs — they receive remediation and/or academic enrichment. The institutes’ curricula vary by site but typically include reading, writing, math, science, and enrichment activities. Some summer institutes provide stipends, and some have been coordinated with summer work programs. In some sites, participating in other established summer programs that are also focused on college preparation may be substituted for the Project GRAD summer institutes.
- **The social services and parental involvement component.** Initially, Project GRAD’s service component was Communities In Schools (CIS), a national program that brings additional support (including volunteers, social services, and academic enrichment activities) directly into schools. Typically, CIS is implemented in all grades at Project GRAD schools and seeks to enhance their social and academic support services and to target assistance to students who have problems outside school that may affect their classroom performance. Project GRAD USA — the national coordinator of the initiative — has developed the Campus Family Support (CFS) Plan, which includes similar elements for school districts that do not have a CIS program. CIS or CFS plays a critical role at the high school level, where such support services as mentoring, tutoring, and special activities and positive connec-

tions with a caring adult can all serve as elements of an important safety net. Typically, each Project GRAD high school is assigned a full-time CIS or CFS staff person, and some schools have additional staff.

- **The classroom management component.** Consistency Management & Cooperative DisciplineSM (CMCDSM) seeks to build student support for classroom management, responsibility, and self-discipline by promoting cooperative learning and positive working relationships among students, teachers, and other adults in the schools. CMCDSM is put in place in all grades at the Project GRAD schools. At the high school level, discipline and safety issues are frequently serious concerns, and — by setting a code of conduct and establishing uniform procedures for how classrooms operate — CMCDSM seeks to ensure that disruptive behavior does not take time away from instruction.
- **The Walk for Success.** Project GRAD views parental involvement as a critical ingredient in the success of students and schools. Recognizing that an integral part of making college “real” to young people is working with parents to ensure that they are engaged in their child’s schooling and that they fully understand the scholarship opportunity, each Project GRAD program holds an annual Walk for Success, which is usually spearheaded by CIS or CFS staff. On a designated day, volunteers visit the homes of families in the school’s neighborhood to explain the Project GRAD initiative and its scholarship offer and to encourage students in the appropriate grades to sign up. Typically, the Walk for Success becomes a galvanizing force for the school community, and it is not uncommon for elected officials, major funders, members of parent-teacher organizations, community leaders, and the district’s leadership and school’s staff to participate. In addition to securing a signed commitment from parents and students, volunteers conduct a survey of parents to learn which information, workshops, or continuing education classes they would like to have to help them better educate their children.

Against this backdrop of program components, the “scholars” in a typical Project GRAD high school are periodically convened for special activities and for motivational support, and, in many regards, they become an identified group within the school. Their grade point averages are routinely checked; the forward progress of individual students is celebrated; and students and their families are kept informed of their standing with regard to meeting graduation requirements and the scholarship criteria.

At times, Project GRAD has coexisted or worked collaboratively in the same high school building as other reform models or approaches, including block scheduling, grade-level

academies, the Talent Development High School model, the Gates small schools initiative, and High Schools That Work. However, the high schools in the Project GRAD network have no required curricular components that are elements of the initiative.⁶ Over time, individual sites have implemented a range of enhancements at the high school level, including technical assistance to the schools, professional development for teachers, and new academic offerings.

High schools in the Project GRAD network also benefit from the structural components that are integral to the initiative's approach:

- As the initiative is phased in and students move from grade to grade, the high school in the feeder pattern will receive students who, over time, have benefited from Project GRAD's curricular components in the early grades.⁷
- Project GRAD high schools receive technical support from both the local and the national Project GRAD organizations, benefiting from their efforts to foster community involvement and constituency support for school reform and to collaborate and build relationships with business, funding, and higher education partners.
- The initiative's commitment to work with the students, teachers, and administrators who are already in the school building minimizes disruption and allows for a faster transition to Project GRAD, since neither students nor teachers need to be reassigned.

Key Questions Addressed in This Report

This report grows out of MDRC's independent third-party evaluation of Project GRAD. The evaluation initially focused on the early expansion sites but eventually came to include a retrospective analysis of the early feeder patterns in Houston, the flagship district. The companion report from this evaluation analyzes the effects of Project GRAD on elementary students' outcomes.⁸ The present report focuses on Project GRAD's high school components and what

⁶Project GRAD has recently initiated an enriched academic high school model (currently in the pilot-testing phase) that includes (1) a summer program for students who are about to enter the ninth grade, to strengthen their math and literacy skills and to introduce them to the requirements of high school; (2) remedial and/or advanced work in literacy or math during the school year; and (3) pre-advanced placement courses, advanced placement courses, and support activities for such examinations as the American College Test (ACT), the Preliminary Scholastic Assessment Test (PSAT), and the Scholastic Achievement Test (SAT).

⁷Typically, when Project GRAD begins implementation, the cohort of entering ninth-graders is eligible for the scholarship, even though these students were not exposed to the program's components in the elementary and middle grades.

⁸See Snipes, Holton, and Doolittle (2006).

has been learned so far about the program's effects on student outcomes at three high schools in Houston and at one high school each in Columbus and Atlanta, two of the expansion sites.⁹

The evaluation focuses on the following questions:

- How do key high school student outcomes change at Project GRAD high schools in the years following the program's implementation?
- How do the changes in student outcomes at Project GRAD high schools compare with the changes at similar high schools from the same districts over the same time period?

Inasmuch as the period of Project GRAD's implementation in Houston permits a longer-term analysis than is possible for the expansion sites, the evaluation focuses on a variety of outcomes, from early indicators of high school success (such as ninth-grade attendance and ninth- to tenth-grade promotion and the earning of algebra credits) to ultimate indicators of success (such as high school graduation rates and the completion of a core college preparatory curriculum). Because follow-up data in the expansion sites are more limited, the analysis focuses on early outcomes in high school as precursors to graduation.

Topics Addressed in This Report

This report builds on and extends to the high school level the descriptions of the Project GRAD model that are presented in MDRC's companion report on the implementation of Project GRAD at the elementary school level in Houston and in the early expansion sites. Chapter 2 presents Project GRAD's evolution and the implementation experience at Jefferson Davis High School in Houston, to provide information on how and why the reform was developed and on changes in the first site, which led to the subsequent expansion efforts. Chapter 2 also describes the implementation efforts at high schools in the expansion sites, Columbus and Atlanta. Chapter 3 describes the analytic approach to the study and presents the estimated effects of the program on student outcomes, including graduation rates, at the Project GRAD high schools in Houston. Chapter 4 describes the estimated program effects on early indicators of high school success in Columbus and Atlanta. Chapter 5 concludes the report by summarizing the findings across sites and placing them in the broader context of education reform and efforts to improve outcomes for high school students.

⁹The initial expansion sites were Newark, NJ; Columbus, OH; Los Angeles, CA; Nashville, TN; and Atlanta, GA. Los Angeles is not included in this analysis because the district's data system does not provide the historical information required by the study's methodology. Nashville is no longer a Project GRAD site. The lack of appropriate and reliable data prevents similar analyses for Newark, the first expansion site.

Chapter 2

The Implementation of Project GRAD at the High School Level

The Evolution of the Project GRAD Model

Although the effort to reform what was to become the first Project GRAD high school in Houston dates back to a 1982 partnership between the Houston Independent School District (HISD) and the business community, the comprehensive reform framework that became Project Graduation Really Achieves Dreams (GRAD) did not emerge until the 1993-1994 school year. The initiative was first implemented in the Jefferson Davis High School feeder pattern — that is, a cluster of elementary and middle schools that feed into the high school; these schools primarily serve Hispanic students. Based on encouraging results in this first feeder pattern, Project GRAD expanded to other feeder patterns within the HISD. Currently, five of the district's feeder patterns use Project GRAD as their reform strategy.

The educational challenges that confronted Jefferson Davis High School prior to Project GRAD were considerable.¹ An assessment using the Iowa Test of Basic Skills (ITBS) indicated that 50 percent of the 1982-1983 graduating class were performing at more than four years below grade level.² The Jefferson Davis Educational Collaborative — the precursor to Project GRAD — was spearheaded by the CEO of Tenneco, James Ketelsen, with the hope of improving students' interest in school, their academic performance, and the proportion of graduates who attended college. Initial elements of this early program included the provision of adult mentors and tutors for students and awards of \$2,500 per year for two college-bound graduating seniors.

In school year 1983-1984, Tenneco's commitment to the reform effort facilitated the addition of on-site social support services through Communities In Schools (CIS) and a summer jobs program for students who were at risk of dropping out of school. In 1985, an annual sum-

¹On the eve of Project GRAD's initiation in the 1993-1994 school year, levels of academic performance and discipline in the Davis feeder pattern's middle schools and high school were generally very low. For instance, among sixth-graders at Marshall Middle School who took the Norm-Referenced Assessment Program for Texas (NAPT), only 11 percent scored at or above the 50th percentile of national scores in reading, and only 20 percent did so in mathematics. Among eleventh-graders at Davis High School, 10 percent scored at or above the 50th percentile on the NAPT in reading, and 36 percent did so in math. In addition, Marshall Middle School — with a total enrollment of 1,100 students — experienced 300 out-of-school suspensions, 13 expulsions, and 280 grade-level retentions (24 percent) in 1993-1994. Furthermore, it was ranked lowest of the HISD's 34 middle schools on the state's basic skills test, the Texas Assessment of Academic Skills (TAAS). Such low performance could not be blamed entirely on instruction at the secondary level but also reflected curriculum deficiencies in the feeder system's elementary schools (Opuni, 1999).

²Opuni (1995).

mer program in leadership training and character development was initiated for selected Davis High School students. In 1988-1989, the scholarship component was expanded to provide an annual \$1,000 college scholarship — sponsored by Tenneco — for four years for each college-bound graduating senior who met the program’s eligibility rules.

When the college scholarship offer did not generate a substantial increase in high school graduation and college attendance, Ketelsen expanded the effort further, to include the associated elementary and middle schools that fed into Davis High School and to combine additional reforms: a math and a literacy component in the lower grades and — in all grades — a classroom management program and the social services and community involvement component. This combination of reforms was intended to increase the chances that students could take advantage of the opportunity provided by the college scholarship.

Importantly, Project GRAD breaks away from the school-by-school approach used by many reform models and instead targets feeder patterns. In so doing, the initiative seeks to implement a set of reforms that follow students from the elementary grades through the end of high school. The Project GRAD model simultaneously offers support to students at all grade levels, even if they have not had the benefit of the initiative in their earlier years. In an effort to “work with the existing assets,” Project GRAD is implemented with the students, administrators, and teachers who are already in the schools.³

As with many reform strategies, Project GRAD’s principles were crafted in fairly broad terms at the outset and then were refined to reflect early operational experiences and lessons. The model is not based on one specific educational philosophy or pedagogical approach but, rather, combines existing program components and complementary operational strategies that are backed by research and/or experiential support. As such, the initial choice of components was more pragmatic than theory-driven, as compared with other reform approaches. As Project GRAD has matured, it has continued to develop and refine both its general approach and the individual components of the model.

Milestones in Project GRAD’s Implementation

Jefferson Davis High School officially became the flagship of the Project GRAD initiative in 1993-1994.⁴ The Tenneco scholarship offer was in place as the core component, and CIS — the social service and family support component — was also in place.⁵ Consistency Man-

³See Project GRAD USA (2004b, 2004c).

⁴To capture the point at which all the elementary schools were implementing a Project GRAD component, the analysis uses 1994-1995 as the first follow-up year.

⁵The scholarships were in place since 1988-1989. CIS began at Davis in 1983-1984, but funding from Project GRAD began in 1995-1996 (Opuni and Ochoa, 2004).

agement & Cooperative DisciplineSM (CMCDSM), a classroom management program developed by the University of Houston-Central Campus, was pilot-tested at the Project GRAD elementary schools earlier, but it did not begin at Davis High School until 1996-1997.

Project GRAD began in the Jack Yates High School feeder pattern, which primarily serves African-American students, with the announcement of the scholarship offer in the 1996-1997 school year. Initially, the Yates scholarships were called the Conoco and the James P. Grizzard Scholarships. Although CIS began in 1999-2000⁶ for the entire Yates feeder pattern, the high school itself has not implemented CMCDSM. Phillis Wheatley High School was the third high school to implement the initiative; it announced the Project GRAD scholarships in the 1997-1998 school year, and the other components of the model followed over the next several years. CIS began at Wheatley High School in 1999-2000, and CMCDSM began in 2002-2003.

Project GRAD is coordinated by the Houston-based Project GRAD USA, a not-for-profit organization that came into existence as the initiative's expansion effort began to gain momentum. This national organization is separate from Project GRAD Houston, the local not-for-profit organization that manages implementation in Houston.

The implementation of Project GRAD in other school districts began in the 1998-1999 academic year as the initiative expanded to Newark, New Jersey — and, in quick succession, to Los Angeles, California; Columbus, Ohio; Nashville, Tennessee; and finally Atlanta, Georgia. This report focuses on the expansion efforts in Columbus and Atlanta as a means of highlighting the opportunities and challenges of replicating the Project GRAD model in other school districts.⁷

Project GRAD Columbus

Project GRAD Columbus began in the fall of 1999, a time frame in which two other expansion sites, Los Angeles and Nashville (which are not part of this study), also began implementing the program. Coupled with the addition of new feeder patterns in Houston, the expansion sites placed added stress on the capacity of Project GRAD Houston and its component providers to support local implementation. Lacking today's tools designed by Project GRAD USA to guide new sites in the implementation process, Columbus had to rely on the experiences of other sites and on visits to Houston to understand how to launch the initiative.⁸ The feeder pattern in Columbus consists of 12 schools: a high school, 4 middle schools, and 7 elementary schools.

⁶The Project GRAD scholarship for the Yates feeder pattern was announced in the 1996-1997 school year. CIS received support from Project GRAD beginning in 1999-2000 (Opuni and Ochoa, 2004).

⁷The choice of expansion sites included in this report was driven by the availability of the historical data required for the analysis.

⁸See *New Site Development Handbook* (Project GRAD USA, 2004a).

Project GRAD's emergence in Columbus coincided with intense community pressure to keep open the doors of what would become the city's first Project GRAD high school. Despite a rich history in the city, Linden-McKinley High School struggled with declining enrollments and many of the issues endemic to urban schools. A new principal and administrative team were brought in; staff members were reconstituted; the building was renovated; and the high school and its feeder schools were designated as Project GRAD schools in the fall of the 1999-2000 school year. The maximum enrollment capacity of Linden-McKinley High School was about 1,500 students, but it enrolled only a little more than half. The student body, although largely African-American, includes many refugees from Africa — most notably, from Somalia.

Based on students' low scores, the school district in Columbus was identified by Ohio's statewide performance accountability system as a district in "academic emergency." This designation requires a district to develop a continuous improvement plan, and the district is subject to monitoring and intervention by the state's Department of Education and must adhere to annual progress guidelines. Columbus is also a district that for many years operated under a citywide school desegregation plan that resulted in considerable reassignment of students.

Project GRAD was brought to the Columbus school superintendent by a local philanthropist who became the chair of a small Project GRAD board and a key voice in developing the local not-for-profit organization. As it developed the relationship with the school district, Project GRAD Columbus benefited from the strength of its sister organization, I KNOW I CAN™ (IKIC), which was created in 1988 with the mission of encouraging students to stay in school and pursue a college education.⁹ However, Project GRAD Columbus struggled to develop its own organizational framework. Staff were lent from the district or had dual roles in the district and, in later years, were shared with IKIC — all of which, at times, resulted in competing priorities. Project GRAD scholars in Columbus have the opportunity to receive support both from the program and from IKIC, and the work of IKIC's volunteers in the high school complements the mission of Project GRAD.¹⁰ At the same time, Project GRAD has had to address the challenge of positioning the initiative as the effort of a distinct organization.

"Student advocates" from the Communities In School (CIS) program were first placed in Linden-McKinley High School in the fall of 1999. Although CIS existed in Columbus prior to Project GRAD, it was a small organization that brokered services, rather than providing services directly to students in schools, as envisioned in the Project GRAD model and as has traditionally occurred in Houston. Student advocates play many roles in their respective buildings,

⁹IKIC provides Last Dollar Grants (up to \$1,200 annually) for college to every qualified graduate of the Columbus School District.

¹⁰IKIC volunteers are present at Linden-McKinley High School, where they make classroom visits to promote postsecondary education options and counsel students individually in preparation for the college application process. Volunteers also recruit students for the summer institutes.

but their principal goals include reducing the rates of absenteeism and tardiness and increasing the level of connections between home and school. At times, the heavy emphasis on student attendance constrained the efforts of CIS in other areas. A strong theme in Project GRAD's early implementation period related to concerns about the CIS organization's ability to provide staff training and needed administrative support for the student advocates and for its ability to provide services within the context of Project GRAD. Because CIS Columbus had not heretofore managed a large staff nor deployed staff to schools, Project GRAD Columbus played a significant role in guiding the orientation, planning, training, and monitoring functions for CIS advocates in Project GRAD schools. The Walk for Success (see Box 1.1 in Chapter 1) — with CIS staff playing a key role — has been held successfully three times and has received favorable attention from the city, the district, and the local media.

In January 2001, the implementation of Consistency Management & Cooperative DisciplineSM (CMCDSM) began in three of four middle schools and in the high school. Support for CMCDSM was reasonably strong at the high school in the beginning stages of implementation, but enthusiasm waned somewhat due to what staff described as the prevalence of “elementary school” strategies in this component and in the programming for staff development. As a result, Project GRAD Columbus developed methods to address these issues and to strengthen implementation, coupled with refinements by the developer.¹¹

A summer institute that was pilot-tested for students in the summer of 2001 at Ohio State University was able to attract only a small number of students, followed by a larger program the next summer. The important position of scholarship coordinator was not filled until the fall of 2001.

The student assignment plan in Columbus differs significantly from the feeder pattern, or “pipeline,” model by which Project GRAD is usually organized in Houston. The Columbus district has an “open enrollment” policy, which means that students from Project GRAD elementary and middle schools do not necessarily feed into Linden-McKinley High School.¹² As a result, students who are enrolled at the four Project GRAD middle schools may apply to attend any high school in the district. Therefore, implementation of CMCDSM — a key intervention of

¹¹For a description of how the CMCDSM component was refined, see Holland (2005).

¹²Parents may elect to send their children to schools other than the assigned “home school” by participating in a lottery — held each February for the following school year — for both conventional and alternative schools. There are six community centers serving geographical regions within the district. Parents may enter the lottery to send their children to schools in the region where they live (under the “Community Choice” program) or to schools outside the region (under the “intradistrict Open Enrollment” program). Students also have the option of attending one of the district's four alternative high schools, four alternative middle schools, twenty alternative elementary schools, and two K-8 language-immersion schools. The district provides transportation for students who live more than 2 miles from their school.

the program at the high school — is affected both by the level of its implementation at the Project GRAD middle schools and by the inclusion of high school students who came from non-Project GRAD middle schools and thus were not exposed to CMCDSM earlier. This is particularly important, because CMCDSM is the anchor component of Project GRAD at the high school, which has implemented only CIS and the scholarship program.

Although there is strong community support for Linden-McKinley High School — and support has grown since a new principal and staff were put in place — it is not uncommon for students who live nearby to attend other high schools. Most important, not all students who eventually attend Linden-McKinley will have had the benefit of the program's components in the lower grades and, consequently, will not have the full Project GRAD experience. Faced with the demand to rapidly improve the high school's academic climate, the principal endorsed Project GRAD and its systemic theory of change (in which the most intensive efforts are at the elementary school level) but also recognized the need to broaden the academic improvement strategies at the high school.

Finally, the experience of Project GRAD Columbus in attempting to expand to a second feeder pattern illustrates the difficulties confronting the site. In 2002, Project GRAD held an initial vote on whether to implement the program throughout the Marion-Franklin High School feeder pattern. Though most of the schools did vote to adopt the program, enough of them did not, and the measure did not pass. Marion-Franklin rejected Project GRAD. However, in January 2003, Columbus subsequently added Marion-Franklin High School and 10 elementary and middle schools as its second feeder pattern.

Project GRAD Atlanta

Project GRAD was introduced to Atlanta by the district's new superintendent, who had supported the initiative's inception while serving as the state-appointed superintendent in Newark, New Jersey. The superintendent's vision of reforming Atlanta Public Schools included the expansion of Project GRAD to additional feeder patterns and the district's eventual takeover of program operations. This was underscored by including the executive director of Project GRAD Atlanta (the not-for-profit organization that manages the site's implementation) in executive cabinet meetings. The first feeder pattern was selected based on a combination of two factors: choosing the most needy set of schools, as determined by low test scores, and choosing a set of schools that had strong leadership at the high school level. The Booker T. Washington High School feeder system was one of the lowest-performing academically but was perceived as hav-

ing strong leadership at the high school. The feeder pattern consists of a high school, nine elementary schools, and two middle schools.¹³

Booker T. Washington High School predominantly serves African-American students and was the first all-black high school in the Atlanta Public Schools system. For many years, it was seen as the best African-American high school in the system, enjoying a strong reputation for student achievement and having principals who were revered. The high school has a rich history; the notables who either attended or graduated from it include Dr. Martin Luther King, Jr.; Dr. Louis Sullivan, former Secretary of Health and Human Services; and Robert Gibbs, the first African-American to enter and graduate from Harvard University. The high school is also near Atlanta University Center, where the following Historically Black Colleges and Universities are located: Clark Atlanta University, Morehouse College, Morris Brown College, and Spelman College.

In a major push to combat students' poor academic performance, Booker T. Washington High School began implementing a number of special programs prior to Project GRAD, including Students for Teaching Careers and Academic Readiness (STAR), the Business Technology Center, and the Culinary Arts Academy (with a noted student-run restaurant). The high school also has a health clinic. Offerings in advanced placement courses were expanded to include Literature, History, Chemistry, Biology, Calculus, and Pace Setter courses (which feed into advanced placement courses) in math, English, and Spanish. Washington High School and the other comprehensive high schools in Atlanta were also part of the High Schools That Work initiative.

Communities In Schools (CIS) officially began at the Project GRAD Atlanta schools in the 2000-2001 academic year. In October 2000, CIS staff members were placed in the schools, and planning and training were done quickly to accommodate an aggressive implementation timetable. Building an understanding of how CIS was expected to function in the context of Project GRAD was an important part of the early focus on strengthening implementation. Project GRAD Atlanta's first Walk for Success occurred at Booker T. Washington High School in January 2001.

Beginning in the 2000-2001 academic year, the Project GRAD scholarship program became available to all entering ninth-grade students in the high school, and a scholarship coordinator was hired to operate from an office there.¹⁴ During the summer of 2001, the site had its

¹³One issue associated with this feeder pattern is that, traditionally, 50 percent of the students who attend Sylvan Hills Middle School go on to attend Terrell High School instead of Booker T. Washington High School.

