tif | **Teacher Incentive Fund**

Identifying, Monitoring, and Benchmarking Teacher Retention and Turnover: Guidelines for TIF Grantees

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Acknowledgments

Table of Contents

Brief 1—Identifying, Monitoring, and Benchmarking Teacher Retention and Turnover: Guidelines for TIF Grantees

Introduction and Overview: Why a Strategic Teacher Retention Approach Is Needed

Having a well-qualified, effective teacher in every classroom is a cornerstone of current educational reforms. Clearly, retaining these teachers, and removing ineffective teachers, in schools is critical to achieving this goal. The turnover of effective teachers and retention of ineffective teachers both can have a negative effect on student achievement, and teacher turnover in itself can have a disruptive effect on school performance (Ronfeldt, Loeb, & Wyckoff, 2013; The New Teacher Project (TNTP), 2012). To promote the retention of effective teachers and the deselection of ineffective teachers, school district leaders and human resource personnel need information on what types of teachers are staying and leaving particular schools or the school district, and the reasons those teachers may be staying or leaving, to enable the design of policies to mitigate harmful teacher turnover and enhance retention. However, rarely do school districts and schools have a strategic approach to managing teacher retention and turnover. A strategic approach entails systematically monitoring, diagnosing, and mitigating harmful teacher turnover and enhancing retention (see Figure 1).

Figure 1.   Strategic approach to managing teacher retention, mobility, and turnover
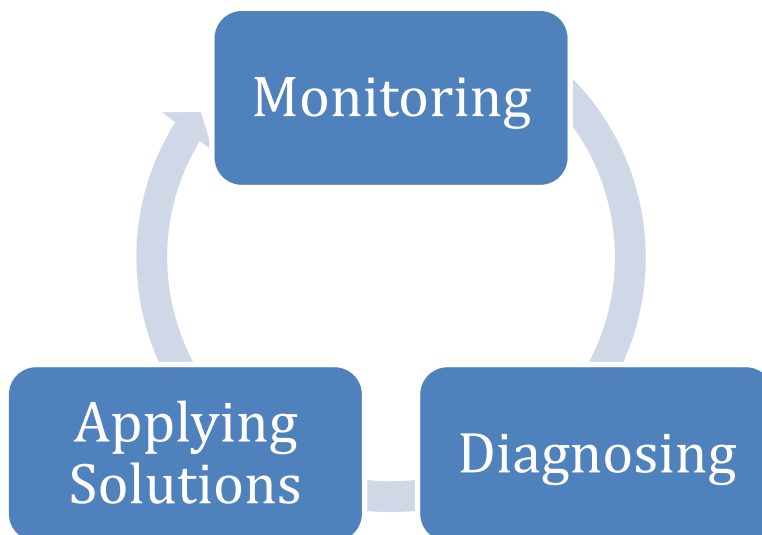
This brief series provides guidelines and frameworks intended for grantees, school district leaders, human resource personnel, and policymakers to develop a strategic accountability approach to managing teacher talent retention and turnover. This first brief describes the purposes, methods, and tools for monitoring (or tracking) teacher retention and turnover to partially address supply, equity, and performance issues. The second brief will more thoroughly discuss frameworks and methods for diagnosing causes of teacher retention, mobility, and turnover. The third brief will present the accompanying solution sets to address the causes of undesirable teacher turnover and the various strategies to implement them.

This brief addresses the following areas:

- Key purposes for tracking teacher retention, mobility, and turnover

- Processes for establishing teacher retention targets

- Methods to track teacher retention, mobility, and turnover

There are several rationales for monitoring teacher retention and mobility: (1) to identify supply gaps in the teacher workforce, (2) to examine the potential contribution of differences in retention rates to inequitable distributions of effective teachers across schools, and (3) to track the effects of the human capital management system in retaining effective teachers and removing those who are ineffective. Grantees' need to know whether teacher retention levels are sufficient for specific types of teachers, whether specific schools within a school district are retaining teachers at different levels, and, at the end of the day, whether the school district is retaining effective teachers. To begin to address these critical questions regarding a school district's teacher workforce, grantees need to monitor teacher turnover and retention.

Teacher Retention Issues: Performance Levels (Teacher and School Level), Equity Concerns, and Supply Issues

There is bountiful research on the importance of teachers to student performance that generally concurs that teachers are the most important school-level factor that influences student achievement (Hanushek & Rivkin, 2010; Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004). This research has fueled the national policy agenda to put an effective teacher in every classroom. To meet this requirement, school systems need access to a sufficient supply of effective teachers and have the ability (or capacity) to retain them.

There are numerous problems stemming from schools not retaining teachers, whether effective or ineffective. First, simply recruiting, selecting, and training teachers who subsequently leave can have substantial costs (Milanowski & Odden, 2007). Second, turnover of effective teachers may lower overall teacher productivity if schools or districts do not replace teachers who leave with others equally effective. This is likely to happen when a district and/or school replaces an experienced effective teacher with a new inexperienced teacher; some research suggests that, on average, beginning teachers are less productive than those with three to five or more years of experience (Rivkin et al., 2005). Third, a disproportionate amount of teacher turnover in schools serving disadvantaged students can result in disparities in instructional quality, especially if schools replace experienced teachers with beginners. Fourth, if schools and/or school districts are not retaining teachers with certain characteristics, such as science, technology, engineering, and mathematics (STEM) or beginning teachers, staffing shortages or demographic imbalances may develop in critical areas.

