



Are students who are off track to graduate in the ninth grade able to get back on track?

STRATEGIC PERFORMANCE INDICATORS

Strategic Performance Indicators (SPIs) are measures that reveal policy and management levers that have the potential to improve student outcomes. SPIs are derived from the Strategic Data Project (SDP) Diagnostics, rigorous descriptive analyses that SDP performs on a common set of issues using existing data from partnering education agencies. SDP's goal is that education agencies will adopt these SPIs, creating benchmarking information to understand their success in working toward key outcomes over time. This memo describes the rationale for the SPI on off-track status in high school and presents results for Albuquerque Public Schools (NM), Boston Public Schools (MA), Fort Worth Independent School District (TX), Los Angeles Unified School District (CA), and The School District of Philadelphia (PA). There are two other SPIs related to college going and three related to human capital.

All SPI memos are available at www.gse.harvard.edu/sdp

THE HIGH SCHOOL EFFECT

COLLEGE CHOICE

OFF-TRACK STATUS

SUMMARY OF FINDINGS

Students who enter high school with lower levels of prior achievement are less likely to successfully complete the ninth grade, and those who falter in the ninth grade are much less likely graduate from high school. Nevertheless, high schools can capitalize on readily available information to identify students early in their high school careers (or even before high school) who are at risk of dropping out. By doing so, they can target these students for additional outreach and supports aimed at getting them back on track to timely high school graduation. In this memo, we introduce a Strategic Performance Indicator (SPI) for understanding the extent to which students are able to recover from being off track.

INTRODUCTION

Currently, education leaders and policymakers across the United States are focused on preparing all students to graduate from high school college and career ready. The successful completion of high school is, of course, a crucial milestone in achieving this goal. Therefore, in this memo, we focus on patterns associated with being on track or off track for high school graduation, and we examine these patterns in five school districts across the United States. Pioneering work led by Bob Balfanz of Johns Hopkins University and by Elaine Allensworth of the University of Chicago Consortium on Chicago School Research provides the research foundation for this memo.

High school graduation rates in

the United States are far lower than is optimal. For the graduating class of 2009, for example, 76% of public high school students earned a regular diploma within four years.¹ Rates vary across states, however, ranging from a low of 56% in Nevada to a high of 91% in Wisconsin. While high school graduation rates have increased somewhat over the past two decades, they have not done so uniformly across states. Given the variability across states, it comes as little surprise that four-year graduation rates also vary across the SDP partner districts included in **Figure 1.**²

Why do students drop out? There are many reasons. A body of educational research indicates that, in most cases, a student's decision to disengage from



school before earning a diploma is not a sudden event. To the contrary, clear signs of student disengagement from school are typically evident many years prior to dropping out.³ Balfanz and colleagues, for example, identify course failures, low attendance, misbehavior, and other signs that are highly predictive of failure to graduate.

Drawing on this research literature, we focus on identifying students who, at the end of the ninth grade, are off track for completing high school in a four-year period, and on indicators of districts' success in getting these students back on track. We begin by defining what it means to be "on track" for each of the SDP partners, then compare four-year high school graduation rates by students' on-track status at the end of ninth grade. Next, we explore the relationship between students' prior academic achievement and their on-track status at the end of ninth grade. Finally, we turn our attention to the percentages of students who are off track at the end of ninth grade but who are able to regain on-track status by the end of 10th grade. At the end of the memo, we pose questions for school district leaders to consider and suggest action steps to increase the numbers of students who complete high school and continue on to college.