¹⁴The Project GRAD scholarship is the second major scholarship offer available to students in Atlanta. The Georgia Lottery for Education funds the HOPE (Helping Outstanding Pupils Educationally) Scholarship Program. If high school students in Georgia graduate with an academic average of B or higher (a grade point average of at least 3.0), they are eligible for this scholarship, which may be used at public technical colleges and eligible public or private colleges and universities in Georgia. The scholarship pays tuition and mandatory fees not covered by other federal grants, and recipients also get a book allowance of up to \$100 per quarter. (continued)

first summer institute, and over 130 students from Booker T. Washington High School attended the session for four weeks at Clark Atlanta University. Since its inception, Project GRAD Atlanta has placed considerable emphasis on building strong ties with the local institutions of higher education and on building partnerships with business and the community.

Consistency Management & Cooperative DisciplineSM (CMCDSM) was introduced at the high school through an awareness training workshop held in the fall of 2001 and through various training sessions offered during the school year. The site had initially hoped to begin its overall implementation of Project GRAD with CMCDSM, but the implementation schedules across all the initiative's sites could not accommodate that. Atlanta's implementation began during the 2002-2003 school year and drew some initial feedback that some of the classroom management strategies were better suited for students in earlier grades.

Project GRAD Atlanta has worked diligently to develop a strong presence within the community, and its ties to higher education have helped position the initiative in a high school that has many other programs and services in place and where it might otherwise have been less visible.¹⁵ In 2004, Atlanta's first class of Project GRAD scholars graduated 136 students — or 23 percent of the senior class.

Key Accomplishments of Implementation

Although implementation of the high school program was not problem-free, Project GRAD can be credited with several important accomplishments that helped undergird the implementation efforts in Houston, Columbus, and Atlanta:

- Across the Project GRAD high schools in the study, substantial numbers of principals and teachers were systematically trained to implement the program's classroom management component and, as a result, have learned new skills and an approach that — in most cases — has begun to permeate other school activities and assemblies outside the classroom.
- Project GRAD's focus on providing in-school social service assistance and other supports to youth who need them has given these high schools a more accessible and more expedient mechanism to address students' issues and problems that otherwise might interfere with the learning process. A variety of activities and strategies are being employed to connect with students and

The scholarship is renewable each year, if the student maintains a cumulative grade point average of 3.0 for coursework attempted. Project GRAD Atlanta scholars may be eligible for both scholarships.

¹⁵In the 2002-2003 school year, Project GRAD Atlanta expanded to include the Carver High School and South Atlanta High School feeder patterns.

their families. Also, through such activities as the Walk for Success, Project GRAD has devised meaningful ways to engage parents and community members in school improvement efforts.

- Project GRAD has helped these high schools focus on student achievement as a critical marker of their progress. Program staff have placed a premium on data analysis — to understand and track students' progress toward meeting graduation requirements and to improve grade point averages, achievement levels, and other student outcomes. Most important, students have gained an awareness of college requirements and have received a variety of support activities to help them gain access.
- Project GRAD has been able to coexist with other education strategies and reforms within the same high school building, demonstrating that the initiative has the flexibility needed to complement a variety of approaches. The implementation experiences have shown that schools do not have to undergo a significant realignment of staff, students, or other programs in order to become a Project GRAD high school.
- Project GRAD's scholarship offer and the emphasis on college-going at the critical ninth-grade transition point have helped students believe that college is within their reach and have helped them understand the pathway to get there. Each year, a growing number of students sign a Project GRAD contract, attesting to their commitment to meet the scholarship criteria.
- Having met the scholarship requirements, Project GRAD scholars have now graduated from each of the high schools in the study, and many have gone on to college — one of Project GRAD's highest-priority goals.

A Framework for the Impact Analysis

Chapters 3 and 4 discuss the impacts of Project GRAD on a set of key student outcomes, first in Houston and then in Columbus and Atlanta. The preceding discussion of the implementation of Project GRAD across those sites provides the context in which one must understand the impact analysis. The following observations about the implementation of Project GRAD provide a critical framework for that discussion and for the conclusions and implications explored in Chapter 5.

- **The nature of the differential impact test varies across the sites in this study.**

The impact analysis seeks to isolate the effects of Project GRAD at the high school level over and above the effects of other efforts and reform models that were used to improve student outcomes at the comparison schools in the study's sites. To do this, the analysis includes trends in student outcomes at the Project GRAD high schools *and* trends at similar comparison high schools, recognizing that many of these schools were also using specific reform models. The period of this evaluation was a time of many different efforts to improve students' academic outcomes, including efforts targeted specifically to the high school level. Thus, "business as usual" in the districts in this study was not an absence of reform activity or a static school improvement landscape; typically, many changes and other school improvement efforts were under way.

Both the comparison schools and the Project GRAD schools received support for improvement from the district level, partly in response to state and (recently) federal pressures. All the high schools and districts in the impact analysis faced academic challenges to improve, which drove their interest in Project GRAD as a reform initiative. But it appears that the district-level push for improvement played out somewhat differently across the sites and over time. Thus, in each site, student outcomes at the comparison schools are crucial to the analysis because they represent the likely trends in the absence of Project GRAD.

Further, the Project GRAD high schools varied somewhat in the combination of efforts that were in place. In Columbus, the implementation of Project GRAD occurred simultaneously with a major revamping of Linden-McKinley High School, and the initiative served as one of several levers for change. In Atlanta, Project GRAD joined several other reform efforts already in place at Booker T. Washington High School, but the initiative benefited from the district's strong support and positioning of Project GRAD as an important element in its school improvement plan. In Houston — partly because implementation began earlier — there were fewer existing high school reform initiatives, though some other, complementary efforts were present at Jefferson Davis High School.

It is also important to remember that the strength of Project GRAD's implementation varied across the sites. During the period covered in this analysis, the program's implementation in Houston was generally strong (acknowledging the difficulties of working in large urban school districts and low-performing schools). The expansion high schools in Houston benefited from the close oversight of the initiative's founder, from their familiarity with Project GRAD as it was developing at Davis High School, and from the proximity of the model's component developers.

- **Results must be interpreted in light of each site's stage of program implementation.**

By presenting the impact analysis at this point in the initiative’s timetable, this report is depicting Project GRAD’s effects at the high school level partway through an effort to put the program fully into place in some of the expansion sites: The model’s components were coming on-line in a phased-in approach and being strengthened, and students were working their way through elementary schools and middle schools that feed into the Project GRAD high schools. By the start of the follow-up period, this analysis begins to look at high schools as Project GRAD rolls out its components. This means that not all components are in place at the *beginning* of any follow-up period, and although all the components may technically be in place by the end of the follow-up period at the expansion high schools, they have not yet had much time to work together as a combined initiative, are still being refined and strengthened, and may not yet have developed their full momentum. This fact is important in interpreting the findings, but it does not suggest that analysis should be delayed until the program is fully in place in all the sites. Project GRAD’s gradual rollout of components and its focus on improvements in the early grades (to position students to take advantage of the college scholarships) contrast with other school reforms that more directly tackle the educational problems in high schools and more quickly push reforms into grades 9 through 12. The Project GRAD approach is based on an argument that such an investment of effort over time will provide substantial payoffs in the long run. So the findings here — especially related to sites other than Davis High School — should be seen as part of an effort to track the early stages of this theory of action and as early results.

- **Feeder patterns vary in the extent to which they are “self-contained,” which complicates the challenges for Project GRAD.**

This analysis treats Project GRAD as an intervention that operates at the level of schools and feeder patterns, and it tracks the initiative’s effects on students’ academic performance over time. The Project GRAD theory of action presumes that feeder patterns are sufficiently self-contained so that improvements at the elementary schools feeding into middle and high schools can change the educational outcomes at those schools. Yet two factors at the high school level in urban school districts can undermine this design assumption: student mobility and school-choice options. As an illustration, among Newark’s first-graders in the early 1990s who attended schools that later became Project GRAD schools, only 10 percent to 15 percent were attending the program’s designated high school in the ninth grade, and only about 50 percent to 60 percent of ninth-graders in this high school had attended a “Project GRAD” elementary or middle school. The Columbus school district — which provides many school-choice options at each level (elementary, middle, and high school) — presents a similar challenge for Project GRAD’s implementation.

To the extent that feeder patterns are not self-contained, many students leave Project GRAD elementary schools prior to the transition to Project GRAD secondary schools, and significant num-

bers of students in those secondary schools do not come from Project GRAD elementary schools. Depending on the extent of such factors, the reform faces challenges in implementation.

Thus, the experience in Houston provides the clearest opportunity to examine Project GRAD at the high school level, for several reasons: the longest period of implementation, the “cleanest” system of assigning students to feeder patterns, and, in general — because of the program’s earlier start — fewer competing high school reform efforts. Although Atlanta and Columbus provide important opportunities to examine early experiences with Project GRAD, it is clear that those programs are at an earlier stage of development, which must be reflected in the types of student outcomes that are chosen for the analysis.

Chapter 3

The Impacts of Project GRAD on High School Outcomes in Houston

The typical urban school district has many reforms in place. Comprehensive school reform models (which intend to change entire schools) have recently been the most common response to concerns about student achievement in urban schools and school systems.¹ School districts also often implement a variety of initiatives that are intended to improve teaching and learning across their entire school systems. As the discussion in Chapter 2 indicates, the districts in which Project Graduation Really Achieves Dreams (GRAD) were implemented were no exception. During the period of implementation, most of these districts were attempting some kind of systemic reform. While such districtwide reforms were not always directed at the high school level, it was often the case that high schools with greater proportions of disadvantaged and minority students were, in fact, participating in a variety of reform efforts.

Therefore, the central concern for evaluators of Project GRAD — as is generally the case regarding any school reform effort — is really one of *differential* impacts. Reform efforts are not costless; they take financial, management, teaching, and political resources. Therefore, this analysis does *not* ask, “What is the effect of Project GRAD on student outcomes versus doing nothing?” Rather, this evaluation focuses on understanding whether Project GRAD leads to larger, similar, or smaller improvements in student outcomes than strategies that would have been in place if Project GRAD *had not been implemented*. In this analysis, the comparison is made between Project GRAD and the alternatives being tried in similar schools in the districts where Project GRAD was being implemented.

Project GRAD’s ultimate goal is to increase high school graduation rates and college success among disadvantaged and minority students who might not otherwise succeed. Ideally, it would be best to measure Project GRAD’s effects directly on all these outcomes. For a variety of reasons (for example, the stage of implementation, limits of available data), it is not feasible to follow an appropriate sample of Project GRAD and comparison students for a long enough period of time to collect reliable data on longer-term outcomes related to *college* success.² Therefore, this analysis focuses on effects on key steps along the way to college success: pro-

¹See, for example, Bifulco, Duncombe, and Yinger (2005).

²In particular, in order to accurately assess the effects of Project GRAD on college success, a study would need to follow a sample of Project GRAD students *and* a sample of comparison students — most likely from similar high schools within the same district or districts — through the end of high school and several years after scheduled graduation, in order to assess postsecondary education outcomes among a representative sample of program and comparison students.

motion or retention in the ninth grade, credits earned in high school, and — if enough time has elapsed — completion of a core academic college preparatory curriculum and graduation from high school. Box 3.1 lists the student outcomes examined in Chapters 3 and 4.

For example, good attendance, on-time promotion from the ninth to the tenth grade and credits earned in particular classes are key predictors of on-time graduation.³ In Houston — Project GRAD’s flagship site — and to a lesser extent in Atlanta and Columbus, program effects on these key predictors of high school success can be estimated. In Houston, where earlier implementation of the initiative provides a longer track record to evaluate, it is possible to estimate Project GRAD’s impact on high school graduation rates as well as on some indicators of readiness for college.

The Project GRAD theory of action rests, in part, on the improved academic preparation of students who reach high school. Even in Houston, where implementation began in the Jefferson Davis High School feeder pattern in 1993-1994, this aspect of the program is not yet fully in place. An evaluation at this point seems timely, however, given that the program has been in place for more than 10 years and that local policymakers and practitioners (for example, school superintendents) rarely have more than just a few years to evaluate academic improvement initiatives. Yet it is worth noting that this evaluation cannot rule out the hypothesis that findings would change over an even-longer follow-up period, giving Project GRAD high school students a chance to have received more of the intervention earlier in the feeder pattern. To gain insights into whether Project GRAD could alter the flow of better-prepared students into the ninth grade, the analysis, when possible, explores whether the feeder pattern into the Project GRAD high school is clearly defined. This may provide suggestive information on the longer-term improvements that could result from better-prepared students’ arriving at the Project GRAD high schools.

In general, the analysis in this evaluation focuses on two questions:

- How do key high school student outcomes change at Project GRAD high schools in the years following the program’s implementation?
- How do the changes in student outcomes at Project GRAD high schools compare with the changes at similar high schools from the same districts over the same time period?

The next section of this chapter describes the analytic approach used to make these comparisons, illustrating how the analysis is designed to focus on the effects of Project

³See Kemple and Herlihy (2004) and Kemple, Herlihy, and Smith (2005).

Box 3.1

Definitions of Key Student Outcomes

Atlanta, Columbus, and Houston

Attendance

- **Attendance rate:** The total number of days during a school year that a student was marked as present divided by the total number of days that the student was listed as being enrolled. In Atlanta, the attendance rate was the number of days present divided by 180 days.
- **Regular attendance:** Having an attendance rate of 90 percent or higher for the year.

Enrollment Status

- **Promotion:** An indicator of whether a student was in the next grade by the end of the following year. By looking ahead one year, it is possible to determine whether a ninth-grade student was enrolled in the tenth grade by the end of that year or was repeating the ninth grade.

Houston

Course Credits Earned

- **Total credits earned:** A cumulative total of all the credits that a student earned over the course of the first year of high school — all the credits earned in a student's ninth-grade year.
- **Earned a credit in algebra:** A designation, based on a student's high school transcript, indicating that the student completed and passed an algebra course.

Tenth-Grade TAAS Scores

- **Pass rate:** An indicator of whether a student passed the test, based on a passing score of 70 on the Texas Learning Index (TLI). This definition applies to both the math and the reading portions of the TAAS.
- **Took and passed the test the next year:** An indicator of whether a ninth-grade student took and passed the test the following year (and was in the tenth grade on time).
- **Didn't take the test on time:** An indicator of whether a ninth-grade student took the test on time the following year.

(continued)

Box 3.1 (continued)

Graduation

- **Graduated on time:** An indicator of whether a ninth-grade student graduated three years later from a school in the district. The data make it possible to follow a student over time and to observe whether the student graduated three years after being enrolled in ninth grade.
- **Ever graduated:** An indicator of whether a student ever graduated from a school in the district, looking ahead at least three years.
- **Completed a core academic curriculum on time:** An indicator of whether a student met three criteria: (1) graduating on time from a school in the district; (2) having a grade point average above 75 in the core academic subjects of math, English, social studies, and science; and (3) completing a core academic curriculum consisting of three math credits, four English credits, two social studies credits, and two science credits.

GRAD at the high school level by addressing possible explanations for changes *from sources other than Project GRAD*.⁴

This analysis focuses on ninth-grade students as they enter high school beginning with the first year of Project GRAD implementation. In the first year of implementation, there was no opportunity for a student to have been exposed to Project GRAD at the elementary or middle school levels. As the evaluation extends into the follow-up period, the expectation is that greater Project GRAD exposure through the feeder pattern would yield increasing impacts.

The remainder of the chapter then presents findings from these comparisons in the Houston Independent School District (HISD), where Project GRAD model was first implemented and where there are currently five Project GRAD high schools. This analysis focuses on the first three high schools (Davis, Yates, and Wheatley) because the timing of Project GRAD's implementation at these schools allows for somewhat longer experience with the program and more years of follow-up. This provides the fairest possible test of Project GRAD's effects. The analysis also presents the estimated effects for Davis High School itself. While it is difficult to draw statistical inferences from any one school, the longer-term patterns (10 years) at this flagship school may have implications for the Project GRAD model's potential to effect change.

⁴As discussed later, these include other districtwide initiatives; changes in the composition of the student population; and the effects of local, state, or federal accountability systems.

Focusing on the three original Project GRAD high schools in Houston, this chapter addresses the two questions posed above with respect to ninth-grade attendance and promotion rates, course-taking patterns, on-time graduation rates, and college readiness, as captured by on-time completion of a core academic curriculum. Chapter 4 focuses on Project GRAD's effects on early indicators of success at high schools in two of the early expansion sites, Columbus and Atlanta.

Key Findings

The analysis of the initiative's effects at the first three Project GRAD high schools in Houston suggests several conclusions.

- **Student mobility and enrollment patterns meant that feeder patterns were not as airtight as initially expected. Even after 10 years of program implementation in the Davis High School feeder pattern, the average pre-high school exposure to Project GRAD was approximately 4.5 years.**
- **Focusing on early indicators of high school success reveals that trends were generally upward and similar at the Project GRAD and comparison high schools and that any differences in the extent of improvement are not statistically significant.**
- **Project GRAD does not appear to have affected the percentage of ninth-graders who later graduated from an HISD high school. At both the Project GRAD and the comparison schools, this graduation rate slowly improved over the period of the study, and any differences in the extent of improvement are not statistically significant.**
- **At Davis High School, increases in the percentage of ninth-graders who completed a core academic curriculum on time outpaced increases at the comparison schools, though this effect did not hold up across the three original Project GRAD Houston high schools as a whole.**

The Analytic Approach

This analysis relies on individual student records obtained from each school district in this study. Staff in the three districts (in Houston, Columbus, and Atlanta) provided data on every student in every school, from several years before Project GRAD was implemented in each district through the spring of 2004. The resulting database across the three districts encompasses 21 high schools and includes information on individual students' performance on the assessments administered in each district as well as data regarding students' race/ethnicity, en-

rollment status, and (sometimes) eligibility for free or reduced-price lunch and their status as an English language learner. Importantly, the database links students over time as well as to the particular schools they attended.

The most challenging aspect of evaluating Project GRAD or any similar reform is determining what would have happened *in the absence of the program*. In the literature of program evaluation, this is often referred to as the “counterfactual.” The most reliable technique for establishing the counterfactual is the *random assignment* of students or whole schools to a treatment group that has access to the program or to a control group that does not. However, in the case of Project GRAD, the feeder-pattern design of the intervention and the fact that implementation had begun prior to the evaluation makes random assignment impossible.

Therefore, an alternative approach is needed in order to estimate the outcome levels that what would have been observed in the absence of the program. To accomplish this goal, the analysis in this report applies an “interrupted time series” (ITS) approach with comparison groups.⁵ This approach relies on the pre-Project GRAD history of student outcomes at the Project GRAD schools as the first stage in predicting the performance levels that would have been observed in the absence of the program. The basic logic of the approach is that — absent any special educational intervention or change in the school’s student body — the best predictor of future educational outcomes in a given school is the history of student outcomes in that same school. The approach therefore rests on two comparisons, discussed below.

Comparison 1 — Deviation from the Baseline Average: The difference between baseline student outcome patterns at Project GRAD schools and actual student outcome patterns in the years following program implementation

While improvement over baseline patterns in a set of program schools is a first step in the analysis, it does not necessarily represent a “Project GRAD” effect, because there could be other explanations for this improvement. In particular, an important possible competing explanation for an observed change could be local events *other than Project GRAD* that affect student outcomes. If, during the same period as the particular program under study, there are major changes in the local context that are unrelated to the program (such as district-level initiatives, new state standards, or changes in curriculum), these changes could drive — in part or even completely — the improvements at the Project GRAD schools. Looking only at the changes in student outcomes at the Project GRAD schools does not make it possible to determine how much of any observed change from baseline patterns results from Project GRAD and how much is generated by changes in other local circumstances. Since reform is the rule rather than the

⁵For more detail on this approach and the manner in which it was applied to the evaluation of Project GRAD, see Snipes, Holton, and Doolittle (2006) and Snipes (2003).

exception in urban school districts, it seems particularly important to account for this phenomenon in the evaluation of Project GRAD.

The primary mechanism for addressing this issue is to add comparison schools from the same local context to the analysis. In particular, by comparing the deviations from baseline patterns at Project GRAD schools with the deviation from baseline patterns at a set of comparison schools from the same district, the analysis seeks to “net out” the effects of other local events that coincided with Project GRAD. This approach adds a second comparison to the analysis.

Comparison 2 — Difference in the Deviation from the Baseline Average:

The *difference* between the deviation from the baseline patterns at Project GRAD schools and the deviation from baseline patterns at a set of carefully selected comparison schools from the same district⁶

If the amount of improvement in student outcomes since program implementation (that is, the deviation from the baseline) at the program schools is different from the amount of improvement at the comparison schools over the same time period, this is evidence that the program had an impact on student performance over and above the effects produced by other local events. If, on the other hand, the improvements in student outcomes relative to the baseline are similar at both sets of schools, this suggests that the program did not have an effect on student outcomes *over and above the effects of whatever reforms were present at the comparison schools or in the district as a whole.*

Choosing Comparison Schools

As discussed in Appendix C, comparison schools are included in the analysis in order to provide an estimate of the progress that would have occurred at the program schools without Project GRAD. Therefore, the goal was finding a set of schools from the same district that, in the absence of any intervention, would be expected to perform similarly to the Project GRAD schools. The approach to selecting comparison schools used here once again rests on the logic that the most accurate predictor of a school’s future performance is its prior performance. With that in mind, schools’ prior achievement levels were an important criterion for choosing comparisons schools.

Even with histories of similar student outcomes, schools that serve very different student populations might be expected to evolve differently over time, particularly in response to local events or district policies. Moreover, findings are more credible when comparisons have what the evaluation literature calls “face validity,” so the approach seeks comparison schools

⁶For details see, Bloom (2003) and Snipes (2003).

that serve similar “types” of students and that also exhibit similar student outcomes as the Project GRAD schools.

With these priorities in mind, for each Project GRAD school, the analysis identified a set of comparison schools from the same district that were similar in terms of:

- Average performance on standardized achievement tests in the years immediately preceding program implementation
- The percentages of students in key demographic groups⁷

In most cases, this process resulted in several comparison schools for each Project GRAD high school. While there were minor variations across sites to account for data limitations and other circumstances, this approach was used to estimate program effects for the Project GRAD high schools in Houston as well as in Columbus and Atlanta (see Appendix C).

Addressing Changes Over Time in Students’ Characteristics

The analysis also addresses another possible competing explanation for changes in student outcomes: changes in the characteristics of students who are served by each school. Students’ characteristics at entry into high school are a predictor of success, so changes over time in their characteristics could produce changes in average student outcomes. In order to reduce any distortion created by such changes, the estimates of program effects control statistically for variation over time in such student characteristics as overage for grade and race/ethnicity.⁸ The most noticeable change in student characteristics occurred at Davis High School, where the percentage of students overage for ninth grade declined from about 75 percent at the baseline to about 50 percent by the end of the follow-up period. At Davis’s comparison schools, the decline was from about 70 percent to 60 percent.

⁷In Houston, the comparison high schools were limited to (1) those at which the average scores on the Texas Assessment of Academic Skills (TAAS) in the years immediately preceding Project GRAD’s implementation were within 0.25 standard deviation of the Project GRAD school in question and (2) those at which the percentage of students in the modal racial/ethnic group at the Project GRAD school was within 20 percentage points of the percentage of students in the same group at the comparison schools. For example, if black students made up the largest racial/ethnic group at the Project GRAD school, then comparison schools were limited to those at which the proportion of black students was within 20 percentage points of the proportion at the Project GRAD school.