As well as creating problems for an organization, high rates of employee turnover may signal underlying problems within the organization, such as strife within the organization or lack of administrative leadership (Mobley, 1982; Price, 1977, 1989). From this perspective, employee turnover can be both a cause and effect of problems in a school or school district. To begin to address these underlying problems and consequences of teacher turnover, grantees need to track and monitor teacher retention, mobility, and turnover.

While teacher turnover long has been recognized as a potential problem, it is important to recognize that not all turnover is bad. Recent evidence indicates that retaining an ineffective teacher can also stunt student achievement (TNTP, 2012). This evidence indicates the long-term cost of retaining an ineffective teacher may be far greater than the short-term cost of replacement. Further, turnover in the workforce opens opportunities for teachers with new ideas and can allow for diversifying the teaching workforce. Additionally, some turnover is not organizationally amendable; that is, teachers leave for reasons unrelated to the conditions of the organization. Taken together, these considerations suggest that very low rates of turnover may not be desirable or practical.

What is desirable is healthy, functional teacher retention, which is a combination of simultaneously retaining effective teachers and deselecting ineffective ones. And, conversely, unhealthy, dysfunctional teacher retention consists of effective teachers leaving and ineffective teachers staying in a particular school or school district (or organization). Figure 2 depicts this simplified concept of functional and dysfunctional teacher retention.

Figure 2. Functional and dysfunctional teacher retention
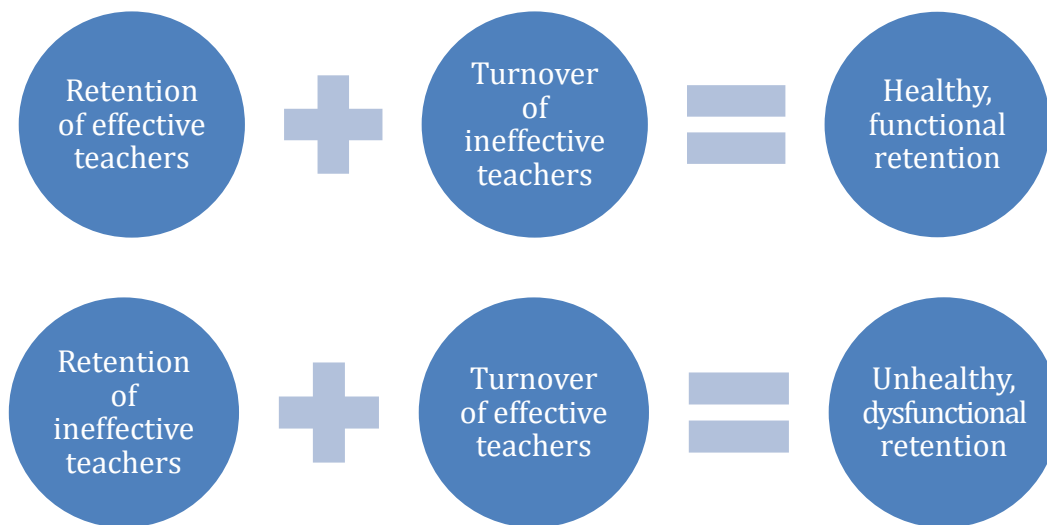
It is also desirable to have little variation in teacher turnover across schools. In addition to tracking teacher retention, mobility, and turnover by performance levels, it is also critical to examine variation in teacher retention rates between schools within a school district. The equitable distribution of teacher effectiveness is a primary educational policy aim. However, research continuously provides evidence that indicates teachers are unevenly distributed across districts

and schools, with less effective teachers being disproportionately located in schools with relatively higher rates of minority students or students living in poverty (e.g., Borman & Dowling, 2008; Clotfelter, Ladd, & Vigdor, 2005, 2006; Lankford, Loeb, & Wyckoff, 2002). And, there is evidence that in some cases, even within schools, new teachers are sorted to lower achieving and more disadvantaged students (e.g., Feng, 2010). Where variation exists, it follows that either these schools or districts had an initial disproportionate supply of high-quality teachers, or they have different retention rates of these types of teachers. Thus, an important question addressing equity concerns is: Do teacher retention rates vary between schools? And, if so, are these variations associated with school-level factors, such as school poverty and minority levels?

In order to have a sufficient supply of teachers to meet staffing needs, schools and school districts need to retain teachers with specific characteristics. This is particularly important for shortage areas. If the supply of teachers in an area (e.g., STEM, special education) is limited, districts can ill afford significant turnover of these teachers. Another critical question is: Are schools or school districts retaining specific types of teachers, for example, beginning, STEM, or minority teachers?

Summarizing the discussion above, grantees should consider tracking teacher retention, mobility, and/or turnover in at least four ways:

- Overall district level

- By level of teacher effectiveness

- By school, with special attention to differences between schools serving different proportions of disadvantaged students

- By important subgroups of teachers, including underrepresented demographic groups and teachers in shortage subject areas

To address functionality, equity, and supply questions and make informed decisions about teacher retention policies, local school district leaders and policymakers need to strategically monitor teacher retention, mobility, and turnover. This approach encompasses identifying potential teacher supply gaps, examining equity of retention levels between schools, and accounting for teacher performance levels. This action requires that district personnel collect district-specific teacher retention data and, in doing so, identify various types of teacher turnover to target select groups for retention and set teacher retention targets as trigger points for interventions.

What Actions Do Grantees Need to Take to Actively Track Teacher Retention, Mobility, and Turnover?