FINDINGS

As a starting point, we must define what it means to be off track for high school graduation. What measures are most valuable, and how easy (or hard) is it to access the data required to construct them? Measures such as students' daily attendance and misbehavior (e.g., the number of times a student has been suspended) are very useful, but our experience is that school districts and state agencies vary widely in the quality and availability of these data. On the other hand, student-level data on course enrollments and grades—and, therefore,

FIGURE 1: FOUR-YEAR GRADUATION RATES, BY DISTRICT

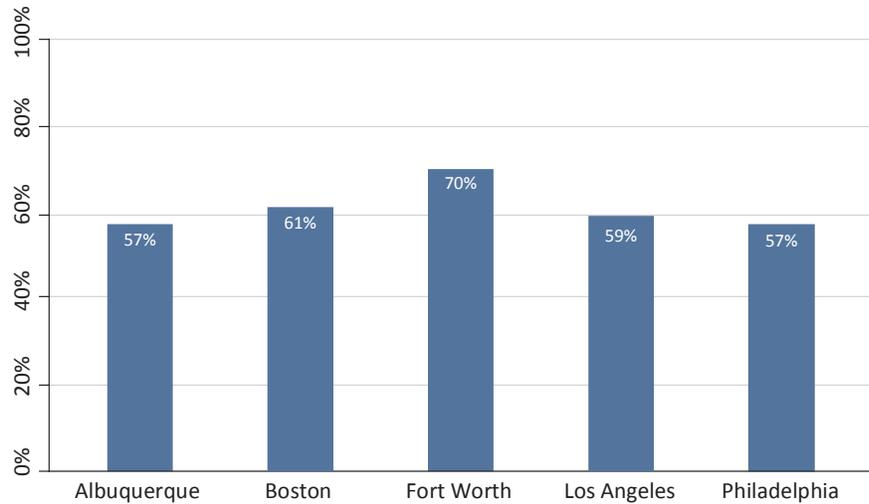


TABLE 1: DEFINITIONS OF NINTH-GRADE AND 10TH-GRADE ON-TRACK STATUS

District	On Track After Ninth Grade			On Track After 10th Grade		
	Total Credits	Math Credits	ELA Credits	Total Credits	Math Credits	ELA Credits
Albuquerque	5	1	1	11	1	2
Boston	—	1	1	Passed Both Math and ELA 10th-grade MCAS		
Fort Worth ⁴	6	1	1	12	1	2
Los Angeles	55	—	—	110	—	—
Philadelphia	5	1	1	11	1	2

course failures—are usually much more accessible and reliable.

Because SDP's goal is to construct SPIs that are relatively easy for agencies to work with and that are as consistent as possible across organizations, we use credit attainment information to construct the off-track and recovery SPI reported in this memo. However, we encourage entities with ready access to additional measures of academic disengagement, such as student attendance and misbehavior, to monitor those as well.

Using credit attainment information, we define both a ninth-grade and a 10th-grade indicator of on-track status. As **Table 1** illustrates, exact definitions vary across agencies, depending on local

requirements for timely grade advancement and eventual graduation. For example, in both the School District of Philadelphia and Albuquerque Public Schools, a student is defined as being on track at the end of ninth grade if he or she has accumulated at least five course credits, including credits in both mathematics and English language arts (ELA). These same mathematics and ELA requirements exist in Boston and Fort Worth, but Boston does not have a total credit requirement, and Fort Worth requires six credits by the end of ninth grade. Lastly, the Los Angeles Unified School District (LAUSD) maintains a total credit requirement for graduation but not specific math or ELA requirements. Such



differences are also found in defining 10th-grade on-track status. For example, because credit and course requirements vary across schools within the Boston Public Schools (BPS), we rely on passage of the 10th-grade mathematics and English/language arts Massachusetts Comprehensive Assessment System (MCAS) assessments (requirements for graduation in Massachusetts) as an indicator of on-track status for BPS students.

Based on these definitions, we see in **Table 2** that, within each of the SDP partner districts, a sizeable percentage of students are off track at the end of ninth grade. This ranges from slightly more than one in five students in Fort Worth to almost two in five students in Albuquerque. There are likely to be multiple explanations for differences across all districts, including varying curricular requirements and preparation of students prior to high school. Because we make no attempt to control for these differences, we discourage direct comparison of the districts themselves. The important point is that, across all districts, large shares of students are not completing ninth grade on track to earn a high school diploma on time.