⁸In the Houston study, data limitations make it impossible to adjust the analysis to account for the percentage of students who were economically disadvantaged. Usually, this is measured by students’ eligibility for free or reduced-price lunch. However, over the period of the analysis, the percentage of students for whom these data were missing changed substantially (from nearly 100 percent in some early years to under 5 percent in later years), making it impossible to determine the meaning of the percentage of students reported eligible. It is impossible to know how this might affect the results, but the available evidence suggests that if there is a bias, it is in favor of finding effects for Project GRAD.

The remainder of this chapter presents the results of the analysis of Project GRAD's effects on high school outcomes in Houston. Chapter 4 examines the effects at high schools in Columbus and Atlanta.

Project GRAD's Effects in Houston

This section first describes the Project GRAD and comparison schools used in the analysis and then examines students' enrollment in Project GRAD elementary and middle schools before reaching high school — a measure of prior exposure to the initiative's educational services and an element of its theory of action. The section next examines the impact of Project GRAD solely at Davis High School (following most outcomes through 10 years after the program was implemented) and then across the three Project GRAD high schools in Houston, for which six years of implementation and follow-up data are available.

As discussed in Chapter 2, the initial framework of the Project GRAD effort actually began to emerge at Jefferson Davis High School in 1988. However, the implementation of the model's components as they now exist began in earnest in the 1994-1995 school year. Project GRAD was implemented next at Jack Yates High School in the 1996-1997 school year and then at Phillis Wheatley High School in the 1997-1998 school year.⁹ The analysis that follows focuses on understanding the effects of Project GRAD at these three high schools through the spring of 2004. Focusing on average effects at these three schools as a group provides a total of seven years of follow-up data across all three high schools.¹⁰

Baseline Characteristics at Project GRAD and Comparison Schools

The student populations at the high schools served by Project GRAD Houston and the patterns of student outcomes in the year immediately preceding the program's implementation can be characterized as follows:

- Davis High School served a slightly higher percentage of Hispanic students than the comparison schools chosen for this analysis, but Davis and the comparison schools exhibited similar levels of academic performance in the years immediately preceding Project GRAD's implementation.

⁹See Holland (2005).

¹⁰In order to avoid the biases that could result from a sample of schools that changed over time, the average effects focus on the follow-up years for which data are available across *all* three high schools in the analysis. So, although Davis and Yates each have more than seven years of follow-up data for analysis, these additional years are not included in the estimates of average effects. Instead, the analysis includes only the first seven years of implementation at each Project GRAD high school.

- The first three Project GRAD high schools in Houston and their comparison counterparts served similar students and exhibited similar baseline student outcomes.

Table 3.1 compares the characteristics of students at Davis High School with the characteristics of students at the comparison schools and in the district as a whole during the years immediately preceding Project GRAD’s implementation, that is, during the “baseline” period.¹¹ The table indicates that though Davis High School was smaller than its comparison counterparts, Davis and its comparison schools served similar student populations. For example, the vast majority of students at Davis were Hispanic, as was the case for the comparison schools chosen for this analysis. Davis and its comparison schools also served similar proportions of special education students and students who were classified as English language learners.¹² Importantly, the students at Davis and at the comparison schools also demonstrated similar outcomes. The attendance rate at both sets of high schools was 74 percent. At Davis, 43 percent of ninth-graders were promoted to the tenth grade each year, compared with 44 percent at the comparison schools. Moreover, the schools demonstrated similar tenth-grade pass rates on the Texas Assessment of Academic Skills (TAAS): 49 percent versus 51 percent passed the language arts test, and 38 percent versus 34 percent passed the math test.

Table 3.2 reports average baseline student characteristics at Davis, Yates, and Wheatley High Schools and at their comparison schools. On average, the project GRAD and comparison high schools served similar students and demonstrated similar levels of baseline achievement, although again the Project GRAD high schools were smaller. Project GRAD schools served slightly larger proportions of black students, similar proportions of Hispanic students, and fewer white students. All the schools had nearly identical attendance and promotion rates. Moreover, tenth-grade pass rates on the TAAS in both reading and math were within 3 percentage points of each other.

Though not shown in the tables, it should be noted that Davis, Yates, and Wheatley High Schools served different racial/ethnic populations. The majority of students at Davis were Hispanic, whereas the majority at Yates were black. Wheatley was more evenly split: 58 percent of students were black, and 40 percent were Hispanic.

¹¹In general, the baseline period is defined as the three school years prior to the first year of program implementation. Because the initial year differed for each Project GRAD high school, the baseline period for each school includes different academic years. For Davis, inasmuch as data for some outcomes were not available prior to the 1992-1993 school year, the baseline period was sometimes defined as the *two* years prior to the 1994-1995 school year. Other deviations from three years of baseline are noted.

¹²That is, students who were classified by the districts as “English Speaker of Other Language (ESOL).”

The Project GRAD Evaluation

Table 3.1

Baseline Characteristics of Students at Davis High School and Comparison Schools,
1991-1992 Through 1993-1994

Characteristic	Davis High School	Comparison Schools	All Houston High Schools
Average school size			
9th grade	730	1186	716
10th grade	428	697	424
11th grade	311	530	337
12th grade	264	481	317
Total	1,733	2,894	1,794
Race/ethnicity (%)			
Black	12.8	13.3	44.7
White	1.2	10.7	14.5
Hispanic	84.1	72.7	36.5
Asian	1.9	3.3	4.2
Other	0.0	0.0	0.1
Gender (%)			
Male	48.9	52.8	50.3
Female	51.1	47.2	49.7
Classified as English speaker of other language (ESOL) (%)	51.0	45.8	34.2
Classified for special education (%)	5.1	5.5	5.9
<u>Characteristics of 9th-grade students</u>			
Overage for grade ^a (%)	77.2	70.8	61.1
Attendance rate ^b (%)	73.8	73.7	77.2
Attendance rate greater than or equal to 90 percent	66.3	61.1	69.0
Promoted to the 10th grade	43.2	43.6	50.8
TAAS 10th-grade test scores			
Reading total			
Texas Learning Index ^c (TLI) score	63.3	64.2	68.9
Pass rate	49.1	51.3	64.7
Math total			
Texas Learning Index ^c (TLI) score	60.8	57.7	61.5
Pass rate	37.9	33.9	44.0
Total number of schools	1	4	26

(continued)

Table 3.1 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

A cluster consists of a Project GRAD school matched with 4 comparison schools. Results in the Comparison Schools column reflect averages across these groups of non-Project GRAD schools.

Baseline years consist of three years prior to implementation at Davis High School in 1994-1995.

^aA student is defined as overage for grade if he or she turns 15 before the start of the 9th grade.

^bAttendance rate is calculated by dividing the number of days present by the number of days enrolled.

^cThe TLI is a continuous score that describes a student's performance on the TAAS. The TLI is provided for both the TAAS reading and mathematics tests. The raw score on the TAAS is simply the number answered correctly on the test, and since this raw score can be interpreted only in relation to the number of items on the test, the score is limited in use. The TLI makes it possible to relate student performance to a passing standard and to compare student performance from year to year. In each year, the raw scores are standardized into TLI scores relative to the state's passing standard of 70. For TLI frequency distributions for each grade and subject, see Texas Education Center (2005).

Exposure to Project GRAD in Elementary and Middle School

A core element of Project GRAD's design is that, rather than focusing on only one school at a time, the initiative attempts to implement its reforms in a feeder pattern of schools. Project GRAD identifies a set of elementary and middle schools that "feed" into a particular high school, and it implements a set of reforms that are intended not only to target that high school but also to improve the academic preparation of students before they arrive at that high school. Understanding the extent of students' exposure to Project GRAD prior to their enrollment in high school can shed light on the extent to which the feeder patterns have functioned as the developers envisioned. The analysis suggests that:

- The average amount of time that entering Project GRAD ninth-graders had spent in Project GRAD elementary and middle schools increased over the first several years of the program's implementation.
- In the last year of the follow-up period, on average, entering ninth-graders were receiving roughly half their elementary and middle school education in Project GRAD schools.

The top panel of Figure 3.1 illustrates the average amount of prior exposure to Project GRAD among successive cohorts of entering ninth-graders at Jefferson Davis High School, the first Project GRAD site. The figure shows that ninth-graders entering Davis were exposed to Project GRAD prior to enrolling in high school, that their exposure substantially exceeded students' exposure at the comparison schools, and that both the average amount of prior exposure

The Project GRAD Evaluation

Table 3.2

Baseline Characteristics of Students at the Project GRAD and Comparison High Schools in Houston

Characteristic	Project GRAD Schools	Comparison Schools	All Houston High Schools
Average school size			
9th grade	610	903	691
10th grade	307	520	399
11th grade	222	379	308
12th grade	194	356	299
Total	1,333	2,158	1,697
Race/ethnicity (%)			
Black	55.6	43.8	45.3
White	0.7	10.0	12.8
Hispanic	42.4	42.3	38.0
Asian	1.3	4.0	3.8
Other	0.1	0.0	0.1
Gender (%)			
Male	50.1	49.8	48.1
Female	49.9	50.2	51.9
Classified as English speaker of other language (ESOL) (%)	53.8	53.9	50.5
Classified for special education (%)	10.6	8.7	8.5
<u>Characteristics of 9th-grade students</u>			
Overage for grade ^a (%)	68.7	64.1	58.5
Attendance rate ^b (%)	74.4	74.9	74.6
Attendance rate greater than or equal to 90 percent	61.0	62.1	63.6
Promoted to the 10th grade	49.8	49.6	54.1
TAAS 10th-grade test scores			
Reading total			
Texas Learning Index ^c (TLI) score	70.6	71.1	73.9
Pass rate	60.8	63.3	70.4
Math total			
Texas Learning Index ^c (TLI) score	65.0	63.3	66.2
Pass rate	44.4	41.8	49.5
Total number of schools	3	10	84

(continued)

Table 3.2 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools column reflect averages across these groups of non-Project GRAD schools.

Baseline years consist of three years prior to Project GRAD implementation. Project GRAD began at Davis High School in 1994-1995. Project GRAD began at Yates High School in 1996-1997. Project GRAD began at Wheatley High School in 1997-1998.

^aA student is defined as overage for grade if he or she turns 15 before the start of the 9th grade.

^bAttendance rate is calculated by dividing the number of days present by the number of days enrolled.

^cThe TLI is a continuous score that describes a student's performance on the TAAS. The TLI is provided for both the TAAS reading and mathematics tests. The raw score on the TAAS is simply the number answered correctly on the test, and since this raw score can be interpreted only in relation to the number of items on the test, the score is limited in use. The TLI makes it possible to relate student performance to a passing standard and to compare student performance from year to year. In each year, the raw scores are standardized into TLI scores relative to the state's passing standard of 70. For TLI frequency distributions for each grade and subject, see Texas Education Center (2005).

and the difference between Project GRAD and comparison schools increased over time. By 2004 — Davis's tenth follow-up year and the most recent year for which data are available — the average ninth-grader at Davis had spent approximately four and a half years in Project GRAD elementary or middle schools prior to starting high school, compared with an average of nearly zero years for ninth-graders at the comparison schools. For typical students, this represents roughly half their education before high school.

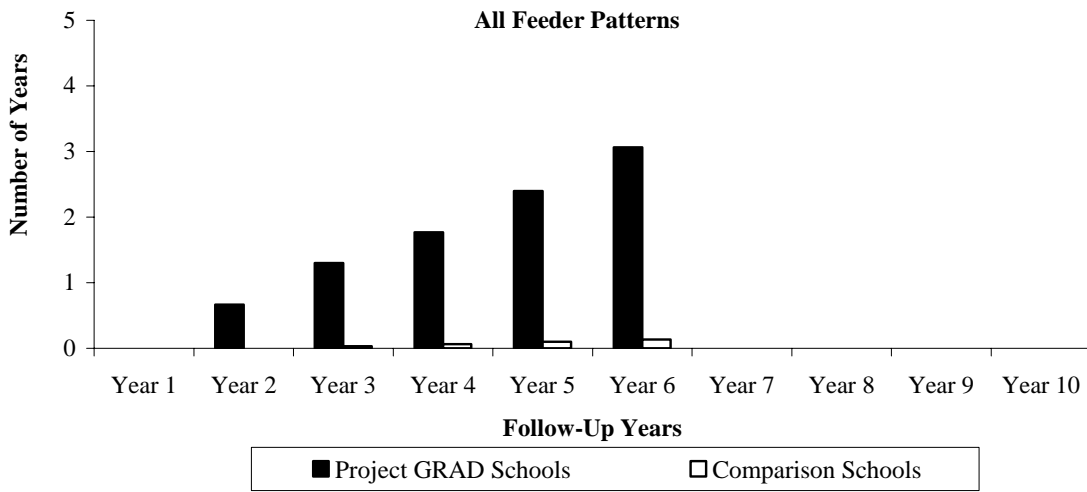
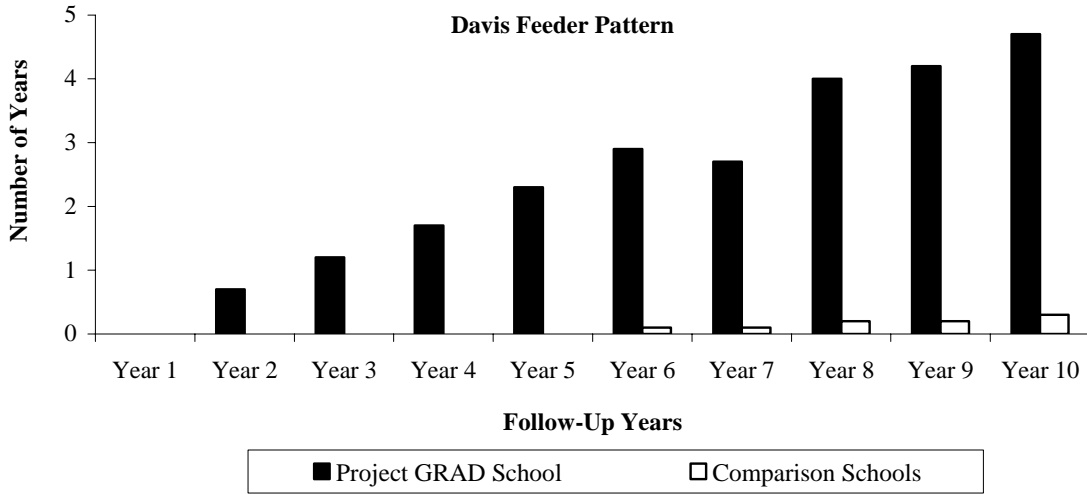
The bottom panel of Figure 3.1 illustrates students' average exposure to the program across the first three Project GRAD high schools in Houston. By the sixth follow-up year, Project GRAD ninth-graders had roughly three years of exposure to the program in elementary and middle schools while ninth-grade students at the comparison schools had substantially less than a year of exposure.

These graphs indicate that the feeder-pattern design succeeded in exposing some students to Project GRAD's reforms prior to their enrollment in high school. However, the graphs also suggest that the feeder patterns in Houston were not "airtight" and that, on average, the Project GRAD students received a substantial portion of their elementary and middle school education outside the Project GRAD network. Part of Project GRAD's strategy for improving high school outcomes was to improve students' elementary and middle school education, leading to

The Project GRAD Evaluation

Figure 3.1

Houston: Exposure to Project GRAD Prior to Ninth Grade



(continued)

Figure 3.1 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

Project GRAD began at Davis High School in 1994-1995. Project GRAD began at Yates High School in 1996-1997. Project GRAD began at Wheatley High School in 1997-1998.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

better-prepared entering students. However, student mobility and enrollment patterns limit the extent to which this approach can produce change at the high school level.

The Impacts of Project GRAD on Early High School Outcomes

Project GRAD's ultimate aim is to help students graduate from high school and succeed in college. Previous research has shown that the ninth grade is a crucial transition period for students and that their chances of succeeding in high school and graduating on schedule are highly correlated with their attendance and performance in the ninth grade.¹³ For example, passing algebra by the end of the ninth grade is a milestone in students' academic progress and a prerequisite for taking many other courses necessary for graduation from high school and success in college. Moreover, whether or not students are promoted on time from the ninth grade to the tenth grade is a key predictor of whether or not they will graduate from high school in four years.¹⁴

The analysis presented below first examines Project GRAD's effects on precursors to graduation at the three Project GRAD high schools in Houston: Davis, Yates, and Wheatley. Key outcome measures include attendance, credits earned during the ninth grade, promotion rates, and students' pass rates on the TAAS.

Attendance

- In general, in the years following Project GRAD's implementation, ninth-grade attendance rates at Davis High School or across the initial three Project GRAD high schools as a whole did not improve. Average attendance rates across the comparison schools did increase during this time, suggesting that, on average, Project GRAD had a negative affect on ninth-grade attendance.

¹³See Kemple and Herlihy (2004) and Kemple, Herlihy, and Smith (2005).

¹⁴See Roderick (1993).

Figure 3.2 presents the estimated impacts of Project GRAD on attendance at Davis High School and at Davis, Yates, and Wheatley High Schools combined. The top panel of the figure presents the estimated effects of Project GRAD on the percentage of ninth-grade students at Davis who had attendance rates greater than or equal to 90 percent. Below the graph, the figure reports the baseline average percentages of students who met this threshold at Davis (in the top panel) and at Davis, Yates, and Wheatley (in the bottom panel) and at the comparison schools.

The bars in the graph represent the difference between these baseline averages and the average percentage of students who had attendance rates of 90 percent or greater. That is, the bars show the “deviation from the baseline average” in each of three periods: the first four years after implementation (Years 1-4), the next three years of implementation (Years 5-7), and the last three years of implementation (Years 8-10). The shaded bars represent the deviation from the baseline average at the Project GRAD school(s), and the unshaded bars represent the deviation from the baseline average at the comparison schools. Bars falling above the zero line represent increases in student outcomes after the baseline period, whereas bars falling below the zero line represent declines in outcomes relative to the average before Project GRAD’s implementation. The figure also reports the *difference* between the deviation from the baseline at the Project GRAD schools and the deviation from the baseline at the comparison schools. This is the estimated program “impact,” that is, the estimated *effect* of Project GRAD over and above the changes that would have been observed without the program.

Figure 3.2 shows that, in the baseline years, Davis High School had somewhat higher levels of attendance than its comparison schools — approximately 70 percent versus 63 percent. After falling during the first four years of implementation, the percentage of students who had “high” attendance returned to 71 percent by the final three follow-up years. On the other hand, the percentage of students who had 90 percent attendance at the comparison schools increased from 63 percent to 71 percent over the course of the entire follow-up period. While these differences are not statistically significant (that is, one cannot reject the possibility that they arose by chance), they suggest a negative relationship between Project GRAD and student attendance at Davis High School.¹⁵

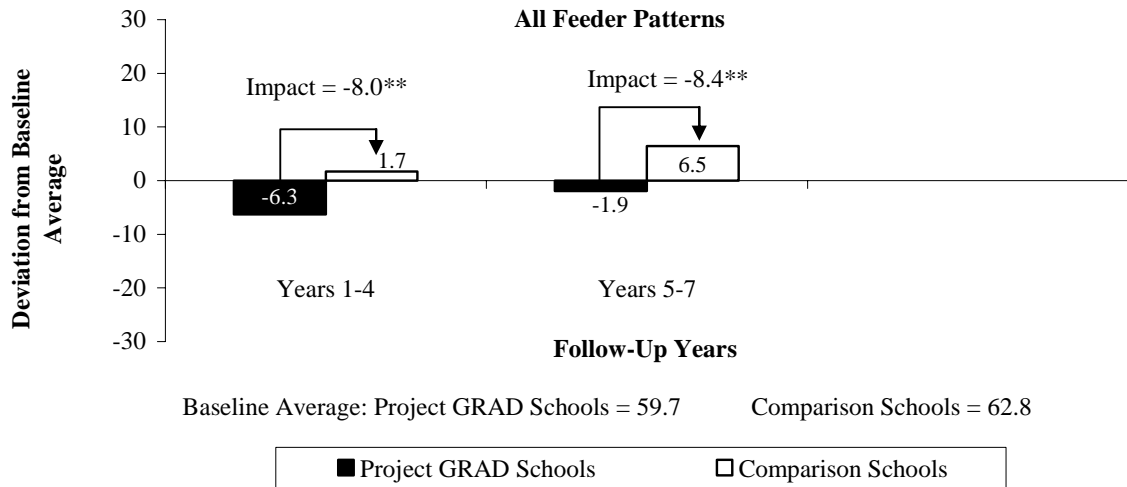
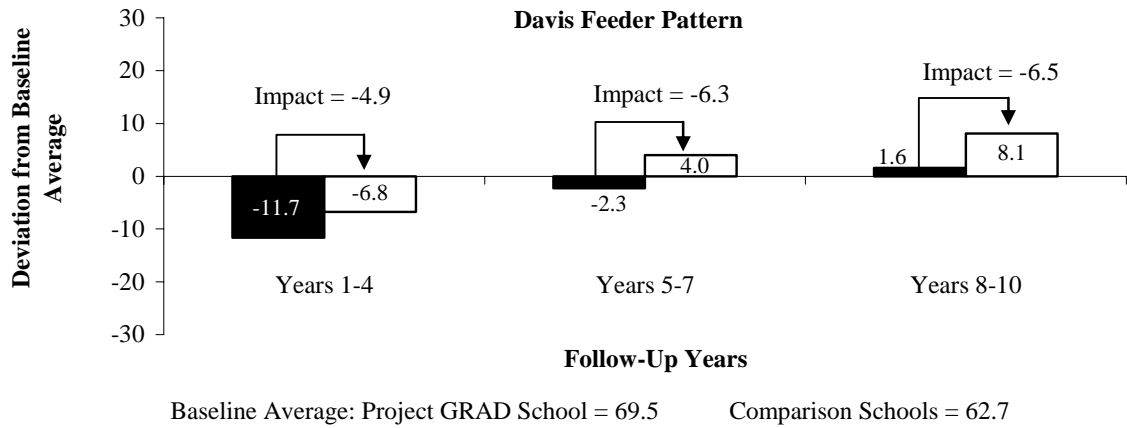
The bottom panel of Figure 3.2 presents average impacts of Project GRAD on attendance at Davis, Yates, and Wheatley High Schools combined. This panel presents average program effects separately for the first four years of Project GRAD’s implementation and for the

¹⁵In particular, the analysis cannot establish with greater than 90 percent confidence that this difference is due to systematic differences in student outcomes rather than to random fluctuations in the data.

The Project GRAD Evaluation

Figure 3.2

**Estimated Impacts:
Percentage of Ninth-Graders in Houston Who Had
Greater Than or Equal to 90 Percent Attendance**



(continued)

Figure 3.2 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

next three years of available follow-up data.¹⁶ The evidence here suggests a similar story, and these differences are statistically significant.

As the bottom panel of the figure indicates, in the baseline years, an average of 60 percent of ninth-graders at the three Project GRAD high schools had attendance rates of 90 percent or higher, similar to the 63 percent of ninth-graders at the comparison schools. The impact estimates presented in Figure 3.2 suggest that these attendance rates moved apart in the years following Project GRAD's implementation. In particular, during Years 1-4 of follow-up, the percentage of Project GRAD ninth-graders who had high attendance dropped to about 53 percent, while the percentage of comparison school ninth-graders who had high attendance increased to about 65 percent. Comparing the drop of slightly more than 6 percentage points at the Project GRAD schools with the increase of just under 2 percentage points at the comparison schools suggests a net impact of *negative* 8 percentage points, which *is* statistically significant. The pattern appears to have persisted through Years 5-7 of follow-up.