To make informed decisions about teacher talent retention policies and issues, local policymakers and leaders need district-specific data on teacher retention and mobility. National, state-, and school-district-level research can provide a useful backdrop for gauging teacher turnover and provide an initial understanding of likely dynamics within a school district. However, only data and research on a particular school district, and its schools, can capture actual teacher retention, mobility, and turnover levels within that specific context and provide information on why teachers may be staying in or leaving particular schools or the school district.

To appropriately monitor and benchmark teacher retention, mobility, and turnover, districts need to take several key steps:

- Differentiate between various types of teacher turnover
- Identify and prioritize what to track
- Set teacher retention goals and targets
- Track teacher retention and turnover by identified key organizational and individual characteristics

1) Differentiating between various types of teacher turnover

To effectively manage teacher turnover, personnel need to make distinctions between the various types of teacher turnover because they have different causes and consequences. Figure 3 below depicts one common framework (Hom & Griffeth, 1995).

The first distinction shown is between voluntary and involuntary turnover. Voluntary turnover includes resignations or retirements initiated by the teacher. Involuntary turnover is initiated by the employer and includes layoffs or reductions in force plus terminations initiated by the district. Within each of these categories, there is also functional and dysfunctional turnover. Functional turnover is turnover of less effective teachers, and dysfunctional turnover represents the turnover of effective teachers.i Within the voluntary dysfunctional category, unavoidable turnover is due to causes largely outside the employer's control, such as a spousal transfer or illness, while avoidable turnover is due to causes the employer can influence or mitigate, such as poor working conditions or low pay.

While it can be hard to classify some individual instances of turnover as functional or dysfunctional, TIF grantees are in a better position than most districts because they have developed multiple-measure teacher evaluation systems that better differentiate teacher performance. For TIF districts, the first step toward capturing dysfunctional and functional teacher turnover is linking educator performance indicators (e.g., evaluations based on teacher observations and student growth measures) to the turnover data. (This issue will be discussed further in the tracking teacher turnover section below.) Studies typically rely on various measures of teacher quality, including experience, education levels, and value-added scores (e.g., see Goldhaber, Gross, & Player, 2007). In addition to these indicators, teacher evaluation ratings based on multiple valid performance measures are likely to yield useful information for assessing functional and dysfunctional teacher turnover.

Figure 3.   Typologies of teacher turnover*
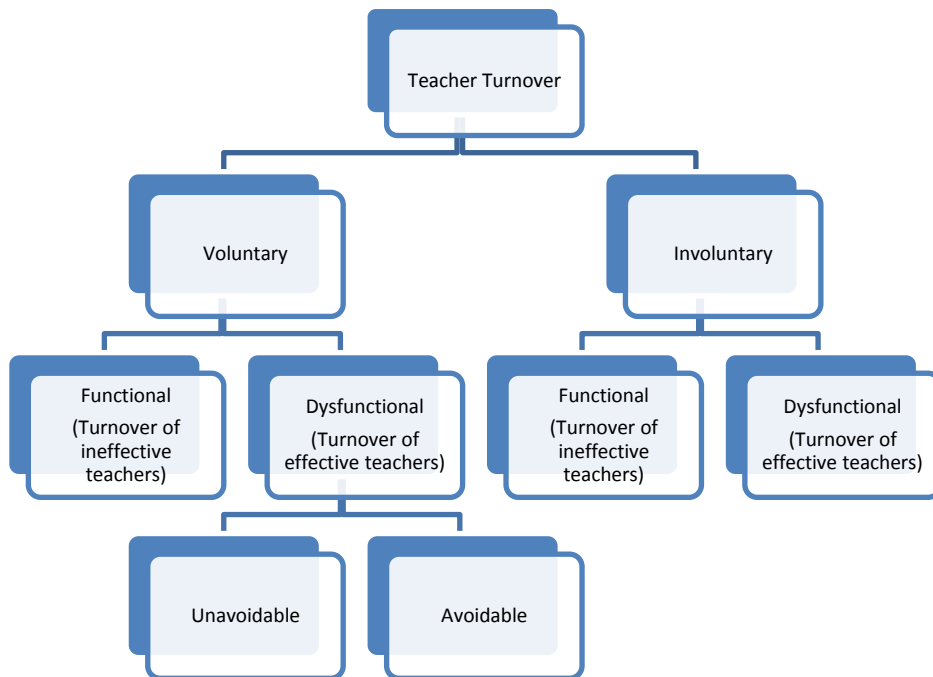
*modified from Hom and Griffeth's (1995) figure.

This figure also breaks involuntary turnover into dysfunctional and functional to acknowledge that involuntary teacher layoffs brought on by reduction-in-force policies may not always be functional (e.g., Goldhaber & Theobald, 2013). In response to these claims, many states have abolished their state statutes requiring seniority be a primary factor in layoff decisions, and many school districts use performance as a criterion in their layoff decisions (TNTP, 2011). However, this is not yet universal practice, and grantees should pay attention to the impacts of involuntary turnover by tracking the performance levels of teachers let go.