How important is it to be on track at the end of ninth grade? **Figure 2** reveals a sharp contrast in four-year high school graduation rates between students who are on track at the end of ninth grade and those who are not. Among students who successfully complete ninth grade (blue bars), graduation rates are at or above the national average, ranging from 76 to 89% across the SDP partner districts. In contrast, timely graduation rates are far lower among those who are off track at the end of ninth grade (gray bars). (Though the data are not shown here, it is important to note that—in the districts for which it is possible to conduct such analyses—these patterns remain very similar even when the graduation time frame is extended to five or six years.)

As might be expected, academic achievement prior to high school is a powerful predictor of students’ ninth-grade off-track status. **Figure 3** illustrates the relationship between students’ quartile of prior achievement and their on-track/off-track status at the end of ninth grade.⁵ A clear relationship is evident between the two. For example, among Albuquerque students who score in the bottom quartile of eighth-grade math performance, 76% are off track at the end of ninth grade. In contrast, among students who score in the top quartile of eighth-grade performance, less than 10% are off track at the end of ninth grade. Similar patterns are found across all of the SDP partner districts.

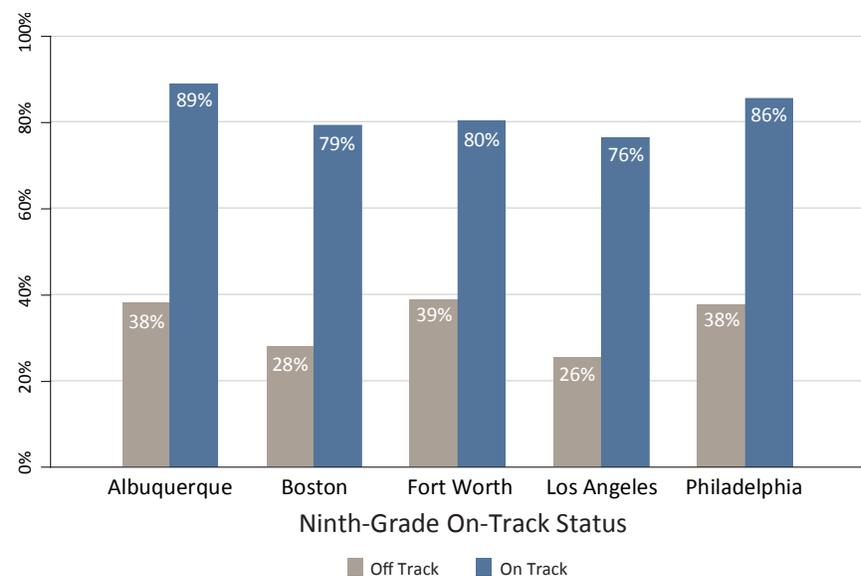
These patterns are striking but perhaps not overly surprising. Students who enter high school with lower levels of prior achievement are less likely to complete the ninth grade successfully, and those who falter in the ninth grade are much less likely to graduate from high school. Nevertheless, districts and high

schools can capitalize on readily available information to identify students early in their high school careers who are at high risk of later dropping out. By doing so, they can target these students for additional outreach and supports to help them get back on track for success in the duration of high school and beyond. In this SPI, we introduce measures to indicate the extent to which struggling students are able to get back on track.

TABLE 2: PERCENTAGE OF STUDENTS WHO ARE OFF TRACK TO GRADUATE AT THE END OF NINTH GRADE

District	Percentage of Ninth Graders Off Track to Graduate
Albuquerque	39%
Boston	32%
Fort Worth	23%
Los Angeles	34%
Philadelphia	32%

FIGURE 2: FOUR-YEAR HIGH SCHOOL GRADUATION RATE BY ON-TRACK STATUS AT THE END OF NINTH GRADE





THE STRATEGIC PERFORMANCE INDICATOR

To what extent are students who are off track in ninth grade for high school graduation able to recover and get back on track by the end of 10th grade?

The SDP College-Going Diagnostic analyses reveal that, across districts, students who are off track to graduate at any time during high school are most likely to get off track for the first time in the ninth grade. Accordingly, in this SPI, we focus on rates of recovery to on-track status in the 10th grade among students who are off track in the ninth grade. Because on-track recovery may vary for students with different levels of academic preparation, we examine this SPI by quartile of prior achievement.