¹⁶Note that follow-up years are defined relative to the implementation of Project GRAD at each high school and do not represent consistent calendar years. For example, the first year of implementation at Davis occurred two or three years before the first year of implementation at Yates and at Wheatley. Nevertheless, the impacts at each school in these different calendar years are combined in order to estimate the program's average impact across the three high schools in the "first year of implementation."

Credits Earned

- Average credits earned during ninth grade and the percentage of students earning an algebra credit in ninth grade generally increased during the follow-up year at both Davis High School and the three Project GRAD Houston high schools combined. However, improvements at the comparison schools were similar.

Algebra is an important gateway course for ninth-graders. Passing this course is typically a requirement for high school graduation, and algebra is a prerequisite for other high school math courses that are required for admission to college. Figure 3.3 illustrates the estimated program impacts for the percentage of ninth-graders completing an algebra credit. As shown in the top panel of the figure, at Davis High School during the baseline year, 27 percent of ninth-graders earned an algebra credit.¹⁷ In Years 2-4 of follow-up, this rate increased 16 percentage points, reaching an average of 43 percent. Over the same period, the rate at the comparison schools increased by 13 percentage points. The difference between these deviations from baseline, while slightly favoring Davis, is not statistically significant.

Progress in algebra credits continued through Years 5-7 of the follow-up period, when the pass rates increased to 45 percent at Davis, representing a total increase of 17 percentage points over the baseline average. During the same period, the pass rate in algebra at the comparison schools grew by 16 percentage points. The difference between these two patterns is small and is not statistically significant.

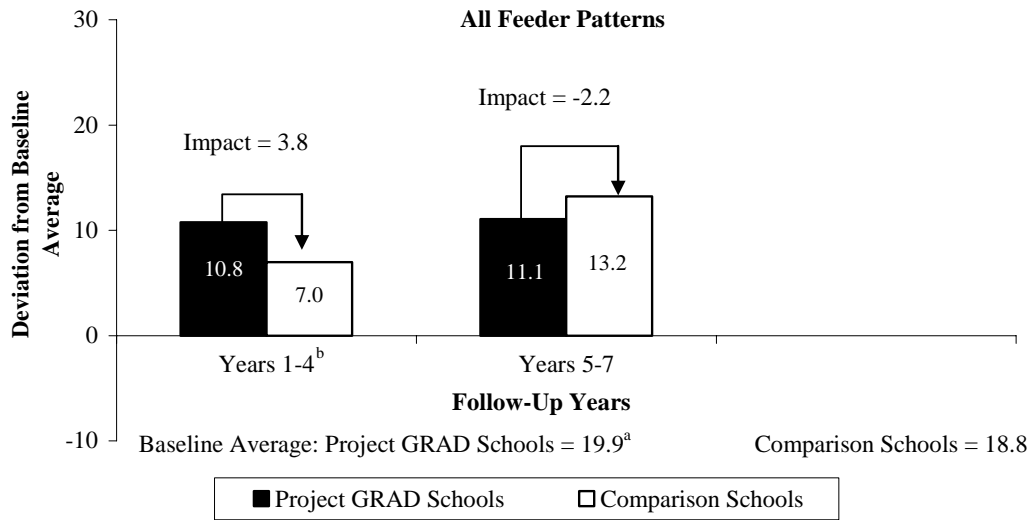
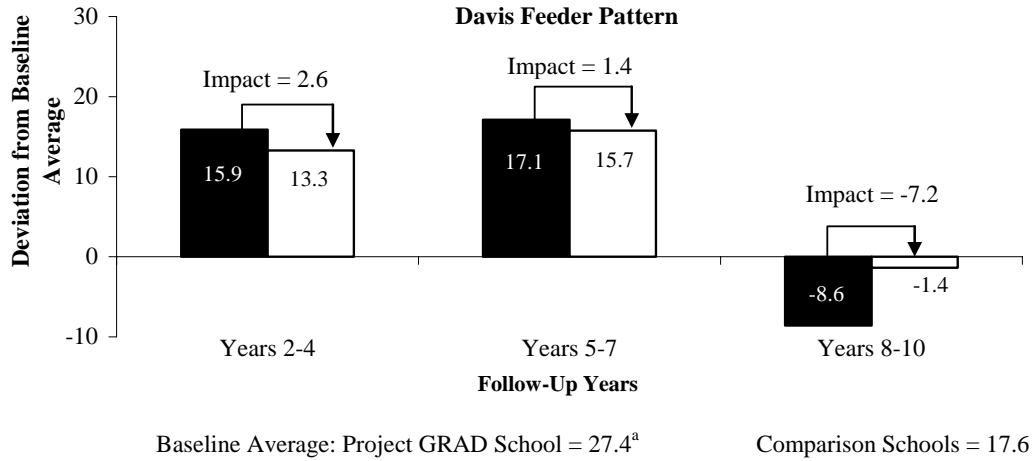
Interestingly, the pass rates in algebra among ninth-graders at Davis High School and at its comparison schools dropped below the baseline level in Years 8-10 of the follow-up period. In particular, the pass rate at Davis fell to 19 percent, while the rate at the comparison schools fell to 16 percent. Conversations with personnel from the Project GRAD Houston staff suggest that the dropoff was simultaneous with the increased enrollment in algebra in middle school, which is not captured in the HISD high school student records.

¹⁷For the two baseline years just prior to the start of Project GRAD at Davis High School and in the first implementation year, data on course credits earned at Davis are missing from the HISD student records system. During this period, Davis High School staff maintained their own computerized records system, and these data were never included in the HISD system. This data problem is not present for the other Project GRAD high schools or for the comparison schools. In order to avoid calculating an artificially low baseline level at Davis for outcomes based on credit data, this analysis uses only one baseline year for Davis High School and starts the follow-up and impact calculation at Year 2. At all the comparison schools and the other two Project GRAD high schools, which do not have this data problem, the analysis uses three baseline years in calculating the baseline average, in order to take advantage of the available data.

The Project GRAD Evaluation

Figure 3.3

Estimated Impacts:
Percentage of Ninth-Graders in Houston Who Earned an Algebra Credit



(continued)

Figure 3.3 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

^aUsed one year of baseline data for Davis.

^bYears 1-4 for Davis includes only Years 2-4.

The bottom panel of Figure 3.3 illustrates the average program effects on ninth-grade algebra credits across the three Project GRAD high schools in this analysis. It shows that the average progress on ninth-grade algebra credits is smaller than at Davis High School alone and that the comparison schools made similar progress. In particular, across the three Project GRAD high schools in this analysis, algebra pass rates increased from an average of 20 percent during the baseline period to 31 percent at the end of follow-up, while the comparison schools' pass rate increased from 19 percent to 30 percent between the baseline period and the end of follow-up.

Figure 3.4 illustrates the estimated program effects on the total number of academic credits that ninth-graders earned. As is the case for the algebra credits, the top panel of the figure shows that there was progress over the course of the follow-up period at Davis High School. The progress appears to have been concentrated in the second follow-up period (Years 5-7), *after* four years of Project GRAD's implementation. The observed improvements were similar at the comparison schools. The bottom panel for the first three Project GRAD high schools combined shows almost no difference between the improvements at Project GRAD and the comparison schools.

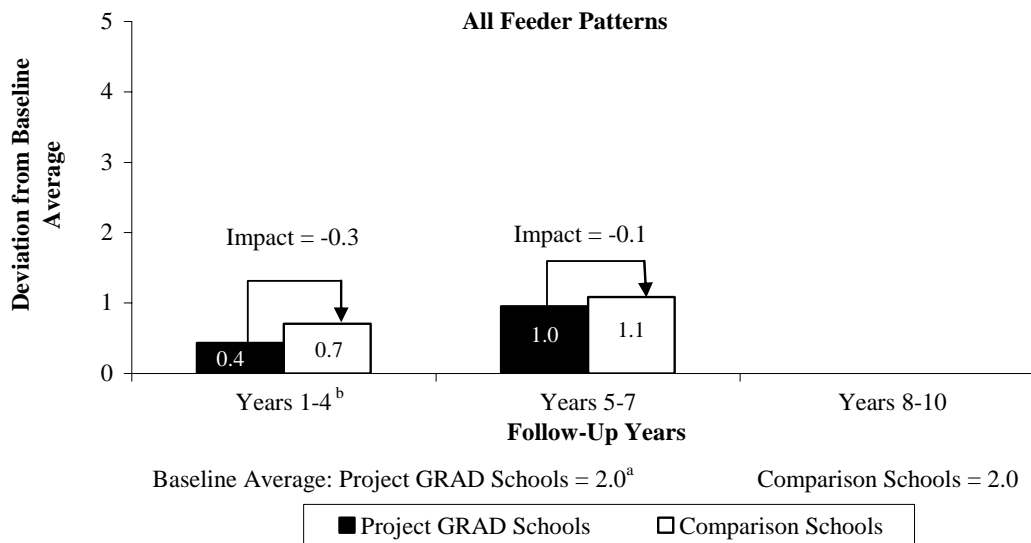
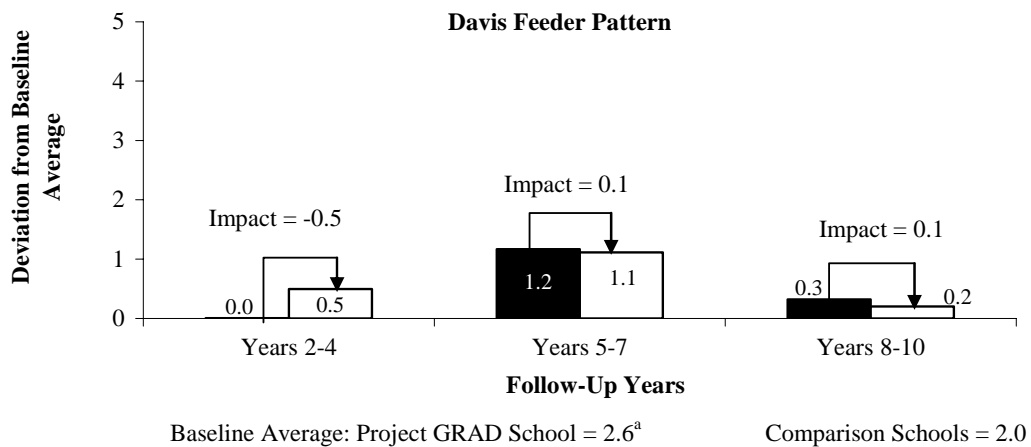
Promotion from Ninth to Tenth Grade

- During the baseline period, an average of less than 50 percent of ninth-graders at the Project GRAD and comparison schools were promoted to the tenth grade each school year.

The Project GRAD Evaluation

Figure 3.4

Estimated Impacts:
Average Number of Credits Earned Among Ninth-Graders in Houston



(continued)

Figure 3.4 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

^aUsed one year of baseline data for Davis.

^bYears 1-4 for Davis includes only Years 2-4.

- In the years following Project GRAD's implementation, Davis High School showed modest improvements in promotion rates. Though these improvements appear to exceed the improvements at the comparison schools during the later part of the follow-up period, the differences are not statistically significant.
- Across the three original Project GRAD Houston high schools as a group, the progress over time was more modest, and the average differences between the changes at the Project GRAD and at the comparison schools are smaller than the differences at Davis, suggesting a lack of effects on promotion rates at the other two high schools.

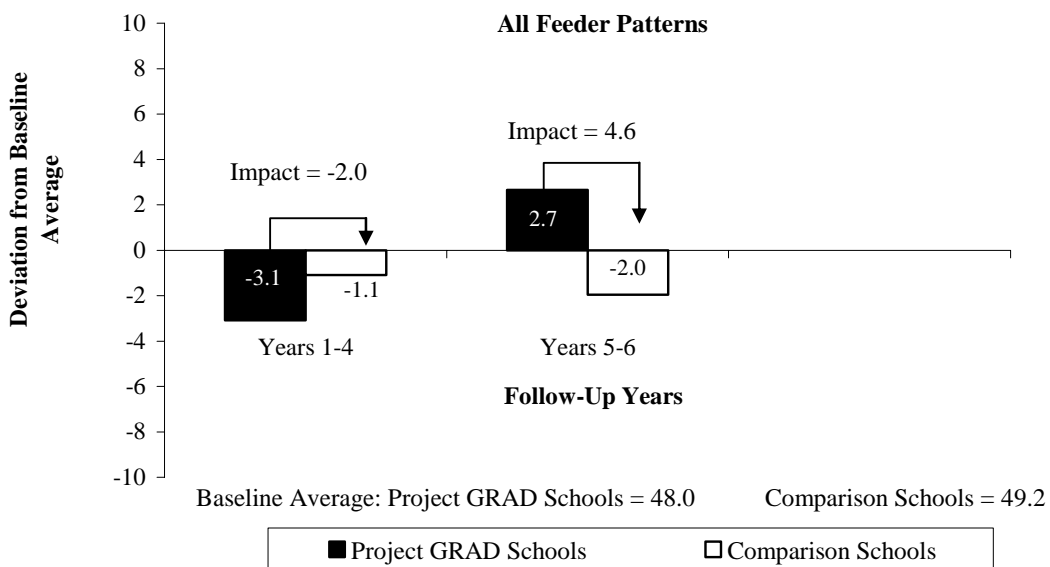
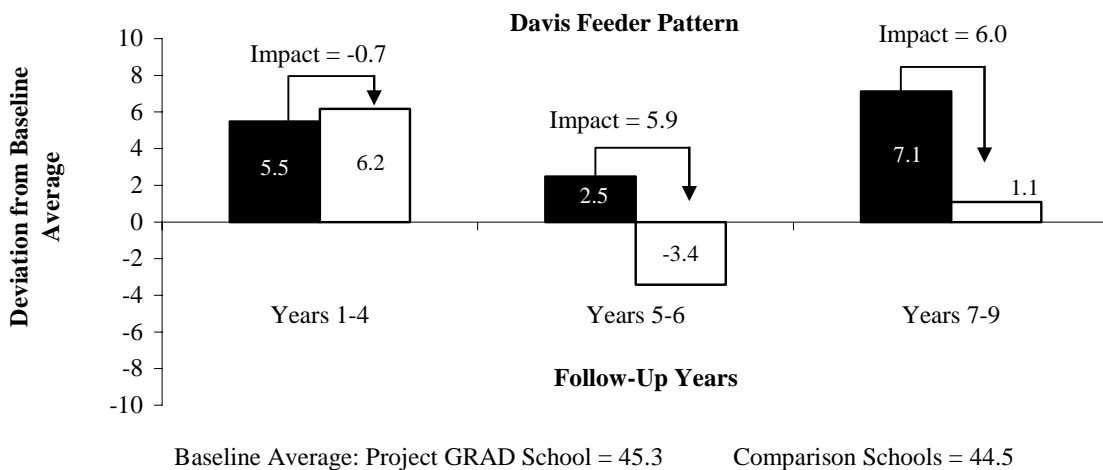
Figure 3.5 reports average ninth- to tenth-grade promotion rates during the baseline period and illustrates the progress over time and the estimated program effects at Davis High School (see the top panel). In the years preceding Project GRAD's implementation, an average of approximately 45 percent of ninth-graders at both Davis and its comparison schools were promoted to the tenth grade.¹⁸ The extent of progress made on this measure appears to have fluctuated over time. However, by the end of the follow-up period, Davis's promotion rate had

¹⁸In particular, the analysis focuses on the percentages of ninth-graders who — based on enrollment records from HISD — were reported as enrolled in the tenth grade by the end of the following school year.

The Project GRAD Evaluation

Figure 3.5

Estimated Impacts:
Percentage of Ninth-Graders in Houston Who Were Promoted to Tenth Grade



(continued)

Figure 3.5 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

improved by 7 percentage points, compared with a net improvement of just 1 percentage point at the comparison schools. Although this suggests a positive impact of 6 percentage points at Davis, inasmuch as the difference is not statistically significant, one cannot rule out the possibility that it is driven by chance.

Like the outcomes for course credits, the ninth- to tenth-grade promotion rates shown in the bottom panel of the figure reflect less progress across the three Project GRAD feeder patterns as a whole, and the differences between the Project GRAD and comparison schools are smaller. This suggests that effects on promotion rates may be present at Davis but that they are not present at the other two Houston high schools in this analysis.

Student Achievement

- In the years following Project GRAD's implementation, the percentage of ninth-graders at the Project GRAD schools who took and passed the tenth-grade reading and math portions of the TAAS in the following year increased.
- The progress at the comparison schools was similar, and any small differences in improvements are not statistically significant.

In the spring of 2003, the State of Texas changed its testing regime, switching from the Texas Assessment of Academic Skills (TAAS) — which had been administered since 1994 — to the Texas Assessment of Knowledge and Skills (TAKS). Because the change in tests makes it difficult to compare results over time, the analysis of student achievement does not go beyond

the spring of 2002. This yields seven years of follow-up data for the Davis feeder pattern and four years of follow-up data for the three Project GRAD feeder patterns combined.

Figures 3.6 and 3.7 report estimated program effects on the percentage of ninth-graders who took and passed the math and reading portions of the TAAS in the following year.¹⁹ The figures show that, in general, the “take-and-pass” rates in reading and math at Project GRAD and comparison schools improved relative to the baseline period. With respect to math, the patterns for Davis and the three Project GRAD high schools combined are similar. For example, the rates at the Project GRAD high schools (in the bottom panel of Figure 3.6) averaged just under 13 percent during the baseline period and grew to about 21 percent during the first four years of follow-up. The net difference between student achievement during the baseline period and the follow-up period is just above 7 percentage points. On the other hand, over the same period of time, the rates at the comparison schools improved from 13 percent to 23 percent — a difference of 10 percentage points. This negative difference of 3 percentage points is not statistically significant.

Figure 3.7 compares the progress over time and reports the estimated program effects on pass rates for the “take-and-pass” rates for the reading portion of the TAAS. In Years 1-4 of follow-up, average reading rates in the Project GRAD high schools improved from 17 percent to 23 percent (see the bottom panel of the figure). A similar pattern occurred at the comparison schools, suggesting that Project GRAD had no net effect — positive or negative — over and above the progress in reading that would have occurred in the absence of the program.

The Impacts of Project GRAD on High School Graduation and Preparation for College

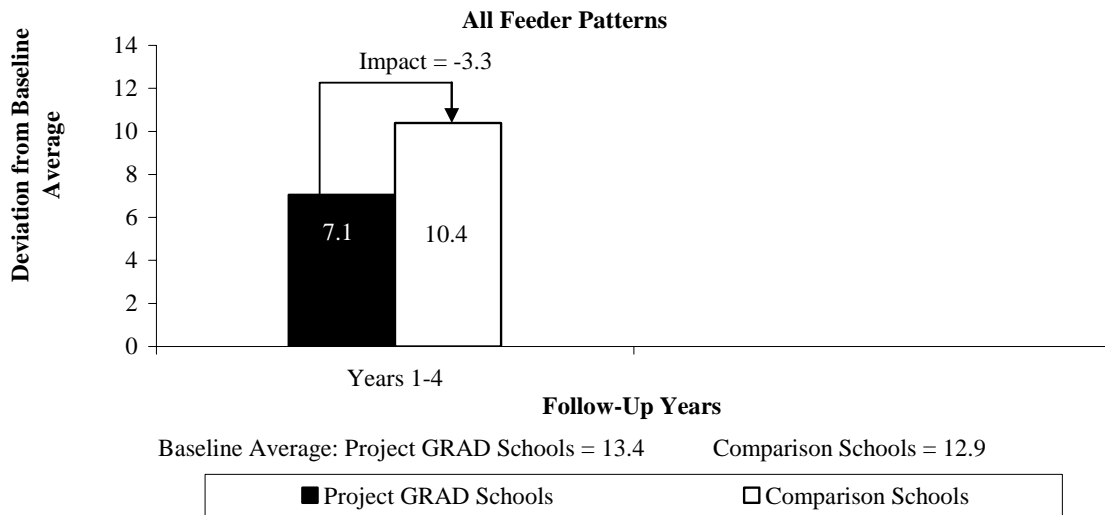
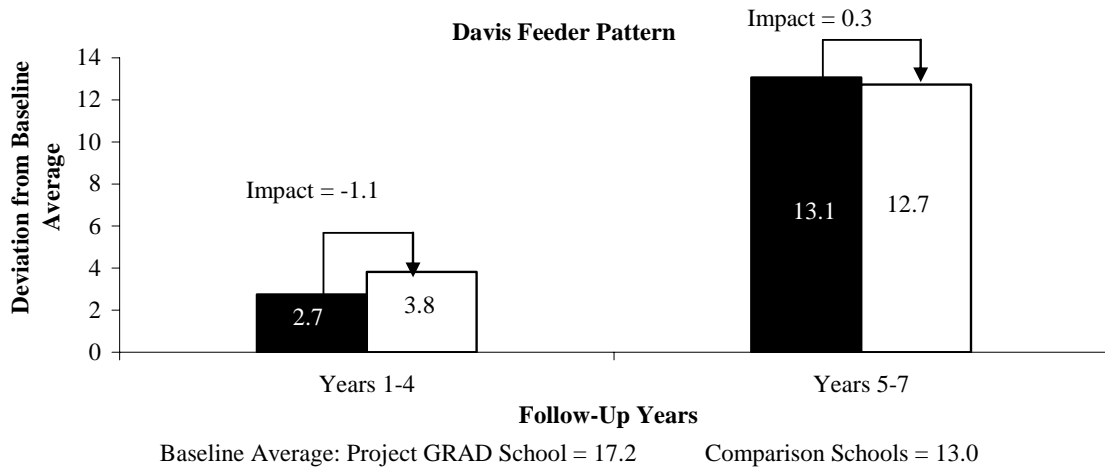
Project GRAD’s ultimate goal is to increase the number of students who graduate from high school and succeed in college. Project GRAD Houston provides the best available evidence regarding the extent to which the initiative has had an impact on how many students reach this goal. In particular, Project GRAD Houston is the only site that has been in place long enough to track several years of program effects on four-year high school graduation rates. As

¹⁹This measure is used to avoid problems that might be caused by examining tenth-grade pass rates. A potential problem with the pass-rate measures has to do with differences in test-taking patterns between the Project GRAD and comparison schools. In particular, to the extent that any differences in promotion or test-taking patterns across schools result in different percentages or in different populations of students taking the tests, estimates based on pass rates among test-takers could distort the impact estimates. The analysis presented in the text is not subject to any bias favoring schools that — for whatever reason — test fewer ninth-graders the following year or test a select subgroup of tenth-graders. Appendix B continues these findings by examining differences in test-taking patterns between the Project GRAD and comparison schools, by estimating impacts on the percentage of ninth-graders who took the tenth-grade test the following year.