Voluntary turnover can also be categorized as avoidable and unavoidable turnover. The figure focuses on voluntary, dysfunctional turnover since whether functional turnover is unavoidable or avoidable is not a primary concern. Historically, unavoidable turnover represented employee separations that the organization could not influence, such as childbirth, family relocations, and medical leaves, while avoidable turnover was considered to be more within the organization's control (Abelson, 1987). Over time, this distinction has become less clear, with companies influencing so-called "unavoidable" exits with an array of strategies aimed at easing work-family conflicts, such as job-sharing and flextime. In light of the fact that a large percentage of teachers who leave teaching report family and personal reasons as being very or extremely important in their decision (Finster, 2013; Ingersoll, 2001), grantees' efforts to accommodate teachers' individual situations may help to reduce some "unavoidable" teacher turnover.

At the aggregate level, there is evidence that indicates a substantial percentage of teacher turnover is due to avoidable reasons (e.g., Hirsch, Emerick, Church, & Fuller, 2007; Ingersoll & May, 2011; Marvel et al., 2007). Generally, these reasons stem from working conditions and factors that the

grantees can influence or mitigate, including mentoring programs, class size, teacher autonomy, administrative support, collegiality, and compensation. While the ease with which grantees can change these factors varies, compared to unavoidable factors, these conditions are much more likely to fall under the purview of the organization.

Another useful distinction is whether teachers who leave their schools move within the district, move out of the district, or exit the teaching profession altogether. These different categories are often referred to as movers within, movers out, and leavers (or exiters). From the district's perspective, it is important to distinguish between those who may be changing schools (or moving to another position such as assistant principal) and those who are leaving the district. Teacher movement within a school district may not necessarily have an overall negative impact on school district performance; however, grantees will need to monitor it due to equity concerns at the school level. Teachers moving out of the school district results in the same human capital loss for the school district as a teacher exiting the entire teaching profession, but this type of movement may be associated with varying levels of job satisfaction and organizational commitment. While many districts will not be able to track whether a teacher left the district for another or left the profession, it would be useful to know this because some teachers exiting the teaching profession may be leaving for unavoidable reasons, while some moving to other districts may be influenced by factors the district could mitigate, such as working conditions. Thus, to target specific groups of teachers for retention strategies, it is important to account for the type of movement patterns and to differentiate between the different turnover typologies.

Making these distinctions while setting retention targets and tracking teacher turnover will assist

grantee and human resource personnel with subsequently identifying the extent of unwanted teacher turnover that they may be able to mitigate.

2) Identifying and prioritizing what to track

As a first step in deciding what to track, personnel need to identify key priorities. For this process, they should consider tracking teacher turnover from a supply, equity, or performance perspective. From a supply perspective, is the teacher workforce sufficient to meet the school district's staffing needs? Are there teacher shortages in any critical areas, such as special education or STEM assignments? If so, personnel will need to track these areas. Regarding equity, do schools across the school district have similar retention rates, or is there wide variation? If a school district is committed to equity, it should not be willing to accept large variation in teacher turnover across schools with different proportions of disadvantaged students. And, regarding individual performance, are teachers who are leaving the school district effective or ineffective teachers? Overall performance hinges on retaining talented teachers. Each perspective offers important insights into the teacher workforce.

This decision-making process should be guided by insights into or concerns about the current local teacher workforce. For example, leaders or policymakers may have concerns about retaining beginning teachers. High turnover of beginning teachers can negatively affect the quality of instruction that students receive (Lankford et al., 2002). Or, school district officials may have concerns about serving their racially and ethnically diverse student population. As school districts and schools begin to serve a more and more racially and ethnically diverse student population, the racial and ethnic makeup of the teaching workforce becomes more critical. (For a review of arguments for diversifying the teaching workforce, see Villegas and Irvine (2010).) To cultivate a more racially and ethnically diverse educator workforce, district policymakers and leaders need to know how their school district and schools are retaining teachers of color and other ethnic minority teachers.

Broadly, grantees can track teacher turnover at the district or school level by organizational and/or individual characteristics. Figure 4 depicts the elements that grantees can combine when considering setting teacher retention targets. (For a list of recommendations of what can be tracked, see appendix A.)

Figure 4. Elements to consider for setting teacher retention targets

District Level

District characteristics

Teacher characteristics

School Level

School characteristics

Teacher characteristics

Time Intervals

For example, beginning or minority teachers could be tracked at the district level. Or, at the school level, grantees can monitor teacher turnover by school poverty or racial/ethnicity rates. These metrics could be based on one- or five-year intervals. For example, a common turnover metric is beginning teacher retention over the course of five years. These levels and characteristics capture the context in which grantees can examine teacher turnover and demonstrate how grantees can combine the elements in many different ways.

Once grantees establish turnover classification typologies and identify critical areas, district personnel can proceed with the task of identifying target levels.

3) Setting teacher retention targets with benchmarks

The purpose of establishing targets is to set common goals for teacher retention levels and, in doing so, develop human resource teacher retention and turnover control processes. In addition to providing aims to strive for, grantees and human resource personnel should use these targets as tools to potentially trigger further analysis and initiate teacher retention strategies. Depending on the critical areas identified, retention targets will need to be set at the district or school level. One way of proceeding with this task is to establish teacher retention levels at the district level associated with unacceptable, acceptable, and desired rates (Phillips & Connell, 2003). The exact labels do not matter as much as what they represent, that is, levels of teacher retention that the school district finds intolerable, adequate, and desirable. A practical way to approach these levels would be to establish ranges. For example, personnel could establish an annual teacher retention rate below 60 percent as unacceptable, which would trigger significant analysis and action. Furthermore, a grantee could

set a teacher retention rate between 60 and 80 percent as acceptable, but stipulate that this rate may warrant attention and potentially initiatives to improve teacher retention. The next range, 80 to 90 percent, could be set as desirable; to reach this level would require considerable focus and effort on retaining teachers. Note the desired range does not include 100 percent retention; this limit allows for some level of unavoidable and functional, involuntary turnover and indicates that some small percentage of turnover is likely productive for the organization. In this manner, the ranges act as a human resource control process, triggering retention efforts as needed, with the goal of staying in particular ranges.