As Figure 3 reveals, students at all levels of eighth-grade standardized test performance can be off track to graduate at the end of ninth grade. While it may be surprising that some highest-quartile students fall off track at all, we observe in **Figure 4** that these students are most likely to get back on track by the end of 10th grade. In Boston, for example, 40% of off-track ninth graders from the highest quartile of prior achievement are able to regain on-track status by the end of 10th grade. This is more than three times the rate of recovery among off-track ninth graders from the lowest quartile of prior achievement (12%).

However, Figure 4 masks the differential rate of ninth grade off-track status by prior performance because it only tracks students who get back on track by the end of 10th grade. Therefore, to generate our SPI showing 10th-grade recovery to on-track status, we combine the information provided in Figures 3 and 4 to compare the percentages of students who are off track at the end of both ninth

FIGURE 3: PERCENTAGE OF STUDENTS OFF TRACK AT THE END OF NINTH GRADE, BY QUARTILE OF EIGHTH-GRADE ACHIEVEMENT

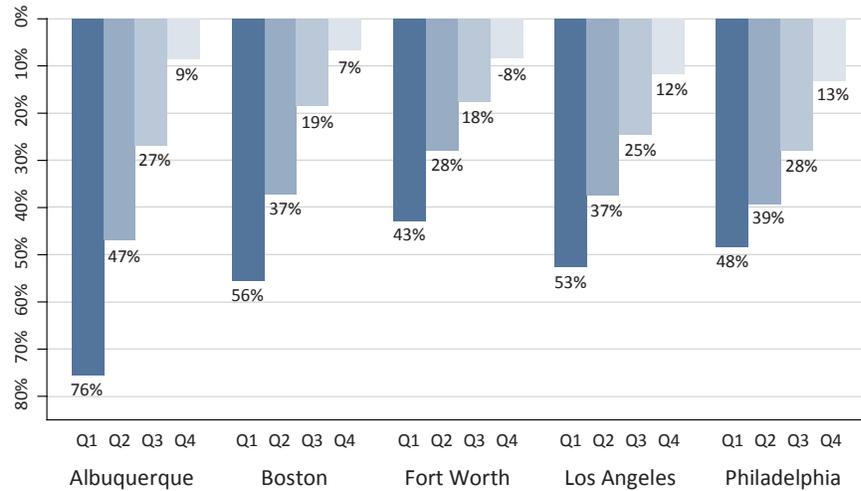
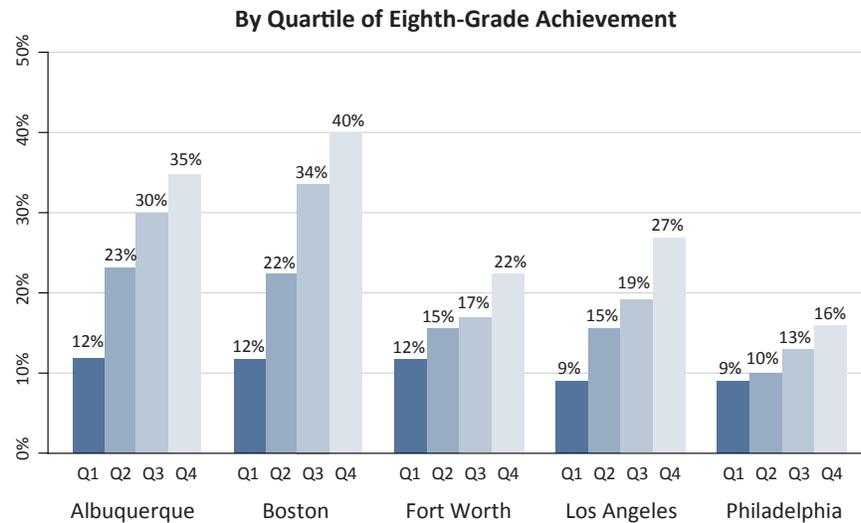


FIGURE 4: PERCENTAGE OF STUDENTS OFF TRACK AT THE END OF NINTH GRADE WHO ARE BACK ON TRACK BY THE END OF 10TH GRADE



grade and 10th grade versus the share of students who are off track at the end of ninth grade but who are able to recover (i.e., regain on-track status) by the end of 10th grade.