The Project GRAD Evaluation

Figure 3.6

**Impact Estimates:
Percentage of Ninth-Graders in Houston Taking and Passing the Tenth-Grade
Math Test the Next Year, Follow-Up Results**



(continued)

Figure 3.6 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

of 2004 — the end of this study's follow-up period — Project GRAD had been in existence at Davis High School for ten years, at Yates High School for eight years, and at Wheatley High School for seven years. Given that, it is possible to follow the effects of Project GRAD on four-year graduation rates and other end-of-high school outcomes for several cohorts of ninth-graders. However, given the phase-in of components, not all components were in place each year that Project GRAD operated in the school.

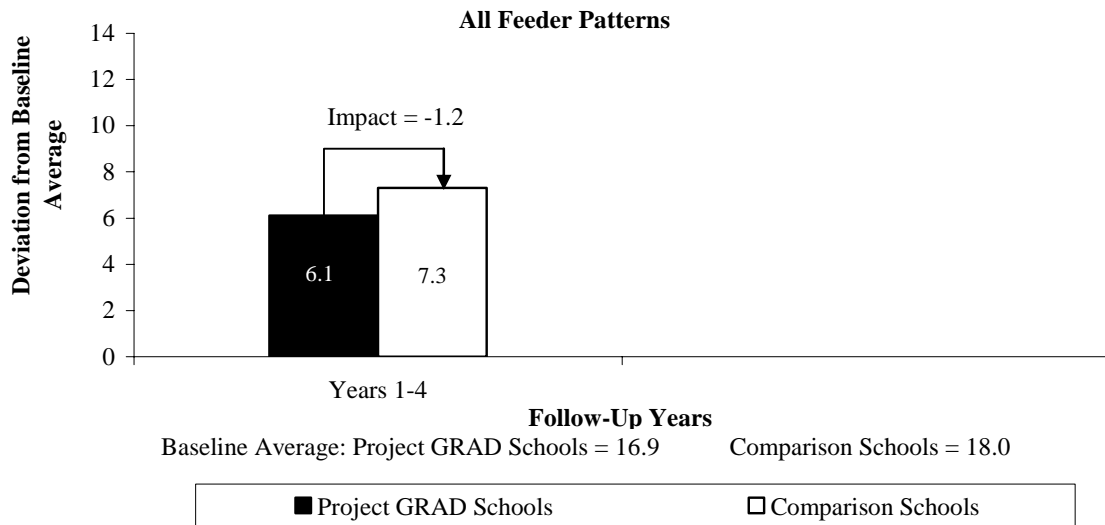
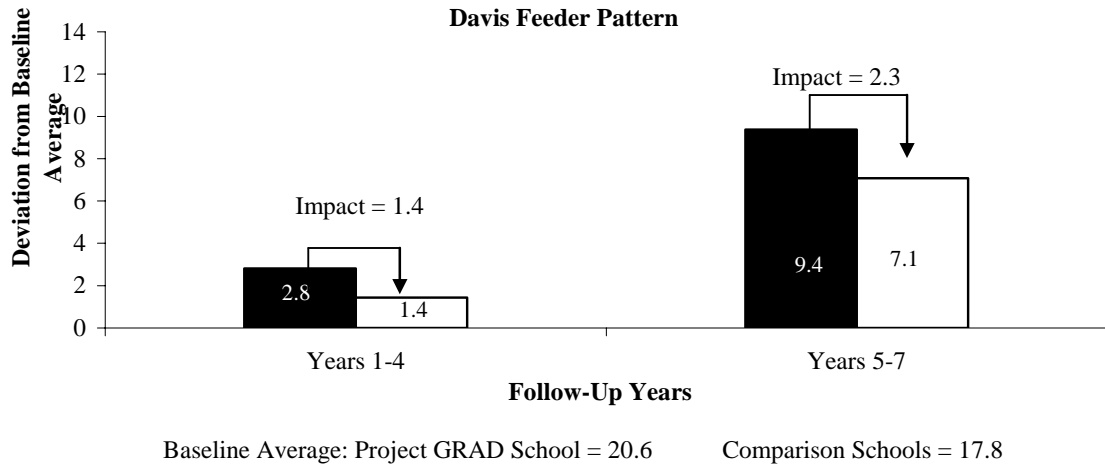
Four-Year Graduation Rates

- In the years preceding Project GRAD's implementation in the HISD, approximately 70 percent of students at both Project GRAD and comparison schools did not graduate from high school in the HISD within four years of enrolling in the ninth grade.
- In the years following Project GRAD's implementation, graduation outcomes at Davis High School modestly improved, but similar improvements took place at the comparison high schools chosen for this analysis.
- Looking across the three original Project GRAD Houston high schools as a whole, neither the Project GRAD nor the comparison high schools showed substantial progress on average graduation rates.

The Project GRAD Evaluation

Figure 3.7

**Impact Estimates:
Percentage of Ninth-Graders in Houston Taking and Passing the Tenth-Grade Reading Test the Next Year, Follow-Up Results**



(continued)

Figure 3.7 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

Most people think of “on-time” graduation from high school as graduating within four years of enrollment in the ninth grade. However, most school districts in the country do not publish this information, focusing instead on the total number of graduates annually. These counts can be influenced by several factors, including changes in school size, student mobility, and enrollment patterns. As such, changes in the number of graduates may reflect factors other than educational improvements that increase the chances that students will progress through school. The counts are also affected by changes in the number of ninth-graders over time.²⁰ Some districts focus on the percentage of students in each twelfth-grade class who graduate at the end of that academic year. The concern about such measures is that much of the dropout problem occurs before the measures begin counting students, and so they substantially underestimate the percentage of students who do not finish high school.

The analysis of graduation rates presented here focuses on successive cohorts of first-time ninth-graders who were enrolled at Project GRAD and comparison high schools in the spring of the academic year. It examines whether or not, according to the districts' data, these students are identified as graduates in any HISD high school three years later (that is, the scheduled end of the twelfth grade).²¹ Because students transfer in and out of school districts, and

²⁰For example, the number of ninth-graders at Davis High School fluctuated from a low of about 600 to a high of about 900 over the period of this analysis.

²¹Previous research suggests that, because many student repeat the ninth grade, graduation rates for all ninth-graders can be difficult to interpret (see, for example, Miao and Haney, 2004). In particular, besides being a function of events that occur in the school year in question, graduation rates based on an entire class of
(continued)

from public to private schools, these numbers understate the proportions of ninth-graders who graduated from any high school within four years. In particular, they do not account for the percentage of students who left the HISD and graduated from another district. Instead, these estimates reflect the percentage of first-time ninth-graders who graduated in a timely basis from anywhere within HISD.²²

Looking across the three original Project GRAD high schools, the evaluation can follow the average effects of Project GRAD Houston on most student outcomes through seven successive cohorts of students — the first seven classes of ninth-graders at the participating Project GRAD high schools. However, unlike measuring other outcomes, calculating graduation rates requires four years of follow-up data for each cohort of students. Therefore, for graduation and related outcomes, the combined findings across all three Project GRAD high schools cover only the first *three* classes of ninth-graders enrolled; for Davis High School alone, the analysis covers the first six classes of entering ninth-graders.

Figure 3.8 presents the average distribution of graduation outcomes at the Project GRAD high schools in the baseline years immediately preceding the program’s implementation. As the figure shows, the majority of entering ninth-graders did not graduate within four years. In fact, over 40 percent of the entering ninth-grade class were no longer enrolled in the district three years later. Of the ninth-graders in the sample, 42 percent left the district before their scheduled end of the twelfth grade; 17 percent remained enrolled in the district, but — as of three years later — had not reached the twelfth grade; and 11 percent made it to the twelfth grade but did not graduate on time. Even among those who reached the twelfth grade on time, about a quarter did not graduate on time. In the end, approximately a third (30 percent) of entering ninth-graders graduated from HISD four years later.²³

ninth-graders are also a function of events in previous academic years, including changes in rules and norms for promotion. The estimated effects of Project GRAD on successive cohorts of all ninth-graders do not suggest systematically different patterns of effects than the estimates presented in this report. These estimates are presented in Appendix Figure A.2.

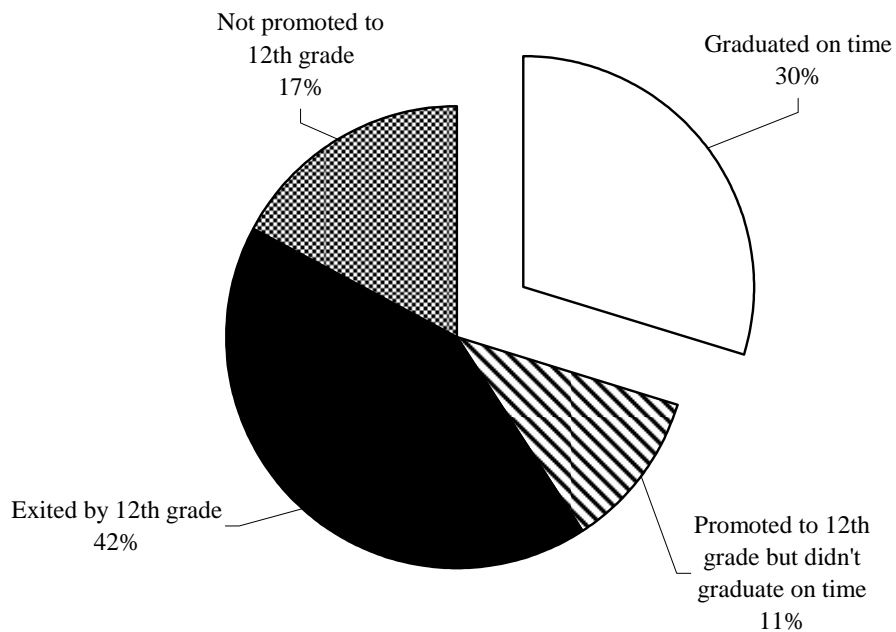
²²Unless there is a systematic relationship between Project GRAD and student mobility out of the district, this mobility would not undermine the validity of the comparisons between graduation rates at Project GRAD versus comparison high schools.

²³The estimates in this report focus on “on-time” graduation, that is, graduation within four years of enrollment in the ninth grade. This analysis also includes estimated effects on graduation, irrespective of whether that took longer than four years. These estimates are reported in Appendix A. While they suggest slightly higher graduation rates, they do not suggest impact patterns that differ from those summarized in this report.

The Project GRAD Evaluation

Figure 3.8

Houston: Distribution of First-Time Ninth-Graders Who Graduated On Time Three Years Later, Average Prior to Project GRAD



SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: The baseline period for Davis High School is 1991-1992 to 1993-1994. The baseline period for Yates High School is 1993-1994 to 1995-1996. The baseline period for Wheatley High School is 1994-1995 to 1996-1997.

Baseline averages are unadjusted.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

Figure 3.9 presents the estimated effects of Project GRAD on high school graduation at Davis High School and at the three original Project GRAD high schools as a whole.²⁴ The figure supports three important findings. First, the majority of ninth-grade students in any particular follow-up year did not graduate within the next four years. Second, on-time graduation rates at Davis improved modestly in the years following Project GRAD’s implementation, and the combined rates at the three Project GRAD high schools remained essentially the same. Third, though the picture at Davis is somewhat more encouraging, the patterns there and at Project GRAD high schools overall do not differ significantly from the patterns at the comparison schools.²⁵

During the baseline period at Davis High School (in the top panel of Figure 3.9), an average of 35 percent of Project GRAD ninth-graders graduated within the next four years, compared with about 30 percent of ninth-graders at the comparison schools. During the next three years, the graduation rate increased by about 2 percent at Davis and at the comparison schools chosen for the analysis. By Years 4-6 of follow-up, graduation rates at Davis had improved by about 7 percent over the baseline levels, compared with a change of about 5 percent at the comparison schools. This 2 percent difference is not statistically significant. Across the three Project GRAD high schools as a whole (in the bottom panel of the figure), the four-year graduation rate remained virtually unchanged — increasing by less than 1 percentage point — whereas the rate increased by approximately 3 percent at the comparison schools. Again, this difference is not statistically significant.

Completing a Core Academic Curriculum “On Time”

The Project GRAD college scholarship offer is often referred to as the “cornerstone” of the intervention. It is used as a lever to increase high school students’ focus on going to college and also to improve their access to college once high school is over. To be eligible for the scholarship, students must meet several criteria: They must take an academic core curriculum (in order to meet the requirement of successfully completing the courses designated as college preparatory by their state, district, and school); they must maintain a 2.5 grade point average; and

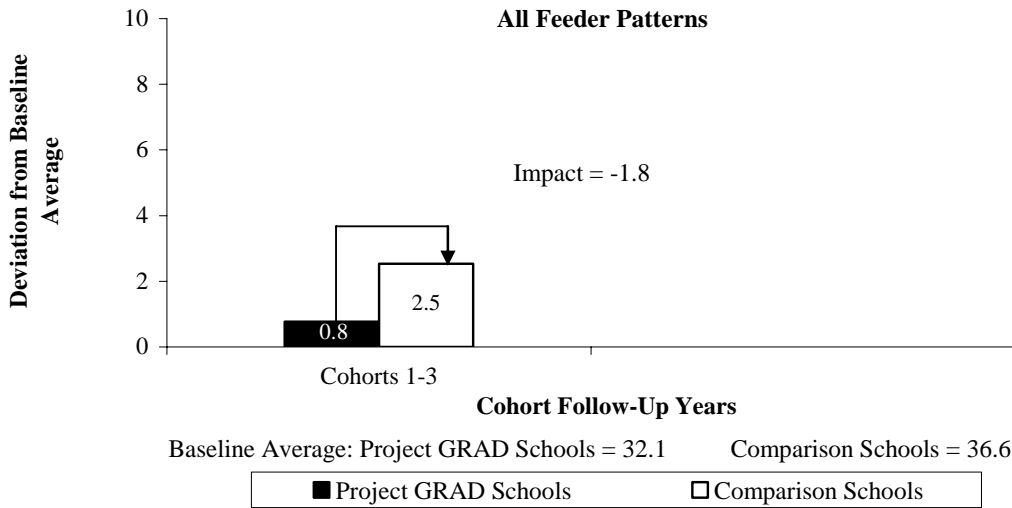
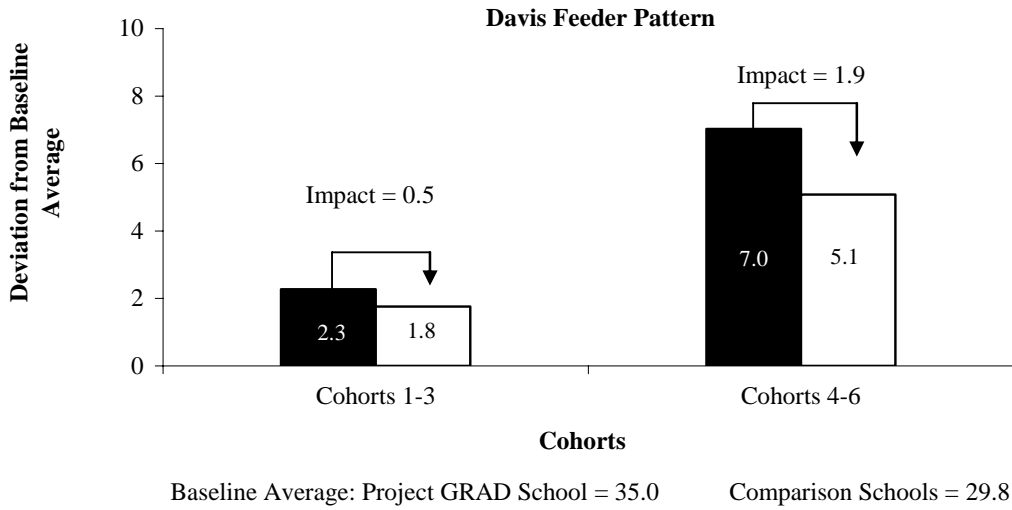
²⁴The number reported in Figure 3.9 as the baseline average for all three Project GRAD schools (32.1 percent) differs slightly from the one presented in Figure 3.8 (30.0 percent) because it is adjusted to account for students’ demographic characteristics.

²⁵When estimates are generated without controlling for demographic characteristics (such as the percentage of Hispanic students and the percentage of students who are overage for their grade), they suggest larger gains in graduation rates. They also suggest some differences between the growth at Davis High School and its comparison schools. The fact that these changes and the differences between the schools are mostly eliminated by controlling for students’ demographic characteristics suggests that demographic changes — rather than the effect of any reform per se — may have driven the observed changes in “unadjusted” graduation rates. In other words, the evidence here suggests that, rather than changing the graduation rate among all students, the implementation of Project GRAD is coincident with changes in the student population being served, most notably a decline in the percentage of students who were overage for their grade.

The Project GRAD Evaluation

Figure 3.9

**Estimated Impacts:
Percentage of First-Time Ninth-Graders in Houston Who Graduated On Time**



(continued)

Figure 3.9 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

This figure focuses on analysis of successive cohorts of first-time ninth-graders in Project GRAD and comparison schools and whether students graduated on time three years later.

they must graduate from high school on time. Students who meet these milestones and who attend the two Project GRAD summer institutes and sign the commitment contract can receive a college scholarship of \$1,000 to \$1,500 per year. Given the importance of the scholarship, the extent to which students meet the eligibility requirements represents an important outcome for the program. The scholarship criteria also represent reasonable proxies for students' preparation for college. As such, progress on this outcome speaks to Project GRAD's success in achieving its ultimate outcome: successfully preparing students for college.

This section presents estimates of the effects of Project GRAD on a key element of the scholarship requirement: the proportion of first-time ninth-grade students who complete a core academic curriculum within four years of starting high school.²⁶

- The vast majority of first-time ninth-grade students did not complete a core academic curriculum by the scheduled end of high school.
- Across the three Project GRAD high schools, the percentages of students completing this increased over the course of the first few years after Project

²⁶In particular, students are classified as having completed this if they received an average grade of 75 out of 100 in their core courses; if they earned four credits in English, three in math, two in science, and two in social studies; and if, according to HISD records, they graduated from high school within four years of being enrolled in the ninth grade.

GRAD's implementation. However, ninth-graders at the comparison schools showed similar progress.

- At Davis High School, the increases in the percentage of students completing this curriculum significantly outpaced the changes that occurred at the comparison schools, supporting a conclusion that Project GRAD at Davis had a substantial positive effect.

Figure 3.10 shows that, during the baseline period, the vast majority of first-time ninth-grade students at the three Project GRAD high schools in Houston did not complete a core academic curriculum on time. Only 8 percent achieved this milestone. The majority (69 percent) did not graduate from high school within the next three years, while 23 percent were identified as graduating on time but did not meet the other criteria.

Figure 3.11 shows the estimated effects of Project GRAD on the percentage of ninth-graders completed a core academic curriculum on time four years later. The top panel shows findings for Davis High School, and the bottom panel shows findings for the three Project GRAD high schools combined.²⁷ The analysis includes three cohorts of ninth-graders for Davis and for the Project GRAD high schools as a whole.

The figure indicates that the percentage of students who completed a core academic curriculum on time increased substantially at both Davis and its comparison schools. It also indicates that the increases at Davis exceeded those at the comparison schools and that these differences are statistically significant. During the baseline period at Davis, 9 percent of first-time ninth-graders met this requirement. In the years following Project GRAD's implementation, the percentage of ninth-graders meeting these criteria at Davis increased by 12 percentage points, to 22 percent. This exceeds the progress at the comparison schools, which improved from 12 percent during the baseline period to 17 percent by the end of follow-up. The gain at Davis represents a statistically significant positive effect of nearly 7 percentage points.

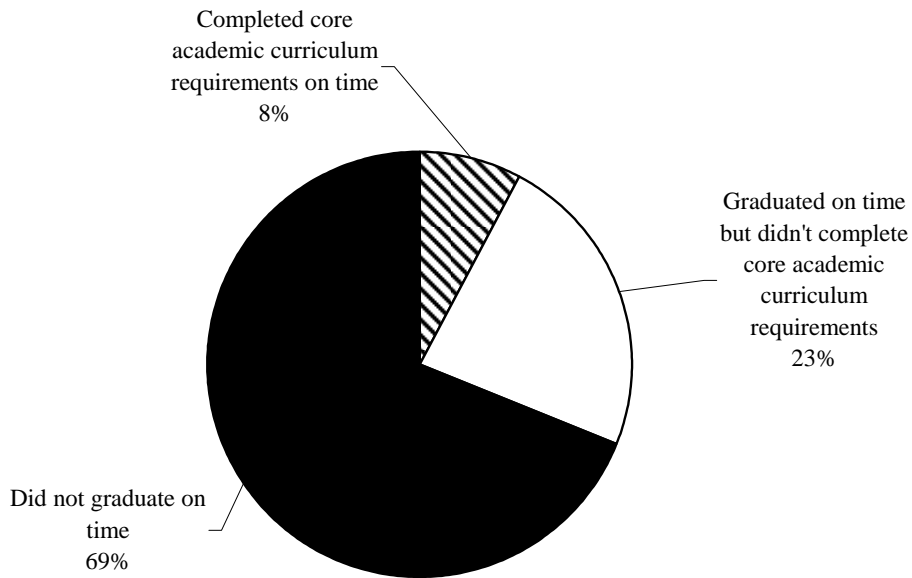
While the previous section on four-year graduation rates suggests that Project GRAD did not have a significant positive effect at Davis High School, these results imply that it did, in fact, have significant positive effects on the course-taking and grades of Davis students, essentially increasing the extent to which the school's graduates were ready for college.

²⁷Because data on credits earned at Davis High School are not available for several early years (see footnote 16), the follow-up period available for this analysis is shortened. Specifically, at Davis the analysis uses a quasi-baseline period made up of two early implementation years. Because of this shift to a quasi-baseline, only three cohorts of ninth-graders can be included in the analysis. If Project GRAD had already started to improve academic performance of Davis students during the quasi-baseline period, this analytic choice creates a higher benchmark against which later cohorts are compared. This strengthens the finding of a positive effect on completion of a core academic curriculum on time at Davis High School.

The Project GRAD Evaluation

Figure 3.10

Houston: Distribution of First-Time Ninth-Graders Who Completed Core Academic Curriculum Requirements On Time Three Years Later, Average Prior to Project GRAD



SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: The quasi-baseline period used for Davis High School is 1995-1996 to 1996-1997. The baseline period for Yates High School is 1993-1994 to 1995-1996. The baseline period for Wheatley High School is 1994-1995 to 1996-1997.