In the private sector, to set these retention target rates, companies use a combination of their industry's average employee retention rate and the employee retention rate of high-performing firms within the industry. Similarly, to establish teacher retention targets and ranges, teacher district leaders need to know their district's current teacher turnover rate and compare it against national, state, and, better yet, comparable school districts' teacher retention rates. There are not "industry" standards for teacher retention in education, but based on their district's own data and teacher retention rates across different settings, grantees and school district leaders may be able to determine appropriate teacher retention targets. (Resources for establishing these retention levels are discussed further below.)

This process can be repeated at the school level. For instance, grantees and personnel could establish ranges at the school level and determine whether schools' teacher retention levels fall in the unacceptable, acceptable, or desirable ranges. In this case, a uniform range would be established and applied across schools, and schools that have an unacceptable retention rate could be targeted for further analysis.

Another approach to setting targets for school-level teacher turnover variation would be to establish band levels of unacceptable, acceptable, and desirable variation based on the mean turnover.[ii] This approach would focus more directly on the variation across schools than the previous method. Figure 5 illustrates this concept.

In this example, the bands are centered on the average turnover percentage rate and expand out in 10 percent intervals.[iii] The desirable teacher retention bandwidth is within 10 percentage points (i.e., area captured between black and orange), that is, all schools should have teacher retention rates within 10 percent of each other. The acceptable teacher retention bandwidth is within 20 percent (i.e., area captured between black and green), and the unacceptable teacher retention bandwidth is within 30 percent (i.e., area captured between black and red). Another way to center the bands would be on the top retention rate. This process would set a standard for teacher retention based on the schools with the highest retention rates.

Another way to center the bands would be to use the mean and standard deviation. To establish appropriate bandwidths for a particular medium or large school district, it would be useful to examine the standard deviation of the current school retention rates to determine how lenient a plus or minus 10 percent band may be. For example, the mean across schools would be set as the acceptable level, and the unacceptable and desirable levels could be set at plus or minus one standard deviation from this average. The standard deviation shows the amount of variation from the mean. A low standard deviation indicates the data points are close to the mean, whereas a high standard deviation indicates that the data points are spread out over a larger range. If the teacher retention rates are already close to the mean, then tighter ranges may be appropriate. An advantage of this method is that it may be more realistic to expect schools with lower retention to try to move up to the average level than to a level based on a more ideal situation.

Figure 5. School district teacher retention target bands
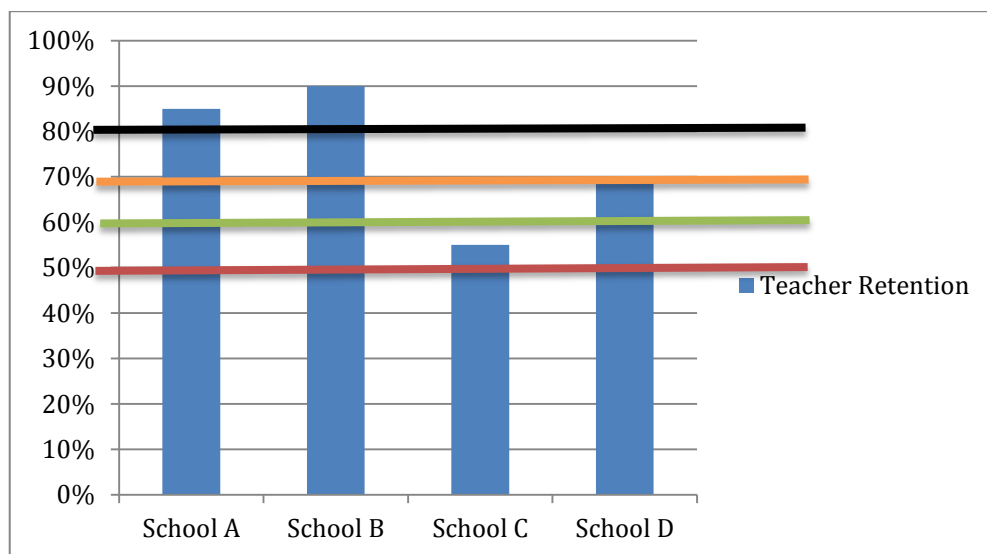
Whatever method grantee or district personnel use, they should establish a standard acceptable retention level or range across all schools within a

school district to allow for comparisons and trigger further analysis. Setting norms or ranges forces a school district to clarify what across-school level of

variation in teacher retention rates it finds intolerable, satisfactory, and desirable.

Essentially, these bands represent measures of equity. Over time, a school district should not be willing to accept extreme variation in teacher retention across schools, in other words wide retention bands, if it is committed to equity. Establishing these teacher retention bands across schools within a school district essentially defines the level of inequity in teacher retention rates that a school district is willing to tolerate. For schools with relatively lower levels of teacher retention, personnel can use these bands to pinpoint inequities and initiate further analysis.[iv] If personnel detect extreme differences in teacher retention rates, further examination may reveal the differences are associated with certain student characteristics (i.e., poverty and minority levels) or organizational problems (or both). However, maybe the between-school variation is due to differences in the age and experience of the teacher workforce and not due to organizational problems within those schools. Identification of the variation in teacher retention levels is the first step for further analysis.