Figure 5 highlights results from LAUSD; graphs for the remaining districts appear at the end of the memo (**Figure 6**). Echoing Figure 4, the bar graph on the left side of Figure 5 shows the percentages

of students who regain on-track status by the end of 10th grade among those who were off track at the end of ninth grade. The graph on the right of Figure 5, on-track recovery rates by prior student achievement, represents our 10th-grade recovery SPI. For example, for Los Angeles, we observe that 53% of the lowest-quartile ninth grade students are off track to graduate at the end of ninth grade



(the sum of the blue and gray bars; note that the sum of these bars also equals the off-track status reported for each district in Figure 3). Of the lowest-performing students, almost half (48%) are off track at the end of ninth grade and remain off track in 10th grade (gray bar) while 5% are off track at the end of ninth grade but are back on track by the end of the 10th grade (blue bar). Together, these two percentages contribute to the recovery rate reported in the left-hand side of the figure. In other words, among students in the lowest quartile of eighth-grade achievement who are off track by the end of ninth grade, only 9% (5/53) recover by the end of the 10th grade.

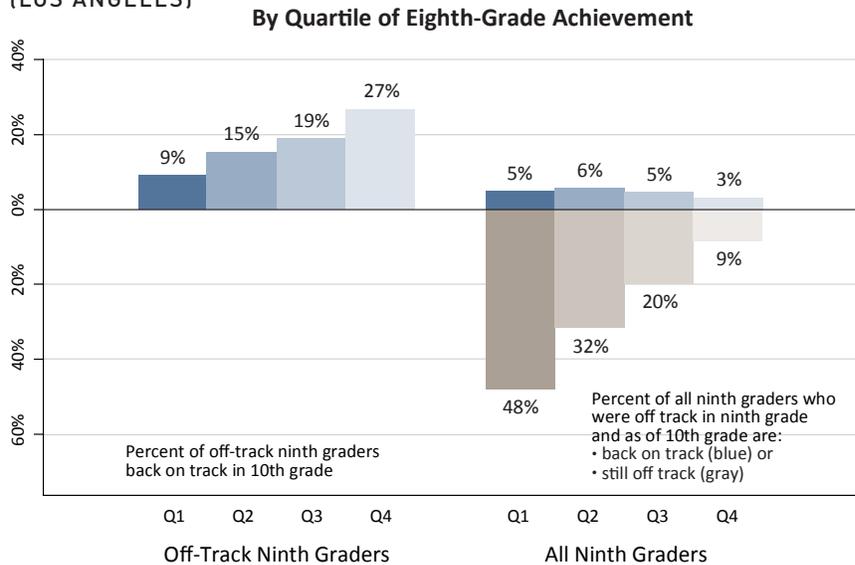
How would these graphs change in a district that is making progress with improving the status of off-track ninth graders? Two types of changes in the right-hand bars would indicate better outcomes. First, a reduction in the length of the entire bar (gray and blue sections combined) would indicate that a smaller percentage of students were off track at the end of ninth grade. Second, even if the size of the entire bar were to remain constant, an increase in the size of the blue portion would signify that a larger share of students who were off track at the end of ninth grade were able to recover and get back on track by the end of 10th grade—thus reducing their risk of dropping out. Together, these two possibilities would constitute important progress in increasing the percentages of students on track to graduate within four years.

IMPLICATIONS FROM FINDINGS

In an ideal world, all students would enter ninth grade ready for success in high school, and none of them would become derailed over the next four years. Both the research literature and the SDP analyses make it clear that the reality is quite far from this ideal, however.