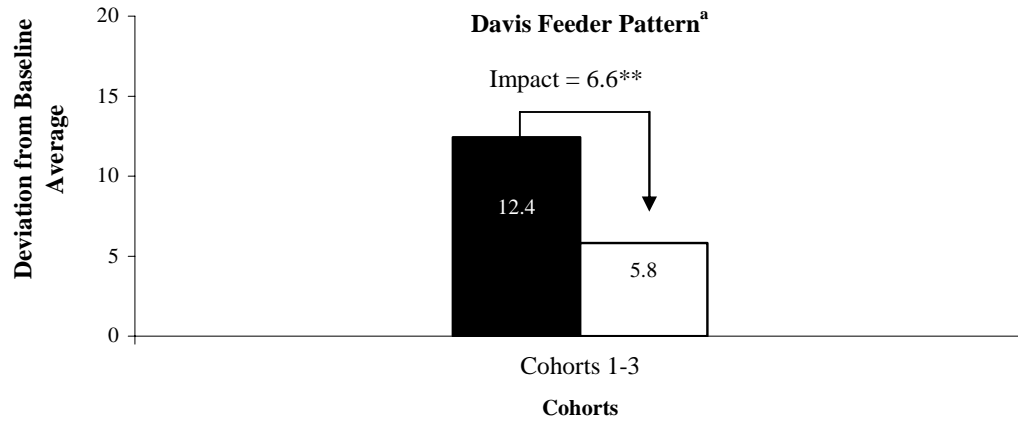
Baseline averages are unadjusted.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The Project GRAD Evaluation

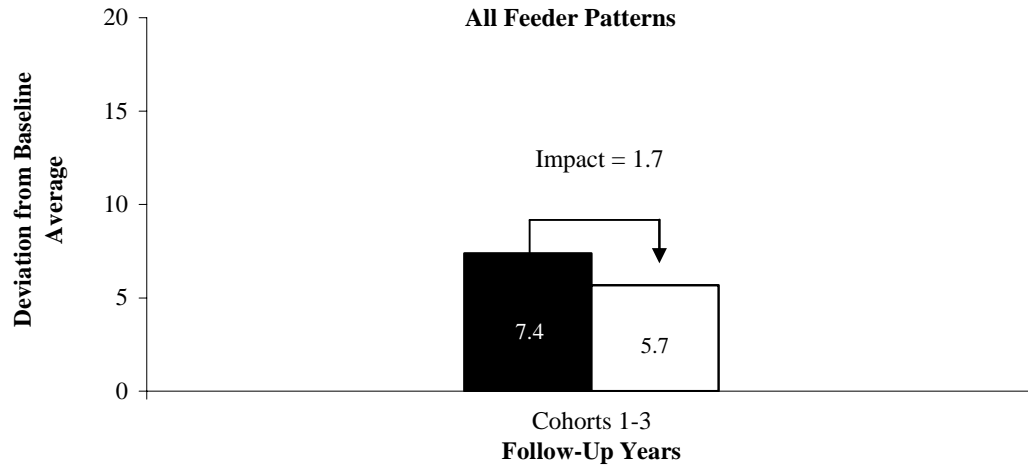
Figure 3.11

Estimated Impacts: Percentage of Ninth-Graders in Houston Who Completed Core Academic Curriculum Requirements On Time



Baseline Average: Project GRAD School = 9.3

Comparison Schools = 11.5



Baseline Average: Project GRAD Schools = 6.4

Comparison Schools = 8.9

■ Project GRAD Schools □ Comparison Schools

(continued)

Figure 3.11 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

This figure focuses on analysis of successive cohorts of first-time ninth-graders at Project GRAD and comparison schools and whether students met the core academic graduation requirements.

^aThe Davis cluster used 1997-1998 as implementation Year 1. Two quasi-baseline years (1995-1996 and 1996-1997) were used.

The bottom panel of Figure 3.11 reports the estimated impact of the program on the percentage of first-time ninth-graders meeting the criteria at the three Project GRAD high schools as a whole. The average increases in the percentage of students meeting these criteria are more modest and are essentially identical to the changes at the comparison high schools. This suggests that the positive effects on this outcome at Davis High School did not occur at Yates and Wheatley High Schools.

Chapter 4

The Impacts of Project GRAD on High School Outcomes in the Columbus and Atlanta Expansion Sites

A key goal of this evaluation is to understand the effects of Project Graduation Really Achieves Dreams (GRAD) on high school students' outcomes in two of the initiative's early expansion sites: Columbus, Ohio; and Atlanta, Georgia. For a variety of reasons, these two sites provide the best opportunity to study the intervention outside the three original Project GRAD high schools in Houston (see Chapter 3). Although neither of the expansion sites has operated the program enough years to assess its effects on graduation rates or completion of a core academic curriculum, the available data do support an early look at the effects on precursors to graduation. The patterns of these early indicators may provide insights into whether Project GRAD will ultimately affect high school graduation and college success.

Project GRAD Columbus began implementation at Linden-McKinley High School in the 1999-2000 academic year, while Project GRAD Atlanta was implemented at Booker T. Washington High School in the 2000-2001 academic year. The following analysis explores the program's effects on precursors to graduation during the first four years of implementation in Columbus and during the first three years of implementation in Atlanta. Unfortunately, data limitations at these two sites prevent analysis of the effects of Project GRAD on course-taking and on credits earned in key courses.

Like the analysis of the program in Houston, the analysis here focuses on understanding progress over time at the Project GRAD schools in the expansion sites and on ascertaining the extent to which it differs from the degree of progress at similar comparison schools chosen from the same districts. Because of the small samples in Atlanta and Columbus (one high school per district), the analysis has less statistical power to detect impacts than is the case for Houston.

Key Findings

- **Attendance and promotion rates at the Project GRAD high schools in Atlanta and Columbus improved in the years following Project GRAD's implementation.**
- **Improvements at the Project GRAD high schools frequently appeared to outpace the changes at the comparison schools in the same districts, though many of the differences in outcomes between Project GRAD and**

comparison schools that were found in these two expansion sites are not statistically significant.

- **Though these findings must be interpreted with caution, they suggest that Project GRAD may have had a positive influence on the precursors to graduation in these two expansion sites.**

The Baseline Characteristics of Students

- On the whole, the Project GRAD high schools in both Columbus and Atlanta appear to have been serving student populations that were similar to the populations at the comparison high schools chosen from within these districts.¹

In Atlanta and Columbus, comparison schools were chosen on the basis of ninth-grade students' characteristics and achievement levels in the three years immediately preceding Project GRAD's implementation (see Appendix C). Table 4.1 presents the average baseline characteristics of ninth-graders at the Project GRAD Columbus high school (Linden-McKinley High School) and the comparison schools chosen for this analysis. The estimates in the table suggest that the Project GRAD and comparison schools in Columbus served similar racial/ethnic populations. For example, during the baseline period, 78 percent of the ninth-graders at both sets of high schools were African-American; the rest of the student body was made up largely of white students and of smaller numbers of Hispanic and Asian students.

On the other hand, the students at the Project GRAD Columbus school were slightly more disadvantaged and demonstrated somewhat weaker academic outcomes than those at the comparison schools. For example, 52 percent of the students at the Project GRAD high school were economically or academically disadvantaged, compared with 39 percent of the students at the comparison schools. Perhaps more important, the Project GRAD students demonstrated lower pass rates on the state tests (35 percent versus 50 percent in reading comprehension; 14 percent versus 18 percent in math). In addition, ninth- to tenth-grade promotion rates at the Project GRAD high schools were 49 percent, compared with 62 percent at the comparison schools.

In Atlanta, in the years immediately preceding program implementation, the demographic composition of students at the Project GRAD and comparison high schools were similar. Table 4.2 compares the baseline characteristics of ninth-graders at the Project GRAD high

¹As was done for the Houston analysis, comparison schools in Columbus and Atlanta were chosen based on the similarity of students' demographic characteristics and achievement outcomes. In particular, in both districts, comparison schools were limited to those that were within 20 percentage points of the modal racial/ethnic group at the Project GRAD high school and those that were within 20 percentage points in terms of average baseline achievement (that is, pass rates on state achievement tests).

The Project GRAD Evaluation

Table 4.1

Baseline Characteristics of Schools and Students at the Project GRAD and Comparison High Schools in Columbus, 1996-1997 Through 1998-1999

Characteristic	Project GRAD School	Comparison Schools	All Columbus High Schools
Average school size			
9th grade	327	317	334
10th grade	196	248	237
11th grade	141	205	189
12th grade	94	183	162
Total	758	953	922
Race/ethnicity (%)			
Black	77.9	78.4	55.5
White	16.0	17.6	39.5
Hispanic	1.6	0.6	1.0
Asian	3.9	1.9	2.6
Other	0.0	0.1	0.2
Gender (%)			
Male	51.4	49.6	48.8
Female	48.6	50.4	51.2
Classified as English speaker of other language (ESOL) (%)	8.5	0.1	1.7
Classified as disabled student (%)	19.3	13.2	12.6
Classified as economically or academically disadvantaged (%)	51.6	38.9	37.3
<u>Characteristics of 9th-grade students</u>			
Overage for grade ^a (%)	62.2	50.1	45.2
Attendance rate ^b (%)	68.2	72.6	75.9
Promoted to the 10th grade	48.9	61.7	63.1
Attendance rate greater than or equal to 90 percent	27.4	35.0	42.8
OPT test scores ^c			
Reading comprehension			
Pass rates	35.4	50.1	50.4
Math total			
Pass rates	13.7	17.7	23.3
Total number of schools	1	4	16

(continued)

Table 4.1 (continued)

SOURCE: MDRC calculations from individual student school records from Columbus Public Schools.

NOTES: Sample consists of students for whom administrative records exist between the 1996-1997 and 2002-2003 academic years.

Cluster consists of a Project GRAD school matched with 4 comparison schools. Results in the Comparison Schools column reflect averages across these groups of non-Project GRAD schools.

^aA student is defined as overage for grade if he or she turns 15 before the start of the 9th grade.

^bAttendance rate is calculated by dividing the number of days present by the number of days enrolled.

^cOPT stands for Ohio Proficiency Test.

school (Booker T. Washington High School) and at the comparison high schools chosen from the rest of the district. The table indicates that the vast majority of students served by both sets of schools — over 98 percent — were African-American. The Project GRAD and comparison high schools also served similar proportions of ninth-grade students who were overage for grade and who attended regularly.²

On the other hand, students at Washington High School scored slightly lower on both the reading and the math test than their counterparts at the comparison schools. While the average normal curve equivalent score of the students at the comparison schools was 31 NCEs on the tenth-grade assessment in math in the years immediately preceding the intervention, the average score of the students at the Project GRAD high school was 24 NCEs.

These differences in baseline characteristics may reflect the fact that Project GRAD generally attempts to target the worst schools in the districts to which it expands. Although the patterns raise some concerns about the appropriateness of the comparison schools selected, the possible choices were restricted to the set of schools that existed in each district. In order to minimize the effect of these differences, the analysis focuses on the progress of each school relative to its own baseline outcomes, and it controls for individual student characteristics, including demographic traits and prior academic performance.³ Moreover, the analysis does not directly compare the levels of student outcomes at the Project GRAD and the comparison schools; rather, it compares the *degree of progress over time* in each set of schools.

²The attendance rate in the Atlanta district is measured as the number of days present divided by 180 days.

³In Atlanta, the analysis controls for only race/ethnicity and being overage for grade.

The Project GRAD Evaluation

Table 4.2

Baseline Characteristics of Schools and Students at the Project GRAD and Comparison High Schools in Atlanta, 1997-1998 Through 1999-2000

Characteristic	Project GRAD School	Comparison Schools	All Atlanta High Schools
Average school size			
9th grade	549	341	431
10th grade	394	256	315
11th grade	307	212	257
12th grade	224	190	221
Total	1,474	999	1,224
Race/ethnicity (%)			
Black	98.2	99.6	92.2
White	0.2	0.2	4.9
Hispanic	0.3	0.2	1.2
Asian	1.1	0.0	1.4
Other	0.0	0.0	0.1
Gender (%)			
Male	47.8	48.9	47.2
Female	52.2	51.1	52.8
Classified as English speaker of other language (ESOL) (%)	0.4	0.0	1.2
<u>Characteristics of 9th-grade students</u>			
Overage for grade ^a (%)	41.8	43.1	39.9
Attendance rate ^b (%)	67.6	67.3	71.5
Attendance rate greater than or equal to 90 percent	40.1	34.3	43.9
ITBS test scores ^c			
Reading total			
Average normal curve equivalent ^d (NCE) score	23.6	32.7	31.1
Math total			
Average normal curve equivalent ^d (NCE) score	23.8	30.3	33.5
Total number of schools	1	2	11

(continued)

Table 4.2 (continued)

SOURCE: MDRC calculations from individual student school records from Atlanta Public Schools.

NOTES: Sample consists of students for whom administrative records exist between the 1997-1998 and 2002-2003 academic years.

Cluster consists of a Project GRAD school matched with 2 comparison schools. Results in the Comparison Schools column reflect averages across these groups of non-Project GRAD schools.

^aA student is defined as overage for grade if he or she turns 15 before the start of the 9th grade.

^bAttendance rate is calculated by dividing the number of days present by the number of days enrolled.

^cITBS stands for Iowa Test of Basic Skills.

^dLike percentile scores, NCEs describe students' achievement relative to the national sample against which the test was normed. NCEs can range from 0 to 100, with a mean of 50 across the population against which the test was normed. Because it is valid to perform arithmetic operations only on cardinal measures, the analysis reported here is based on NCEs rather than on percentile measures of student achievement.

Students' Exposure to Project GRAD

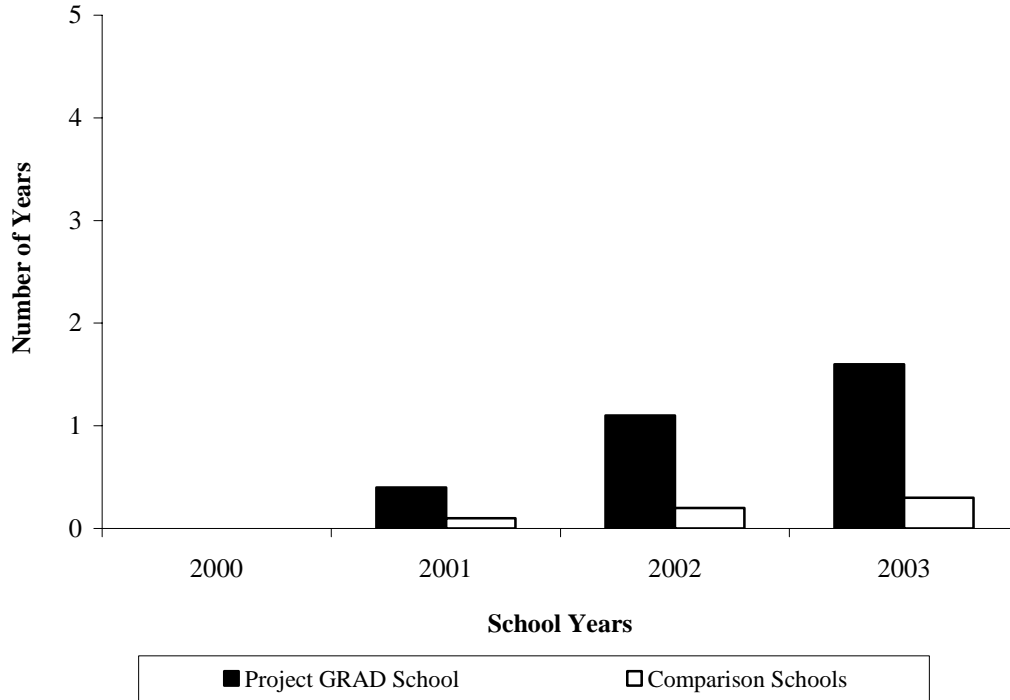
As explained in Chapter 1, rather than focusing on only one school at a time, Project GRAD implements reforms in a “feeder pattern” of elementary and middle schools that “feed” students into a particular high school. The goal of this strategy is not only to target the high school in question but also to improve the academic preparation of students arriving at that high school. An examination of prior exposure to Project GRAD among ninth-graders in Atlanta and Columbus reinforces the fact that the program had not been in place long enough for the cumulative effects of the feeder-pattern strategy to come into play. Moreover, it also suggests that many students who entered the Project GRAD high schools in Columbus and Atlanta had not had any exposure to Project GRAD prior to entering high school.

Figures 4.1 and 4.2 show students' average number of years of exposure to Project GRAD prior to the ninth grade in Columbus and Atlanta, respectively. As Figure 4.1 illustrates, in the last year of the follow-up period, the average ninth-grader entering Linden-McKinley High School in Columbus had attended a Project GRAD elementary or middle school for approximately a year and a half. In Atlanta, the average ninth-grader entering Washington High School had spent less than one year at a Project GRAD elementary or middle school. While the exposure of ninth-graders at the Project GRAD schools exceeded the exposure of ninth-graders at the comparison schools, these patterns suggest that — three to four years into the intervention — the majority of Project GRAD high school students in these two sites were not yet coming from elementary and middle schools in the Project GRAD feeder pattern.

The Project GRAD Evaluation

Figure 4.1

Columbus: Exposure to Project GRAD Prior to Ninth Grade



SOURCE: MDRC calculations from individual student school records from Columbus Public Schools.

NOTES: Project GRAD began in Columbus in the 1999-2000 school year.

Sample consists of students for whom administrative records exist between the 1996-1997 and 2002-2003 academic years.

Cluster consists of a Project GRAD school matched with 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

The Impacts of Project GRAD on Early High School Outcomes

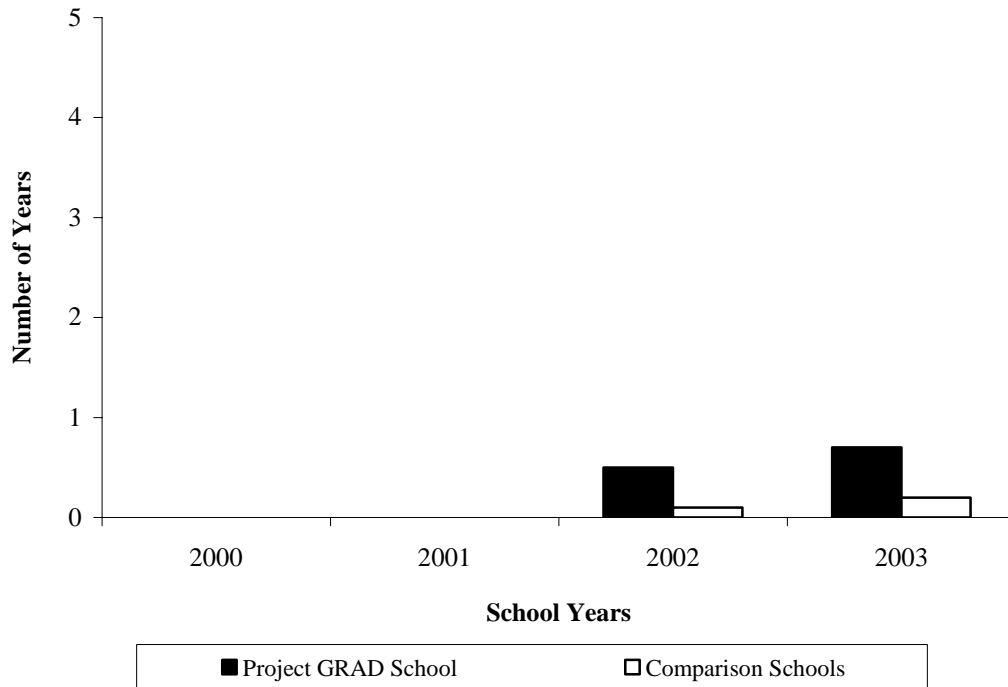
Project GRAD Columbus

Project GRAD Columbus was first implemented at Linden-McKinley High School in the 1999-2000 academic year, and data are available through the spring of 2003.

The Project GRAD Evaluation

Figure 4.2

Atlanta: Exposure to Project GRAD Prior to Ninth Grade



SOURCE: MDRC calculations from individual student school records from Atlanta Public Schools.

NOTES: Project GRAD began in Atlanta in the 2000-2001 school year.

Sample consists of students for whom administrative records exist between the 1997-1998 and 2002-2003 academic years.

Cluster consists of a Project GRAD school matched with 2 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

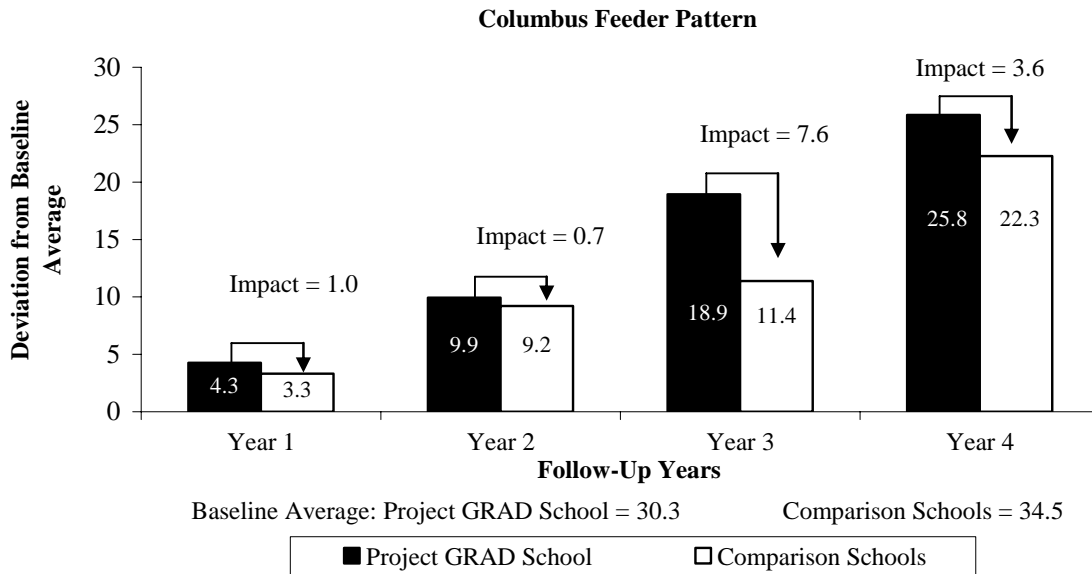
- Attendance rates among ninth-graders at the Project GRAD high school in Columbus improved after the program was implemented.
- The improvements in attendance rates at the Project GRAD high school were mirrored by similar changes at the comparison high schools throughout the district.

Figure 4.3 shows the baseline average percentage of students who had “high attendance” — that is, attendance rates of 90 percent or greater — at both the Project GRAD and the

The Project GRAD Evaluation

Figure 4.3

Estimated Impacts: Percentage of Ninth-Graders in Columbus Who Had Greater Than or Equal to 90 Percent Attendance



SOURCE: MDRC calculations from individual student school records from Columbus Public Schools.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1996-1997 and 2002-2003 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Cluster consists of a Project GRAD school matched with 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

comparison high schools in Columbus. The figure also shows the deviations from the baseline average at the Project GRAD and comparison schools, as well as the estimated program effects (that is, the differences between the deviations from the baseline at the Project GRAD school and at its comparison schools). As in Chapter 3, the shaded bars represent deviations from the baseline average at the Project GRAD school, while the unshaded bars represent deviations from the baseline average at the group of comparison schools.

In the years immediately preceding Project GRAD's implementation, the proportion of students who had greater than 90 percent attendance averaged 30 percent at the Project GRAD high school and 35 percent at the comparison schools. Over the first four years of Project GRAD, the proportion of students with high attendance increased by 26 percentage points, to 56 percent at the Project GRAD high school. At the same time, the comparison schools experienced an average increase of 22 percentage points. While the 3.6 percentage point difference favors the Project GRAD schools, it is relatively small and not statistically significant.