Using Research and Data to Help Set Retention Targets

Once grantee and district personnel have identified the key priorities, they can use a variety of different resources and data to inform the retention target-setting process and eventually these data to benchmark actual turnover rates. Research using national, state-, or school-district data can provide information on aggregate teacher retention patterns, which may be useful for setting retention targets. These sources offer insight into the overall stability of the teacher workforce at large and in different specific contexts by both organizational and individual characteristics and by varying time intervals. A key to using national,

state-, or district-level information is to match main organizational and/or individual teacher characteristics as closely as possible. However, the best baseline data are developed using local teacher retention, mobility, and attrition data.

For example, if school district personnel are interested in setting a retention target for beginning teachers at the district level, a good place to start is with local data, which they can then compare with national or state data. For example, say it is known that a district retains beginning teachers (i.e., teachers with no prior experience) at a 50 percent rate from one year to the next. This retention rate can be compared with the national average beginning teacher retention rate using the Schools and Staffing Survey (SASS) and Teacher Follow-up Survey (TFS), which are nationally representative data sources for teacher retention, mobility, and turnover. Even more specific to beginning teachers is the National Center for Education Statistics (NCES) Beginning Teacher Longitudinal Study (BTLS).[v] According to a report on the results of the first through third waves of the BTLS, of the beginning public school teachers (i.e., teachers with one to three years of experience) who started in 2007–08, about 9 percent moved to teach in another district, and 10 percent were not teaching in the following year, 2008–09 (Kaiser, 2011). So, while the national school district average retention rate for beginning teachers from 2007–08 to 2008–09 is roughly 81 percent, the particular school district under discussion has a retention rate of 50 percent. To provide better comparisons, the aggregate retention level of beginning teachers could be further broken down (and compared) by demographics, such as urban or rural locales. These data sources provide a yardstick to gauge teacher turnover; however, these data sources provide aggregate statistics on what is occurring nationally with the teacher workforce.

Comparing the beginning teacher retention rate with other comparable school districts in the same state may yield further insight. Is the 50 percent beginning teacher retention rate higher or lower than other school districts' averages? Many states keep extensive records of their teachers' movement in and out of the profession; some of the most notable include New York, Texas, Massachusetts, and Michigan. Research examining teacher retention and mobility within a particular state may also be informative (e.g., Elfers & Plecki, 2006; Plecki, Elfers, & Knapp, 2006; Plecki, Elfers, Loeb, Zahir, & Knapp, 2005). Using a combination of data sources, district personnel may establish realistic baseline targets for their beginning teachers.

As for variation across schools in a school district, there are not set standards for between-school teacher retention levels. School district personnel will need to establish those guidelines depending on the context of the school district. As previously discussed, examining the standard deviations for the teacher retention rates would provide insight into the levels of current variation across the district. District personnel could use this information to establish realistic target ranges for a majority of schools. For example, smaller, uniform districts with relatively smaller standard deviations for school-level teacher retention may set tighter limits on the amount of variation that they are willing to accept. Conversely, larger and more diverse school districts that may have larger standard deviations of school-level teacher retention rates may set wider limits on between-school variation.

There are no generally accepted rules for deciding what the optimal level of teacher retention is, and it is not certain at what point teacher turnover becomes disruptive toward organizational performance. While it is clear that not retaining low-performing teachers is desirable, district leaders and personnel must also consider the disruptive effects on school performance of any turnover (Ronfeldt et al., 2013). Individual teacher performance aside, turnover can disrupt school attempts to improve performance by diverting attention and resources to train new hires and re-establish professional communities. Some employee turnover theory contends the relationship between organizational performance and employee turnover is curvilinear, that is, organizational performance is hindered with low and high levels of employee turnover (e.g., Abelson & Baysinger, 1984; Glebbeek & Bax, 2004). In support of this theory, Meier and Hicklin (2008) studied school districts and found that very low levels of teacher turnover were detrimental to school performance. Because very low levels of teacher turnover may have a negative impact on school performance, a target of 0 percent turnover, or 100 percent retention, is probably not desirable, as well as being unrealistic. A practical way to gauge the level at which teacher turnover may become disruptive to a school is to ask the principal the point at which teacher turnover may be hindering overall school performance, or how much "new blood" is desirable.

Setting retention target ranges based on teachers' performance levels also requires careful thought. When considering this issue, it is important to account for the current quality of the teacher workforce and consider the quality of the teacher applicant pool. Retention targets need to be based on a district's current distribution of teachers on measures of teacher effectiveness. While the goal is to retain high and average performers, and remove low-performing teachers, these performance levels may not be easily distinguished if grantee or district personnel have not carefully developed teacher performance measures. Poorly designed and implemented evaluation systems can fail to differentiate performance, resulting in 99

percent of the teachers ranking as developing, effective, or highly effective. Here the problem is potentially under identification of low-performing teachers. However, depending solely on student growth measures, such as value-added, can also be problematic. Many value-added models produce norm-referenced measures, showing a teachers' deviation from the average student growth in the district.[vi] If the average quality of the district's teacher workforce is relatively high, even teachers with lower value-added scores might be performing relatively well, compared to other districts. In this case, the value-added measure could overestimate the percentage of the teacher workforce that is low performing.