In short, students with low levels of

FIGURE 5: PERCENTAGE OF STUDENTS OFF TRACK AT THE END OF NINTH GRADE WHO ARE BACK ON TRACK AT THE END OF 10TH GRADE (LOS ANGELES)



SPOTLIGHT ON TAKING ACTION

Creating a Common Understanding of College Readiness in Philadelphia

Several members of the School District of Philadelphia’s leadership team, principals, a representative from the mayor’s office, and the president of the principals union assembled regularly as a College-Going Work Group to review SDP analyses and to engage in focused discussions about students’ college- and career-readiness. After reviewing key analyses, like those presented here, the work group recognized that the high-school-through-college outcomes of its students were not as strong as had been previously assumed. With this in mind, the School District of Philadelphia worked to establish a common definition for college- and career-readiness as well as related indicators across the K–12 education system in order to establish a sense of shared accountability across the district.

In close collaboration with SDP, the School District of Philadelphia adapted Montgomery County Public Schools’ (MD) Seven Keys to Success in order to identify a set of predictive indicators that would be relevant to the students of Philadelphia. The SDP analyses and the development of proposed K–12 indicators provided a common purpose, which proved essential as the period of the work coincided with three leadership transitions. The efforts of the work group have been shared with the newly appointed superintendent, Dr. William R. Hite Jr., who began his new tenure on September 17, 2012, and will be used to inform his strategic plan for the district.

“This partnership has already yielded meaningful results. These analyses have provided valuable information and are informing the development of our strategies and metrics. We are grateful to SDP for the time they have invested in building the School District of Philadelphia’s capacity to review and act on these findings.”

-Dr. William R. Hite Jr.

Superintendent, The School District of Philadelphia



achievement in eighth grade are far more likely to falter in the ninth grade, and those who are off track in ninth grade have a relatively small likelihood of getting back on track to graduate within four years. Across districts, recovery rates are extremely low—particularly among students with the lowest levels of prior academic achievement. Important to note, however, is that prior achievement is not a perfect indicator. In districts examined here, between 7 and 13% of ninth graders with the highest level of

prior achievement fall off track.

The reasons for students falling off track no doubt vary, from scheduling difficulties to serious underpreparation and lack of engagement. Carefully monitoring on-track status at the end of ninth grade gives schools and districts powerful information about a student’s likelihood of graduating on time. Tracking this information more closely and marrying it to additional information about students—such as attendance, prior course-taking patterns, and disciplinary incidents—

will provide schools and districts with opportunities to deliver support and interventions in targeted ways. Importantly, the data collection should not stop with the generation of on-track indicators; after taking this important first step, schools and districts should then collect data on the supports and interventions offered to students to enable a rigorous examination of their impact.

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Endnotes

- 1 Institute of Education Sciences, National Center for Education Statistics. Public High School Graduation Rates. Retrieved from http://nces.ed.gov/programs/coe/indicator_scr.asp. See this site for information regarding technical details of calculation.
- 2 It is important to note that although some students complete high school after five or even six years, SDP analyses show that aggregate graduation rates are not markedly different with these delayed graduates included. For this reason, and because graduation from high school in four years is the primary goal of the K–12 education system, our analyses explicitly focus on four-year graduation rates.

- 3 Allensworth, E. (2005). *Graduation and dropout trends in Chicago: A look at cohorts of students from 1991 through 2004*. Chicago, IL: Consortium on Chicago School Research; Allensworth, E., & Easton, J. (2005). *The on-track indicator as a predictor of high school graduation*. Chicago, IL: Consortium on Chicago School Research; Balfanz, R., Herzog, L., & Mac Iver, D. J. (2007). Preventing student disengagement and keeping students on the graduation path in urban middle-grades schools: Early identification and effective interventions. *Educational Psychologist, 42*, 223–235; Neild, R. C., & Balfanz, R. (2006). *Unfulfilled promise: The dimensions and characteristics of Philadelphia’s dropout crisis, 2000–2005*. Philadelphia, PA: Philadelphia Youth Transitions Collaborative.