Project GRAD's ultimate goal is to improve high school graduation rates and students' success in college. Among the most important predictors of success and persistence in high school and of "on-time" graduation — which is a condition of receiving the Project GRAD college scholarship — is promotion from ninth to tenth grade.⁴

- During the baseline period in Columbus, the ninth- to tenth-grade promotion rates at the Project GRAD high school were lower than the average rates at the comparison schools.
- Promotion rates at the Project GRAD high school improved over the first few years of program implementation. Over the same period of time, promotion rates at the comparison schools showed a slight decline.
- Although these differences are not statistically significant, they suggest a positive effect on ninth- to tenth-grade promotion rates.

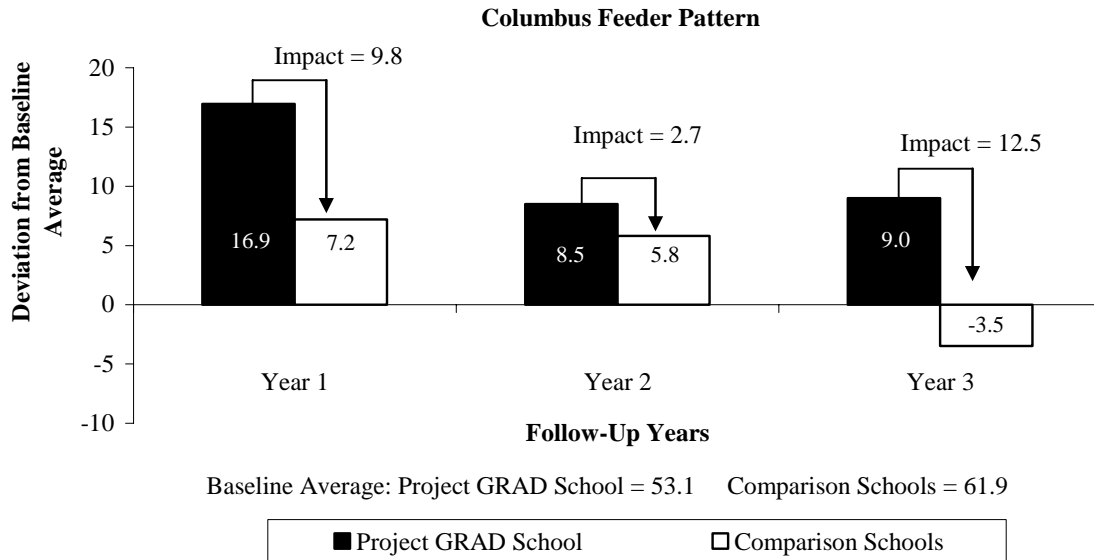
Figure 4.4 reports the average ninth- to tenth-grade promotion rates at baseline in Columbus, as well as the deviations from the baseline at the Project GRAD and comparison high schools. As the figure indicates, in the three years prior to Project GRAD's implementation, ninth- to tenth-grade promotion rates at Linden-McKinley High School averaged 53 percent,

⁴See Roderick (1993).

The Project GRAD Evaluation

Figure 4.4

**Estimated Impacts:
Percentage of Ninth-Graders in Columbus Who Were Promoted to Tenth Grade**



SOURCE: MDRC calculations from individual student school records from Columbus Public Schools.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1996-1997 and 2002-2003 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Cluster consists of a Project GRAD high school matched with 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

compared with 62 percent at the comparison schools. Although the promotion rates fluctuated over the course of the follow-up period, during the first three years of the program, there was a net growth of 9 percentage points — to 62 percent — in promotion rates at the Project GRAD Columbus high school. At the same time, promotion rates at the comparison schools fell 4 percentage points, to 58 percent.

This difference suggests that Project GRAD had a positive impact of 13 percentage points on ninth- to tenth-grade promotion rates at Linden-McKinley High School. These differences are not statistically significant, however, so one cannot rule out the possibility that they are driven by chance.⁵

Project GRAD Atlanta

Project GRAD was implemented at Booker T. Washington High School in Atlanta in the 2000-2001 academic year. Inasmuch as data are available through 2002-2003, the analysis can follow the program's effects through three years of implementation.

- The Project GRAD high school in Atlanta has seen improvements in both attendance rates and ninth- to tenth-grade promotion rates.
- In general, though most of these differences are not statistically significant, these improvements appear larger than the changes at the comparison schools.

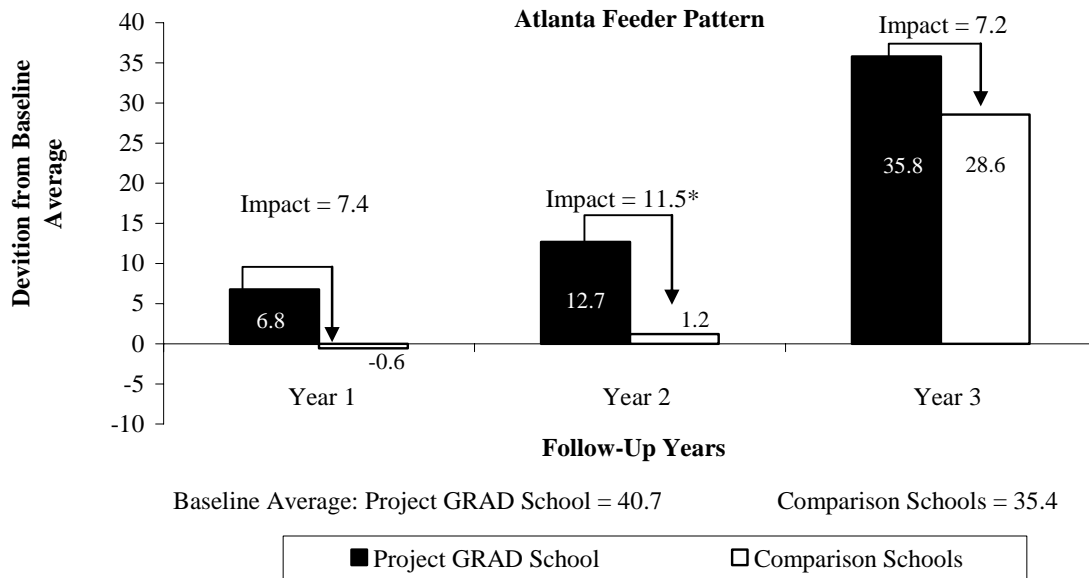
Figure 4.5 shows baseline attendance rates and the degree of progress over time at the Project GRAD and comparison high schools in Atlanta. The patterns suggest that Project GRAD had a positive impact on attendance, at least through the second year of follow-up. In the baseline period, an average of 41 percent of Project GRAD ninth-graders had 90 percent attendance or better, compared with about 35 percent at the comparison schools. In the first two years of the program, the improvements at the Project GRAD school clearly outpaced progress at the comparison schools. From the baseline period to two years after program implementation, the percentage of ninth-grade students at Washington High School who had high attendance increased from below 41 percent to above 53 percent — a change of nearly 13 percentage points. During the same period, the percentage of ninth-grade students who had high attendance rates at the comparison schools increased by only 1 percentage point. This results in a statistically significant impact of approximately 12 percentage points. In the third year of follow-up, the percentage of ninth-graders at the Project GRAD school who had high attendance continued

⁵The fact that a difference of this magnitude is not statistically significant underscores the limitations of the statistical inferences that can be made from analyses involving only one Project GRAD school.

The Project GRAD Evaluation

Figure 4.5

**Estimated Impacts:
Percentage of Ninth-Graders in Atlanta Who Had
Greater Than or Equal to 90 Percent Attendance**



SOURCE: MDRC calculations from individual student school records from Atlanta Public Schools.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1997-1998 and 2002-2003 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from baseline between Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Cluster consists of a Project GRAD high school matched with 2 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

to increase — to 77 percent. The percentage of such students at the comparison schools also grew, to 64 percent. So even though the Project GRAD and comparison schools made similar progress in terms of attendance rates, it appears that Project GRAD created these results sooner than they otherwise would have occurred.

Figure 4.6 shows baseline averages and program effects on ninth- to tenth-grade promotion rates in Atlanta. During the baseline period, an average of 59 percent of ninth-graders at the Project GRAD high school in Atlanta were promoted to the tenth grade by the next school year. The proportion of Project GRAD ninth-graders who were being promoted to the tenth grade appears to have grown in the first two years of follow-up.⁶ In both years, the gains at the Project GRAD school appear to have exceeded the gains at the comparison schools. Yet these differences are not statistically significant, and one cannot rule out the possibility that they were driven by chance.

Conclusions

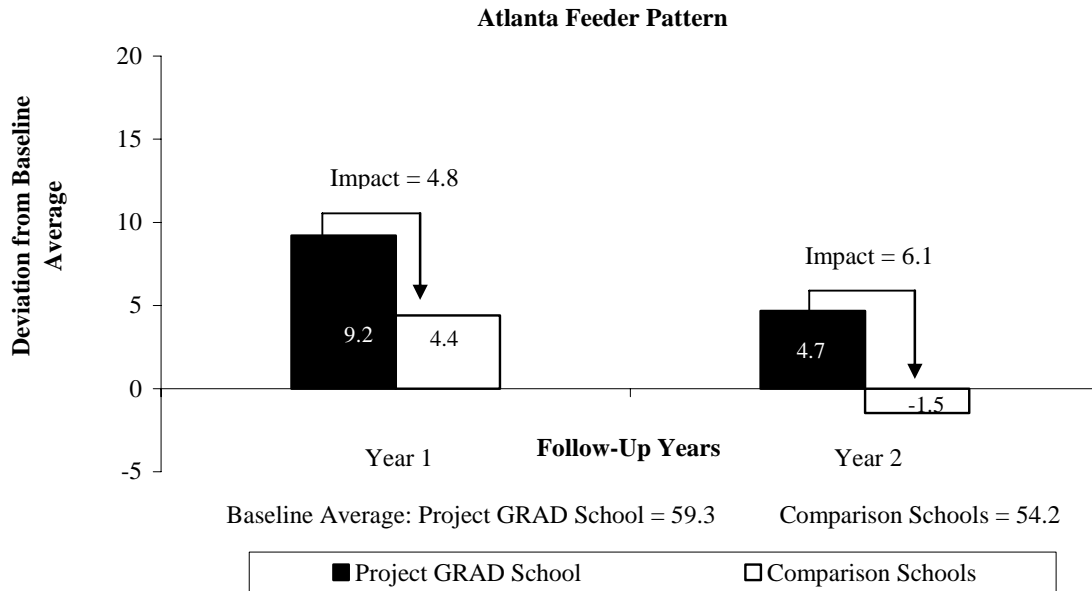
Though not conclusive, these results suggest that Project GRAD may have had a positive influence on the precursors to graduation in two of the initiative's early expansion sites: Columbus and Atlanta. The estimated program effects in these sites are often not statistically significant. Nevertheless, the comparison of the progress made at Project GRAD high schools and at similar comparison schools from the same districts consistently favors the Project GRAD schools. Given the small sample sizes in these analyses, the absence of statistical significance could be driven by a lack of statistical power rather than by a lack of systematic effects. These results are both modest and early, measuring only the first few years of program implementation. As such, they should be interpreted with caution. Key questions include whether these differences will increase or wane in the next several years of Project GRAD's implementation — and whether they will translate into meaningful effects on high school students' graduation rates and preparation for college.

⁶Although there are three years of data for other outcomes in Atlanta, the analysis can calculate promotion rates for only two years after program implementation because data from the following academic year are needed in order to determine promotion status.

The Project GRAD Evaluation

Figure 4.6

**Estimated Impacts:
Percentage of Ninth-Graders in Atlanta Who Were Promoted to Tenth Grade**



SOURCE: MDRC calculations from individual student school records from Atlanta Public Schools.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1997-1998 and 2002-2003 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from baseline between Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Cluster consists of a Project GRAD school matched with 2 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

Chapter 5

Conclusions and Implications for Project GRAD

High school reform — the focus of increased attention among policymakers and practitioners — is in many ways more challenging than improvement efforts that are targeted at lower grades. For instance, elementary schools are usually smaller and simpler institutions than high schools; they cover a narrower range of academic subjects and student skill levels, and more is known about effective ways to guide elementary instruction. The contrast between recent improvements in student success at many low-performing elementary schools and the slow and inconsistent progress at the high school level only highlights the challenge that Project GRAD faces in working with troubled high schools.

Recognizing the difficulty of improving student achievement at the high school level, Project Graduation Really Achieves Dreams (GRAD) — like many reform efforts — has paid close attention to trends in student outcomes, documenting these measures as operational indicators at the schools that have adopted the program. By participating in this evaluation, however, Project GRAD has also tackled a strategically important and more demanding question: How do the trends in student outcomes at the Project GRAD schools compare with the trends at similar schools using other strategies? Project GRAD sought to understand its contribution to improving student outcomes above and beyond other strategies — as well as to identify aspects of its approach that need refinement. This report and the companion study on elementary schools use the shorthand of *impacts*, or *effects*, to describe the added value that Project GRAD brings.¹

The very nature and complexity of the Project GRAD feeder system intervention, which posits that students would need to be exposed to the program over many years, combined with the limited amount of follow-up in the expansion sites and the reform-rich context of urban school districts, created a challenging set of conditions for a meaningful evaluation. While the Houston feeder patterns provide a reasonable test of the intervention, the results for Atlanta and Columbus should be treated as more provisional. In addition, because the high school evaluation began concurrently with the implementation of Project GRAD in the expansion site feeder elementary and middle schools, the study was not in a position to capture cumulative effects of students' exposure to the intervention in the earlier grades in those districts. Only in the latter years of follow-up in Houston did this begin to be possible. Finally, findings from the single high schools in Atlanta and Columbus — as well as from Jefferson Davis High School in Houston — should be interpreted with some caution.

¹For information about Project GRAD at the elementary level, see Snipes, Holton, and Doolittle (2006).

What Is Unique About Project GRAD?

As described in this report, Project GRAD differs from other high school reform efforts in several other important ways. First, rather than focusing solely on a single high school, Project GRAD also intervenes in the feeder pattern of elementary and middle schools that are associated with that high school. In this way, it straddles the gap between district-level attempts to reform all schools and whole-school reforms that work with individual schools. Second, Project GRAD has an unusual theory of change that guides its design. Many high school reforms modify classroom instruction through distinctive curricular offerings intended to address the skill deficits of incoming students, offer teachers intensive professional development on content and pedagogy, and/or restructure schools into smaller learning communities. In contrast, Project GRAD's strategy in high schools relies on the *demand push* for change from better-prepared entering students coming from Project GRAD feeder schools and the *opportunity pull* toward success provided by the promise of financial support for college through the Project GRAD scholarship offer. To bolster the effects of these forces, Project GRAD adds classroom management and social service components at the high school level to improve the learning environment and to address the motivation of students, focusing their attention on college-going and supporting their progress through high school and college. Finally, Project GRAD adopts a decidedly long view of high school reform, arguing that making a sustained investment in improving the core academic skills of students *before* they enter ninth grade will have a bigger payoff on high school performance than addressing skill deficits after students reach high school.

Project GRAD's model assumes that better-prepared students would come from the Project GRAD feeder schools, would benefit from special academic counseling and summer academic enrichment in high school, and would qualify for a scholarship to attend college, which is the "cornerstone" of the Project GRAD reform. The combination of Project GRAD reforms at the elementary school level — which directly affect instruction in classrooms — was intended to increase the chances that students could take advantage of the opportunity provided by the college scholarship. At the high school level, there has not been a similar effort to change instruction through structural changes in the organization of the school, new curricula to address skill deficits, or intense professional development.

What Do These Research Findings Suggest?

The findings in this report — combined with the companion elementary school study, other research, and operational and policy knowledge — provide insights into the strengths that Project GRAD brings to school improvement efforts as well as into the challenges that it still faces. MDRC's elementary school evaluation found that students at Project GRAD schools generally showed as much improvement on high-stakes state achievement tests as students at similar local schools — but *without* suffering the decline seen in comparison schools on na-

tional tests, which measure achievement more broadly. This suggests that Project GRAD can modestly improve the academic achievement of students leaving elementary school — an essential element of its strategy to develop better-prepared students entering high school.

However, the findings from the high school study tell a more complicated story. The evaluation found only inconsistent effects on academic success among ninth- and tenth-graders and no effects on the percentage of ninth-graders who graduated from the three longest-operating Project GRAD high schools studied. Yet among those who did graduate from Project GRAD's flagship, Davis High School in Houston, students were more likely to have completed a core academic curriculum within four years, meaning that they were better prepared to enter college. In the two other Houston high schools studied, these effects have not yet appeared, and it is too early to detect such trends in Atlanta and Columbus, the expansion sites in the study.

Why does this pattern of findings appear? The evidence points to at least two hypotheses. First, it may be more difficult than expected to quickly improve the academic performance of incoming high school students by intervening in feeder schools — a core tenet of Project GRAD's strategy. The implementation research highlights the fact that the Project GRAD strategy takes time to unfold; in each site, the various components at all schools were rolled out gradually. In addition, it turns out that the feeder patterns for the high schools examined in this study were “leaky” — as a result of high rates of mobility and school-choice options, many students in the Project GRAD high schools had not benefited from exposure to the model in elementary or middle school.²

Second, other research has zeroed in on the crucial transitions that students must make as they enter high school, particularly on the central role that completing ninth grade on time plays in a student's eventual completion of high school.³ Being “on track” at the end of the first year of high school is a stronger predictor of eventual on-time graduation than a student's entering achievement level is.⁴ Thus, because early indicators of high school success are important, they are featured as key outcomes in this report. One explanation for the lack of impacts by Project GRAD on these ninth- and tenth-grade measures (and perhaps on graduation rates) could be the initiative's lack of a direct intervention in ninth-grade instruction during the time period covered by the study. On the other hand, while Project GRAD did not produce improvements in graduation rates, its services were able to affect the course-taking of students who were already headed toward graduation. The scholarship requirements, counseling on the best academic

²Research in other settings — for example, Chicago — illustrates that it is possible to improve academic outcomes for high school students by improving academic performance in the early grades through a district-wide effort. See Roderick (2006).

³Roderick (2006); Quint (2006).

⁴Roderick (2006).

preparation for college, and social service supports seem likely reasons for the impacts on the academic preparation of graduates at the flagship high school in Houston.

It may well be that the larger problems facing most low-performing high schools overwhelmed the combination of the “demand push” and the “opportunity pull” of Project GRAD’s strategy. Students in many high schools encounter large impersonal organizations, which are focused more on academic content and less on building individualized relationships among students and teachers. Course offerings are often driven by graduation requirements, meaning that the development of new and better curricula can be a slow process. So, absent specific efforts and new resources, the demands of the better-prepared entering students may not be enough to spark necessary change in high school instruction.

What Are the Implications of These Findings for Project GRAD?

Given Project GRAD’s long-view strategy of developing better-prepared students in feeder schools, this evaluation of its high school intervention has come relatively early in its development, particularly in the expansion sites outside its home district of Houston. At the same time, the marketplace in which Project GRAD operates is highly competitive. Local decision-makers, who face intense pressure to improve high schools quickly, are weighing Project GRAD against other reforms that intervene more directly in the daily educational experience of high schools — many of which have not taken on a comparative study like this to understand their own added value.

One of the key implementation findings of MDRC’s study is that Project GRAD is a dynamic organization that has responded to operational lessons, changing policy emphases, and research evidence to modify its strategy over time. In fact, it has already begun to refine its high school approach to address some of the challenges suggested by this evaluation, including the effects of “leaky” feeder patterns, the relatively slow rollout of the components of the Project GRAD intervention, and the difficulties of transforming high schools without directly intervening in classrooms. Several refinements — some of which Project GRAD has begun to adopt — seem promising.

First, Project GRAD continues to enhance the learning environments in its high schools. For years, Project GRAD has included components to improve classroom and school climate and functioning (Consistency Management & Cooperative DisciplineSM), address personal and family issues that hamper learning (Communities In Schools and, more recently, Campus Family Support), and create better counseling and support for college-going. It has long operated in tandem with other reforms in its high schools to offer complementary services. Recently, Project GRAD has collaborated with district efforts to create smaller structures within schools — small learning communities — that can provide more personalized and more orderly

learning environments. (Recent research suggests that small learning communities can provide a setting in which it is easier to address other educational concerns.)⁵

Second, directly addressing the skill deficits of entering high school students through curricular innovations could improve the percentage of ninth-graders making a successful transition to tenth grade. Several complementary high school reforms include special ninth-grade coursework that focuses on developing key gateway skills (like algebra) to later subjects and study strategies that carry across all academic topics. There is growing evidence that changing ninth-grade instruction in these ways can produce improvements in high school outcomes.⁶ In a sense, Project GRAD may face the choice of working in high schools where new strategies are already in place to improve instruction and surrounding these efforts with the support it offers *or* partnering with other organizations to add instructional reforms to the package Project GRAD brings to the schools it serves.

Finally, recent experience suggests that organizations outside school districts can be important in stimulating and supporting high school improvements. Project GRAD has already traveled a long way in building this kind of capacity for participating districts. Over the last decade, Project GRAD has evolved from an effort in one feeder pattern in Houston to a broader initiative throughout the district, to a coalition of affiliated efforts across several districts, to a network of 18 feeder patterns in 12 districts supported by local Project GRAD organizations and a substantial national organization, Project GRAD USA. As the number of high school reform models multiplies nationally, the challenge for the field is to develop ways for different reforms to work together. It will be increasingly rare for any single reform organization to be given free rein to work in a troubled high school or district over an extended period. More and more, schools and districts are seeking to integrate various reform approaches with complementary strengths that will serve the needs of their students.

In many ways, Project GRAD's multifaceted strategy was ahead of its time, prefiguring a variety of current reform approaches. The focus on the full span of grades, the connection to postsecondary education, and the need to work above the level of individual schools are now appreciated as important aspects of many district-level reforms. Project GRAD now has the opportunity to build on its strengths, incorporate additional components into its strategy, and develop strategic partnerships with other complementary school improvement efforts — to create the next generation of its reform model.

⁵Quint (2006).

⁶Kemple, Herlihy, and Smith (2005).

Appendix A

**The Impacts on High School Graduation
Among All Ninth-Grade Students in Houston**

The estimated effects of Project Graduation Really Achieves Dreams (GRAD) on high school graduation rates that are presented in the body of this report focus on outcomes for first-time ninth-graders. However, as is the case in many high schools throughout the country, in any given year, a substantial portion of ninth-graders who were enrolled at the Project GRAD high schools and their comparison schools in Houston were students who were repeating the ninth grade. It is therefore possible that the effects of Project GRAD on graduation-related outcomes for first-time ninth-graders are different from the effects of the program on ninth-graders as a whole.

In order to explore this possibility, this appendix reports the estimated effects of Project GRAD on high school graduation for the full sample of ninth-grade students at Davis, Yates, and Wheatley high schools. In short, although the graduation rates are lower for the full sample of ninth-graders than for the first-time ninth-graders, the pattern of impacts is similar.