Another important consideration is the expected quality of the applicants available to replace the teachers who leave. At an aggregate level, some evidence demonstrates that if the bottom-most 5 percent of teachers were removed, students on average would make substantial gains in performance based on value-added models (Hanushek, 2009).[vii] However, this scenario requires that, on average, the new incoming teachers would be of higher caliber. If the applicant pool available to the district does not contain a sufficient number of potentially high-performing teachers, then setting a retention target that assumes that a substantial number of low-performing teachers will be deselected may not help improve overall quality.

If a school district has state value-added data, it could compare its bottom 5 percent to the state's in terms of value-added scores. If the district's bottom 5 percent is lower than the statewide bottom 5 percent, it could set a target to remove some percentage of the bottom 5 percent until it came up to the state level. Another more qualitative approach could be to monitor the "dance of the lemons," that is, the extent to which marginally effective teachers transfer or are

reassigned from school to school within a school district. Evaluating the quality of teachers (using a combination of methods and measures) involved in intra-district movement and assessing the extent to which marginal performers are being reassigned may yield some district-level teacher removal target levels.

Contextual and Workforce Considerations

In setting the teacher retention targets it is important to consider if, and how, factors may influence the relative size of teacher turnover. Time intervals and other factors, such as district or school size, may significantly affect the relative size of teacher retention rates. Beside annual turnover rates, other common time intervals include two- and five-year periods. For instance, what is the retention rate for beginning teachers after a five-year period? With roughly 40 to 50 percent of beginning teachers leaving the teaching profession after five years of teaching, it has been argued that the retention rate of beginning teachers is a prominent concern for addressing teacher shortages (Ingersoll & Smith, 2003). Tracking only annual teacher turnover will not provide information on whether a district is retaining specific groups of teachers over time. To assess whether a district is retaining beginning teachers, it would be informative to use a five-year period. Retention rates based on five-year intervals are likely to be lower than annual rates.

The size of the school district is another factor that may significantly influence the relative size of teacher retention rates. Relatively smaller districts or schools may experience wide fluctuations in teacher retention rates due to a relatively small number of teachers. It is important to consider these contextual factors and establish rules and guidelines around acceptable variation by such factors.[viii]

When setting retention targets, it is essential to place and understand them within the context of the overall distribution of the teacher workforce characteristics. For example, understanding the overall experience or age distribution of a district's teacher workforce is an important backdrop for setting teacher retention targets. For a district with a relatively large proportion of beginning teachers, setting a higher bar for beginning teacher retention may be even more critical. And, conversely, for a district with relatively low proportions of beginning teachers, a 50 percent retention rate may not signal a problem at all, if say, that means two out of four teachers were retained over a five-year period. In addition to keeping the local contextual factors and teacher workforce characteristics in mind when reflecting on the retention and turnover rates, it is necessary to use these factors and characteristics to find comparable research and data sources that can inform the target-setting process.

Fiscal Cost Considerations

To determine acceptable levels of teacher turnover, grantees should also consider the fiscal costs of separation, replacement, and training directly attributable to teacher turnover. While the loss of human capital and subsequent loss in productivity in student learning is the greatest concern stemming from teacher turnover, the out-of-pocket expenditures resulting from recruitment, selection, and training processes are not negligible. (For a detailed discussion of separation, replacement, and training costs, see Milanowski and Odden (2007).) Grantees and human resource personnel should first determine their separation, replacement, and training costs, and then they should establish an acceptable level of teacher turnover partially based on the fiscal expenditures

that they are willing to incur from teacher turnover.

Once teacher retention targets are established and set using a variety of data sources, personnel can begin to use various methods to track teacher retention, mobility, and attrition. The next section discusses methods for tracking teacher turnover.

4) Tracking Teacher Turnover By Identified Key Organizational and Individual Characteristics

Tracking teacher turnover provides information about changes in the teacher workforce, allowing for identification of potential staffing problem areas, and serves two primary purposes: (1) identifying the absolute levels of teacher turnover within a school district and across its schools by key organizational and individual characteristics and (2) determining the causes of turnover. During this tracking process, it is advantageous to use the turnover classification schemes to make distinctions between different types of teacher turnover to subsequently identify the extent of unwanted turnover that may be mitigated from an organizational perspective.

Methods and Tools for Tracking Teacher Turnover

A variety of methods and tools exist for tracking, and eventually diagnosing, teacher retention, mobility and turnover.[ix] The methods and tools for tracking and diagnosing are similar; however, some methods offer more comprehensive information on teachers' mobility patterns, while others provide more insight into teachers' turnover decision-making process. Figure 6 depicts the typical methods used to examine retention and turnover and their placement on a continuum of tradeoffs between scope and explanatory power.

Figure 6. Methods for tracking and diagnosing teacher retention, mobility, and turnover: scope vs. explanatory power

Tracking (Scope)   Diagnosing (Explanatory)

$\longleftrightarrow$

-Databases   -Surveys   -Focus Groups   -In-depth Interviews

To track teacher turnover, district personnel need to use methods that capture the scope of all teachers' mobility patterns within the school district. This is likely best achieved by linking teacher mobility information to teacher personnel data. This information can capture all teacher movement between schools and out of the school district by individual teacher characteristics and may readily link to organizational characteristics. If a reduction in force occurred in the school district, personnel could link this information to the turnover data to denote involuntary turnover. Grantees and human resource personnel should try to capture types of termination (e.g., layoff, retirement) and known destinations (promotion, movement to another school, movement to another district), even if imperfectly, in their human resource data system. If possible, districts should also merge this information with teacher evaluation data. This process would provide an initial source of information for assessing functional and dysfunctional turnover. While databases may provide comprehensive information on teachers' mobility patterns and associate teacher movement patterns with organizational and individual characteristics, they offer little insight into the actual reasons teachers stay in a particular school, move within a district, or leave the school district and/or the teaching profession at large. Thus, this type of information alone cannot assist in identifying avoidable vs. unavoidable teacher turnover.