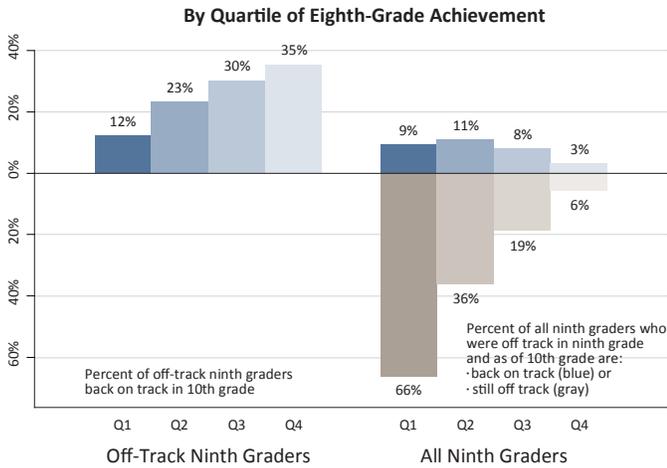
- 4 Graduation outcomes and on-track status for Fort Worth defined relative to students earning a recommended diploma.
- 5 To make these comparisons, we first sort all students with test score information into quartiles (i.e., four equal-sized groups) within each district, based on their eighth-grade achievement on the state’s standardized math assessment. Quartile 1 (Q1) students are the lowest performing while quartile 4 (Q4) students are the highest. We then examine on-track/off-track status among students within each quartile of prior achievement. Prior achievement is based on eighth-grade math test scores, with the exception of Los Angeles, where ELA scores are used.



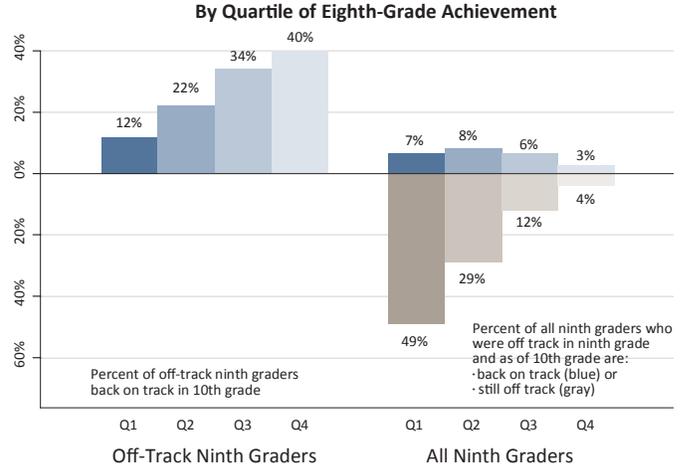
APPENDIX

FIGURE 6: PERCENTAGE OF STUDENTS OFF TRACK AT THE END OF NINTH GRADE WHO ARE BACK ON TRACK AT THE END OF 10TH GRADE (ALL DISTRICTS)