Appendix Figure A.1 presents the distribution of graduation rates among all ninth-graders at the Project GRAD high schools in Houston during the years immediately preceding Project GRAD's implementation at each school. As the figure shows, the majority of entering ninth-graders did not graduate within four years. In fact, over 50 percent of them were no longer enrolled in the district three years later. About 54 percent of the ninth-graders in the sample left the district — that is, either dropped out or moved to another district — before their scheduled end of the twelfth grade; 14 percent remained enrolled in the district but had not reached the twelfth grade three years later; and 10 percent made it to the twelfth grade but did not graduate on time. Even among those ninth-graders who reached the twelfth grade on time, about a quarter of students did not graduate on time. In the end, an average of 22 percent of all ninth-graders in Houston's Project GRAD high schools graduated three years later.

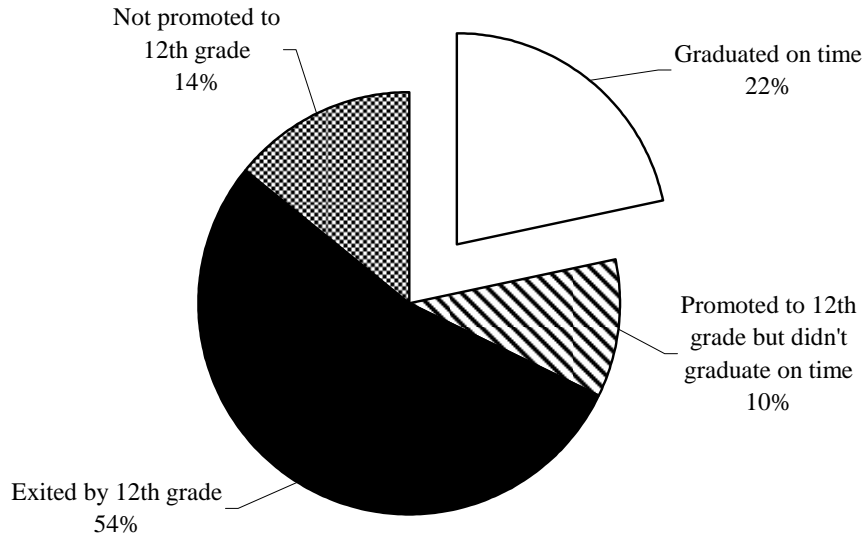
Appendix Figure A.2 presents the estimated impacts of Project GRAD on graduation rates among all ninth-grade students in Houston. It addresses the question: Did a student ever graduate from the Houston Independent School District (HISD)? The upper panel of the figure presents the estimated impacts of Project GRAD at Davis High School, while the lower panel presents the average impacts of Project GRAD across Davis, Yates, and Wheatley high schools combined. As in the body of the report, the baseline averages for the Project GRAD and the comparison schools appear below each graph.

The vertical bars in the graph represent the difference between these baseline averages and the average outcomes in each of two parts of the follow-up period: the first three years after Project GRAD's implementation (Years 1-3) and the next three years (Years 4-6). The shaded bars represent the deviation from the baseline average at the Project GRAD school(s), and the unshaded bars represent the deviation from the baseline average at the comparison schools. The figure also reports the *difference* between the deviation from the baseline at the Project GRAD school and the deviation from the baseline at the comparison schools. This is the estimated program "impact," that is, the estimated *effect* of Project GRAD over and above the changes that would have been observed without the program.

The Project GRAD Evaluation

Appendix Figure A.1

**Houston: Distribution of All Ninth-Graders Who Graduated On Time
Three Years Later, Average Prior to Project GRAD**



SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

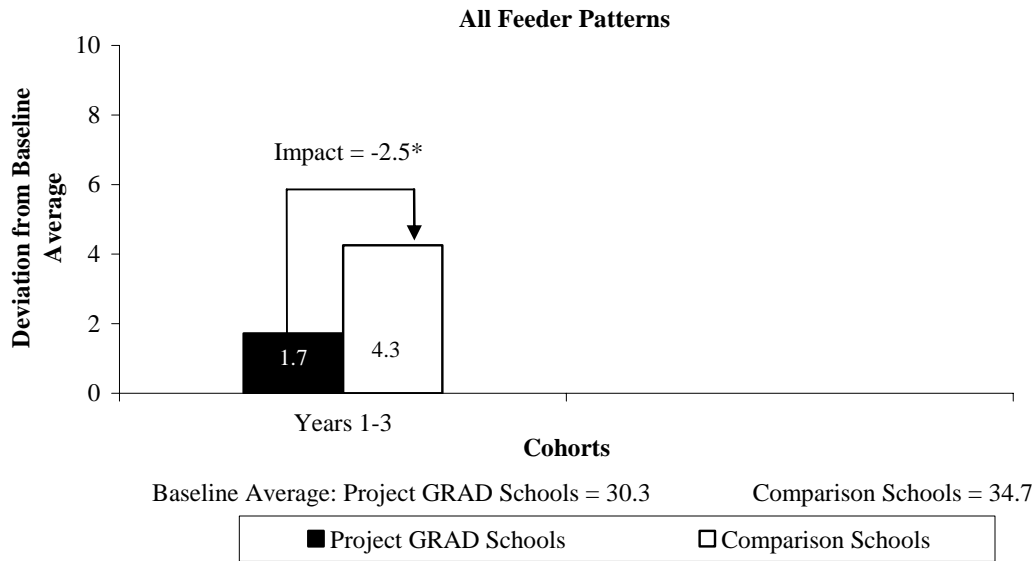
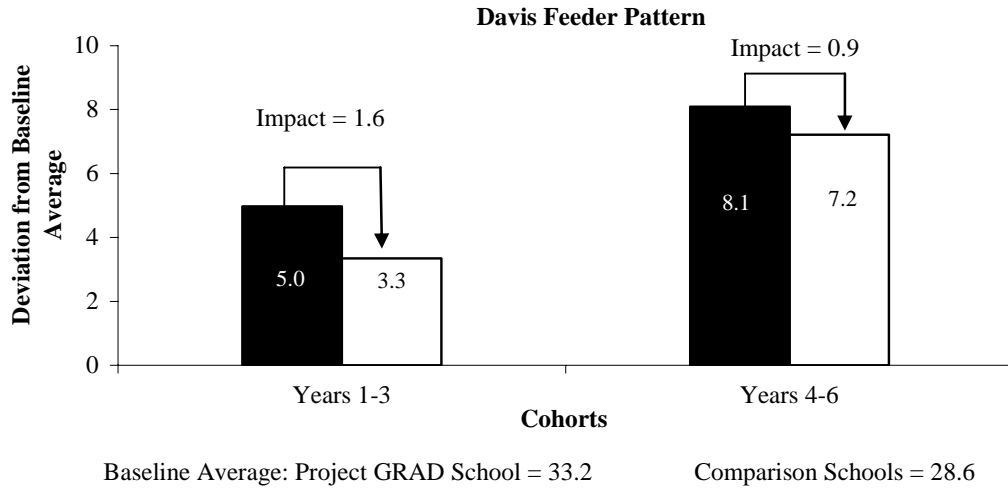
NOTES: The baseline period for Davis High School is 1991-1992 to 1993-1994. The baseline period for Yates High School is 1993-1994 to 1995-1996. The baseline period for Wheatley High School is 1994-1995 to 1996-1997.

Baseline averages are unadjusted.

The Project GRAD Evaluation

Appendix Figure A.2

**Houston: Percentage of All Ninth-Graders Who Ever Graduated,
Six-Year Follow-Up Results**



(continued)

Appendix Figure A.2 (continued)

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

This figure focuses on analysis of successive cohorts of first-time ninth-graders at Project GRAD and comparison schools and whether students graduated on time three years later.

The patterns of findings on these outcomes are similar to the patterns presented in the report for a sample of first-time ninth-grade students. The estimated program effects on graduation rates that are presented in the report focus on whether or not first-time ninth-grade students graduated within four years of starting high school. However, many students who graduate do so in more than four years. Therefore, it is possible that focusing only on "on-time" graduation could generate inaccurate estimates of graduation effects.¹ With that in mind, Appendix Figure A.2 presents the estimated effects on graduation rates *regardless of whether or not students graduated on time*. In other words, for each class (cohort) of ninth-graders, the analysis calculates the percentage of students who graduated in any year of the follow-up period (which ended in 2004 but includes graduates only through 2003). As is the case for four-year graduation rates, the observable trend is an increase in the percentage of ninth-grade students graduating at both the Project GRAD and the comparison high schools. In general, the differences between the progress at Davis High School and its comparison counterparts are relatively small (less than 1 percentage point by the end of the follow-up period) and are not statistically significant. Interestingly, the three Project GRAD high schools as a whole experienced a smaller increase in graduation rates than their comparison schools, resulting in a modest but statistically significant negative effect on graduation rates.

¹The effects could be overestimated or underestimated, depending on the dynamics at work.

Appendix B

**High School Achievement in Houston:
Was There Shifting of the Pool of Test-Takers?**

The body of this report presents the estimated effects of Project Graduation Really Achieves Dreams (GRAD) on ninth-grade students who subsequently took and passed the tenth-grade Texas Assessment of Academic Skills (TAAS) at three Project GRAD Houston high schools (Davis, Yates, and Wheatley), which is contingent on a ninth-grade student's getting to the tenth grade to take the test by the following year. Despite rising pass rates on the math and reading portions of the TAAS at both the Project GRAD high schools and the comparison high schools, generally, there were inconsistent, modest, and not statistically significant effects on student achievement.

Simply looking at pass rates for ninth-graders on the tenth-grade test might be subject to a problem with gaming of the test-taking population. Because of this concern, the body of this report presents a measure that includes both taking the test and passing the test. Given the presence of high-stakes accountability systems in Texas and the great importance of the tenth-grade test, theoretically, it is possible that schools were holding back lower-performing ninth-graders in the ninth grade and skipping them to the eleventh grade, in order to artificially increase pass rates among the tenth-graders who took the test. If this practice was common — and if it was more prevalent among the comparison schools than the Project GRAD schools — it could have generated biased estimates of program effects. In particular, by reducing the number of lower-performing students who took the test, the comparison schools could have overstated the achievement levels — or the growth in achievement — of their students. If the Project GRAD schools were not doing the same thing, the disparate growth in achievement at the comparison schools might suggest negative program effects where none exist, by systematically shifting the test-taking population of tenth-graders.

By looking only at students who took and passed the tenth-grade test (as is done in Chapter 3), this measure already includes a component that reflects differential promotion or test-taking patterns. This appendix further explores this issue, first by reviewing the implications of estimated effects on promotion rates and then by presenting the results of several additional sensitivity analyses.

With respect to promotion rates, to the extent that the comparison schools systematically manipulated promotions in ways that were different from the Project GRAD schools, this should have generated impacts on achievement. In particular, if fewer lower-performing ninth-grade students were promoted to tenth grade and then skipped to eleventh grade the following year, the ninth- to tenth-grade promotion rates should be reduced. To the extent that this practice occurred at the comparison schools but not at the Project GRAD schools, the program should have had positive effects on ninth- to tenth-grade promotion rates. Looking across the estimates at Davis, Yates, and Wheatley High Schools suggests relatively modest, statistically insignificant effects on promotion — for example, a positive effect of less than 5 percentage points in the second three years of implementation. During that same time, the estimated effects on pass

rates on the math portion of the TAAS suggest an effect of *negative* 3 percentage points. Though not impossible, it seems unlikely that the difference in achievement was driven by the difference in promotion rates.

Nevertheless, MDRC employed several other sensitivity tests to explore the extent to which there was any gaming of the test-taking population that resulted in different test-taking patterns and whether these differences could have resulted in biased estimates of program effects on achievement. First, the analysis explores the percentage of ninth-grade students in a given year who did not take the tenth-grade test the following year. The findings suggest that the vast majority of ninth-graders did not take the test the following year and that there were only small differences in the changes over time in test-taking patterns at Davis, Yates, and Wheatley High Schools versus their comparison counterparts.

Appendix Table B.1 reports the estimated effects of the percentage of ninth-grade students who did *not* take the tenth-grade math portion of the TAAS (anywhere in the Houston Independent School District) the following academic year. Perhaps the most striking finding in this table is that, in any given year, the majority of ninth-graders at both Project GRAD and comparison schools did not take the tenth-grade math test the following year. For example, during the baseline period, roughly 73 percent of the ninth-graders at Davis, Yates, and Wheatley High Schools combined did not take the tenth-grade math portion of the TAAS the following academic year. The same could be said for approximately 72 percent of the ninth-graders at the comparison schools. Appendix Table B.1 also suggests that the percentage of test-takers grew by roughly 2 percentage points at the Project GRAD high schools and by 4 percentage points at the comparison schools. In other words, though the difference is not statistically significant, the increase in test-takers was *greater* at the comparison schools than at the Project GRAD schools — the opposite of what one would expect if gaming were driving the test results. Appendix Table B.2 presents parallel estimates for the percentage of ninth-graders *not* taking the tenth-grade reading portion of the TAAS the following year, and it shows similar results.

In short, this analysis does *not* suggest that the comparison schools were testing a smaller proportion of their ninth-grade students or that test-taking patterns were changing in a way that would generate favorable achievement results at the comparison schools.

The Project GRAD Evaluation

Appendix Table B.1

**Interrupted Time Series and Impact Estimates for Ninth-Graders Not Taking the Tenth-Grade Math Test
One Year Later, Follow-Up Results, by Houston Feeder Pattern**

Feeder Pattern	Project GRAD Schools			Comparison Schools			Impact		Impact Effect Size ^a	
	Baseline	Years 1-4	Years 5-7	Baseline	Years 1-4	Years 5-7	Years 1-4	Years 5-7	Years 1-4	Years 5-7
<u>Davis</u>										
10th-grade math test										
Pass rate	61.7	70.0	62.0	66.0	72.7	69.3				
Deviation from baseline average		8.3	0.3		6.7	3.3	1.6	-3.0	0.04	-0.07
<u>All clusters</u>										
10th-grade math test										
Pass rate	72.7	70.8		72.4	68.3					
Deviation from baseline average		-1.9			-4.1		2.2		0.05	

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

In 2002 the test changed from the TAAS to the TAKS.

Ninth-graders did not take the 10th-grade math test the next year.

^aThe "impact effect size" was calculated by dividing the "impact" by the standard deviation of outcomes for all 9th-grade students in the district's non-selective comprehensive high schools during the 1993-1994 through 1995-1996 school year.

The Project GRAD Evaluation

Appendix Table B.2

Interrupted Time Series and Impact Estimates for Ninth-Graders Not Taking the Tenth-Grade Reading Test One Year Later, Follow-Up Results, by Houston Feeder Pattern

Feeder Pattern	Project GRAD Schools			Comparison Schools			Impact		Impact Effect Size ^a	
	Baseline	Years 1-4	Years 5-7	Baseline	Years 1-4	Years 5-7	Years 1-4	Years 5-7	Years 1-4	Years 5-7
<u>Davis</u>										
10th-grade reading test										
Pass rate	62.1	70.2	62.4	66.5	73.3	69.6				
Deviation from baseline average		8.1	0.2		6.8	3.1	1.2	-2.9	0.03	-0.07
<u>All clusters</u>										
10th-grade reading test										
Pass rate	73.0	71.2		72.8	69.2					
Deviation from baseline average		-1.8			-3.6		1.8		0.04	

SOURCE: MDRC calculations from individual student school records from the Houston Independent School District.

NOTES: Estimates are regression-adjusted for students' background characteristics.

Sample consists of students for whom administrative records exist between the 1990-1991 and 2003-2004 academic years.

The "deviation from the baseline" for each year was calculated as the difference between the baseline average and the average for the specified year.

The "impact" was calculated as the difference between the "deviation from the baseline" for Project GRAD schools and the "deviation from the baseline" for the comparison schools.

A two-tailed t-test was applied to differences in deviations from the baseline for Project GRAD and comparison schools. Standard errors and statistical significance levels of deviations from the baseline are adjusted to account for cohort effects. Statistical significance levels are indicated as: *** = 1 percent; ** = 5 percent; * = 10 percent.

Clusters consist of a Project GRAD school matched with a group of between 2 and 4 comparison schools. Results in the Comparison Schools columns reflect averages across these groups of non-Project GRAD schools.

In 2002 the test changed from the TAAS to the TAKS.

Ninth-graders did not take the 10th-grade reading test the next year.

^aThe "impact effect size" was calculated by dividing the "impact" by the standard deviation of outcomes for all 9th-grade students in the district's non-selective comprehensive high schools during the 1993-1994 through 1995-1996 school year.

Appendix C

Selecting Comparison Schools

Comparison schools are included in the evaluation of Project Graduation Really Achieves Dreams (GRAD) in order to build on the information already provided in the baseline patterns at Project GRAD schools. Combined with the information regarding student achievement at baseline, information from the comparison schools provides an estimate of the outcomes that would have been observed at the program schools in the absence of the Project GRAD intervention. Specifically, the comparison schools refine the estimates of how student outcomes at the program high schools would have *changed* in the absence of Project GRAD. For example, suppose student outcomes improved dramatically at the comparison schools. If these schools were from the same district, were similar to the Project GRAD high schools in terms of students' demographic characteristics, and demonstrated a similar history of student outcomes, it may be reasonable to conclude that — even in the absence of Project GRAD — the program schools might have experienced a similar amount of progress. On the other hand, if the outcomes at a set of comparison schools declined after the baseline period, the most reasonable conclusion may be that — absent the Project GRAD intervention — outcomes at the program schools would have worsened.

If the comparison schools are to serve this purpose, they must be as similar as possible to the program schools in the analysis. Therefore, the goal in choosing comparison schools is to find a set of high schools that, absent the intervention, would be expected to perform in a manner similar to that of the Project GRAD schools.

In order to ensure “face validity” as well as to guard against the possibility that schools serving different populations of students could evolve differently in response to the same local events, the analysis limits comparison schools to those that served demographically similar student bodies. In order to further limit the set of comparison schools to those that had a similar track record in terms of student outcomes, the analysis also limits the comparison schools to those that had similar histories of prior achievement. In particular, for each Project GRAD high school in Houston, the selected set of comparison schools from the same school district met the following criteria:

- The percentage of students in the modal racial/ethnic group at the Project GRAD high school was within 20 percentage points of the percentage of students in that racial/ethnic group at the comparison school.
- Average TAAS scores in reading and math during the baseline period were within 0.25 standard deviation of average TAAS scores at the Project GRAD high school.

Table 3.2 (in Chapter 3 of the report) presents the average baseline characteristics of students at the three Project GRAD Houston high schools included in this analysis (Davis, Yates, and Wheatley) and the baseline characteristics of students at their comparison counterparts. The table shows that, on average, the comparison high schools chosen for the analysis served similar —

though not identical — student populations and exhibited similar levels of student outcomes during the years immediately preceding Project GRAD’s implementation at each high school.

For example, the table shows that the Project GRAD schools served slightly more black students than their comparison counterparts. On average, 56 percent of the students served by the Project GRAD schools during the baseline period were black, compared with 44 percent at the comparison schools. The schools served similar proportions of Hispanic students, 42 percent at both the Project GRAD and the comparison schools. So, in total, 98 percent of the students served by the Project GRAD schools were black or Hispanic, compared with 86 percent at the comparison schools. It’s important to note that these differences are modest and that measures of students’ race/ethnicity are included in the equations predicting the program’s impacts.

It is worth noting that — prior to the implementation of Project GRAD — the students at the Project GRAD and comparison schools exhibited similar outcomes. For example, 61 percent of students at the Project GRAD schools had attendance rates of 90 percent or greater, compared with 62 percent at the comparison schools. At both the Project GRAD and the comparison high schools, approximately 50 percent of ninth-graders were promoted to the tenth grade. Tenth-grade pass rates on the reading portion of the TAAS averaged 61 percent at the Project GRAD schools, compared with 63 percent at the comparison schools. The tenth-grade pass rates on the math portion of the TAAS averaged 44 percent at the Project GRAD schools, compared with 42 percent at the comparison schools.

In general, this suggests that though there were slight differences in students’ demographic characteristics, the Project GRAD and comparison schools served similar student populations and exhibited similar student outcomes in the years immediately preceding Project GRAD.

Because Chapter 3 of this report presents impact estimates separately for Davis High School, Table 3.1 shows the baseline characteristics of students there and at its comparison schools. As the table suggests, the vast majority of students at Davis and its comparison schools were Hispanic, but this percentage was somewhat larger at Davis — 84 percent versus 73 percent. As is the case for the aggregate numbers, Davis High School students and their comparison school counterparts exhibited similar outcome patterns during the baseline period.

In general, the program schools and the comparison schools in this analysis exhibited slight differences in demographic characteristics (which were controlled for in the analysis of program effects), but they were similar in terms of student outcomes in the years preceding the implementation of Project GRAD.

As is the case for the Houston analysis, the comparison schools in Atlanta and Columbus were chosen on the basis of similarity to the Project GRAD students’ demographic characteristics and achievement outcomes. In particular, in both districts, comparison schools were

limited to those that were within 20 percentage points of the modal racial/ethnic groups at the Project GRAD high school and were within 20 percentage points of that school's average baseline pass rates in reading and math. Table 4.1 compares the characteristics of students at Linden-McKinley High School in Columbus with the comparison schools chosen for the analysis. Table 4.2 shows the characteristics and outcomes among students at Booker T. Washington High School in Atlanta versus the comparison schools chosen from that district. As in Houston, these Project GRAD high schools and their comparison schools were similar — though not identical — in terms of students' baseline characteristics and baseline achievement outcomes.

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MDRC Publications on Project GRAD

Striving for Student Success

The Effect of Project GRAD on High School Student Outcomes in Three Urban School Districts

2006. Jason C. Snipes, Glee Ivory Holton, Fred Doolittle, Laura Szejnberg

Charting a Path to Graduation

The Effect of Project GRAD on Elementary School Student Outcomes in Four Urban School Districts

2006. Jason C. Snipes, Glee Ivory Holton, Fred Doolittle

Building the Foundation for Improved Student Performance

The Pre-Curricular Phase of Project GRAD Newark

2000. Fred Doolittle, Sandra Ham, Glee Ivory Holton, with Ana Maria Ventura and Rochanda Jackson

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MDRC is a nonprofit, nonpartisan social and education policy research organization dedicated to learning what works to improve the well-being of low-income people. Through its research and the active communication of its findings, MDRC seeks to enhance the effectiveness of social and education policies and programs.

Founded in 1974 and located in New York City and Oakland, California, MDRC is best known for mounting rigorous, large-scale, real-world tests of new and existing policies and programs. Its projects are a mix of demonstrations (field tests of promising new program approaches) and evaluations of ongoing government and community initiatives. MDRC's staff bring an unusual combination of research and organizational experience to their work, providing expertise on the latest in qualitative and quantitative methods and on program design, development, implementation, and management. MDRC seeks to learn not just whether a program is effective but also how and why the program's effects occur. In addition, it tries to place each project's findings in the broader context of related research — in order to build knowledge about what works across the social and education policy fields. MDRC's findings, lessons, and best practices are proactively shared with a broad audience in the policy and practitioner community as well as with the general public and the media.

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- Improving Public Education
- Raising Academic Achievement and Persistence in College
- Supporting Low-Wage Workers and Communities
- Overcoming Barriers to Employment

Working in almost every state, all of the nation's largest cities, and Canada and the United Kingdom, MDRC conducts its projects in partnership with national, state, and local governments, public school systems, community organizations, and numerous private philanthropies.