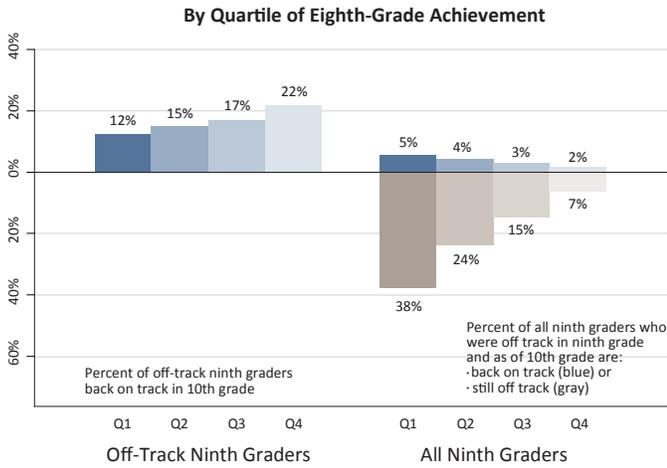
ALBUQUERQUE



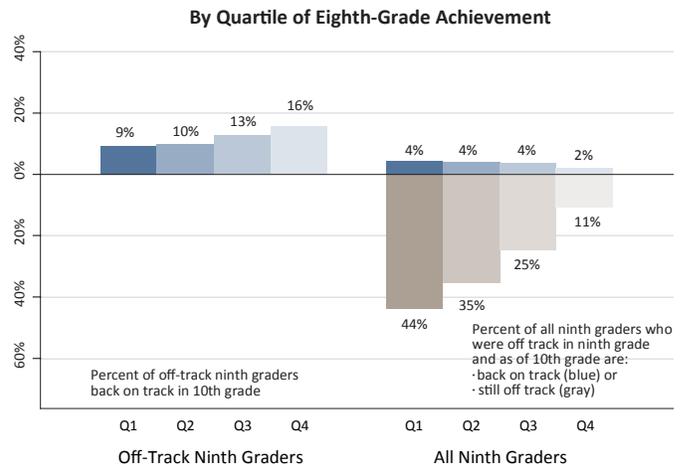
BOSTON



FORT WORTH



PHILADELPHIA





Ask Yourself, Take Action

Why do these off-track and recovery patterns exist? The SPIs on their own are not designed to determine the causes for these findings. Rather, they prompt a series of questions that will help district leaders uncover causes and be positioned to make informed changes in management and policy. Asking and answering these questions should lead to a better understanding of differences in outcomes, equipping leaders to explore the underlying trends and causes of these differences. Ultimately, this should lead to improved strategies and solutions.

Ask Yourself: How are we using data to examine students' progress toward graduation and to understand better which students tend to fall off track, when this typically occurs, and which indicators can help us anticipate and prevent this from happening?

Take Action: View data as a source of insight for improvement and long-term impact.

- Collect and code student course data so that it is readily available for analysis. For example, standardize course names and codes so that they do not vary by school.
- Cultivate the analytic capacity within your agency to conduct analyses related to student on-track status.
- Conduct these SPI analyses annually to take stock and to investigate whether changes in policy, strategy, or management practice are having the desired impact.
- Use the results of these analyses as a springboard for follow-up questions and analyses to more fully illuminate key challenges or needs specific to the agency.

Ask Yourself: What do we know about students in this agency who are likely to be off track for high graduation within four years? How well are we doing in identifying such students early on? How can we build on the findings presented in this memo?

Take Action: Develop and continually use effective, readily accessible measures of off-track status to identify and target students most at risk of dropping out of school.

- Use the 10th-grade recovery SPI in this memo as a starting point for developing similar recovery metrics for later grades.
- Incorporate additional student-level information, such as attendance and misbehavior, into a system for assessing at-risk status, if the necessary data are accessible and of high quality.
- Develop a strategy for communicating this information clearly and regularly to principals, teachers, and counselors, and to families and students. For students and families, pair information about on-track status with information about the economic and other benefits of high school graduation and postsecondary attainment.



Ask Yourself: What strategies do we currently have in place for helping off-track students recover and achieve success in high school and beyond? At what stages during high school do these strategies target students? What evidence do we have for the impact of these strategies? What other strategies might we consider in support of these goals?

Take Action: Develop, evaluate, and improve upon strategies and interventions for supporting off-track students.

- Assess comprehensively your agency's current strategies for supporting at-risk students. Gather evidence regarding the implementation and effectiveness of these strategies.
- Evaluate the extent to which strategies currently in place align with the ability to identify students as at risk. Determine whether students can be targeted earlier for additional intervention and support.
- Investigate strategies utilized by other agencies for supporting at-risk populations. Identify those that appear most promising, given your context and student population.
- Provide appropriate professional development and ongoing training to your teaching and counseling staffs to increase awareness of the needs of at-risk students. Equip teachers, counselors, and school leadership with the training and support needed to implement promising approaches to supporting at-risk students.



The Strategic Data Project

OVERVIEW

The Strategic Data Project (SDP), housed at the Center for Education Policy Research at Harvard University, partners with school districts, school networks, nonprofit organizations, and state agencies across the United States. **Our mission is to transform the use of data in education to improve student achievement.** This mission guides our three core strategies.

CORE STRATEGIES

1. Placing and supporting top-notch data strategists as SDP Fellows for two years with our partners
2. Conducting rigorous diagnostic analyses of teacher effectiveness and college-going success using existing agency data
3. Disseminating our tools, methods, and lessons learned to education agencies broadly

CURRENT SDP PARTNERS