Surveys may provide insight into potential causes of retention, mobility, or turnover and, if administered to all teachers, can also provide information on teachers' mobility patterns.[x] A primary benefit of teacher surveys is that they can be relatively inexpensive to administer to a large group of teachers, if not all, and they can provide some insight in teachers' mobility decisions. Teacher surveys could be administered annually and include items that capture teachers' working conditions, job satisfaction, organizational commitment, turnover intentions, and, if applicable, reasons for turnover.[xi] These surveys can take two general forms: climate or satisfaction surveys that may indicate problems with factors like compensation and working conditions, or exit surveys, which are administered to teachers leaving and ask teachers to identify reasons for their turnover decisions. (Specific examples of possible survey questions will be provided in the next brief.)

Information gleaned from the surveys can assist in identifying avoidable vs. unavoidable teacher turnover by identifying teacher perceptions that may be precursors of turnover intentions and employee motivations for turnover. In addition, surveys can help identify organizational characteristics that are associated with teacher retention and mobility. Teacher turnover that may be avoidable and mitigated from an organizational perspective would be associated with factors such as compensation structures for teachers; the level of administrative support; the degree of teacher autonomy, teacher group cohesion, and the

degree of strife within the organization (Hom & Griffeth, 1995; Ingersoll & May, 2010; Ingersoll & Perda, 2010; Price, 1977). Unless a teacher had knowledge of impending forces requiring job changes, identifying unavoidable teacher turnover may require a follow-up survey to determine the exact reasons why a teacher left the school district or exited the profession. Some unavoidable determinants of teacher turnover include change of residence, health, pregnancy leave, time to raise children, and retirement. As previously discussed, some of these determinants may be mitigated by policies and may not be considered entirely "unavoidable."

Additionally, for school districts to monitor and plan for future teacher turnover, a measure that captures teachers' turnover intentions is highly recommended. The most significant predicator of someone leaving an organization is, somewhat unsurprisingly, their intention to leave, typically referred to as their turnover intentions (Griffeth, Hom, & Gaertner, 2000; Hom & Griffeth, 1995; Mathieu & Zajac, 1990; Price & Muller, 1986; Tett & Meyer, 1993). This measure can be something as simple as asking on a survey how strongly someone agrees or disagrees with the following statement: "I intend to look for a new job in the next year." Or, several questions may be used and combined to assess one's turnover intentions, for example questions regarding thoughts of quitting, attachment to the teaching profession, intent to remain, thoughts of transferring, and withdrawal behaviors. (Examples of these questions will be provided in the next brief.) These data obviously must be collected independently and anonymously and treated confidentially to ensure accurate responses from teachers.

Surveys provide some insight into teachers' perceptions of their working conditions and potentially their mobility decisions, but they do not offer as rich and in-depth information that may be gleamed from interviews or focus groups. These methods can provide further diagnostic information that may not be readily obtained in a questionnaire. For example, focus groups may provide information on the reasons their colleagues may be exiting, on why teachers stay with a particular school and/or district, and why teachers may leave the school and/or school district. One of the most commonly used processes to determine the causes of turnover is an exit interview. This type of interview is conducted just before or after an employee leaves an organization. However, these interviews are notoriously unreliable, so steps need to be taken to ensure their accuracy.[xii]

To potentially identify and track functional and dysfunctional teacher turnover, personnel need to combine a combination of methods and data sources. As previously mentioned, the most straightforward option is to combine teacher effectiveness measures with teacher turnover data. This process may entail merging teacher characteristics, observation, evaluation, or value-added data with turnover data. Though teacher evaluation or value-added measures are not perfectly reliable at an individual level, they can provide a good estimate of whether an individual instance of teacher turnover is functional or dysfunctional and, in the aggregate, can provide good estimates of functional and dysfunctional turnover rates.

To fully account for the functionality and dysfunctionality of teacher turnover at the school level, in addition to assessing the changes in the composition of the teacher workforce, personnel should also assess potential disruptive organizational influences. Beyond aggregate changes in the effectiveness of the workforce, teacher turnover may have a broader influence on the school and its performance. These disruptive organizational influences indicate that teachers

who stay in their respective schools are also influenced by teacher turnover. One way to assess the disruptive effects of teacher turnover at the school level is to conduct a complex value-added analysis to detect and measure the extent of the disturbances (e.g., Ronfeldt et al., 2013). Another technique to examine potential disruptive effects would be to survey and interview school personnel who remain in the school to examine the ways and extent to which teacher turnover may affect them. For example, stayers may be expected to mentor new teachers and carry more of the instructional load and may have less access to resources for professional development (Guin, 2004; Shields et al., 2001). Likewise, teacher turnover may negatively influence the development and maintenance of social resources (Hanselman, Grigg, Bruch, & Gamoran, 2011). With the increased focus on using teacher collaboration, such as with professional learning communities (PLCs), as a tool to improve instruction, disruptive influences stemming from teacher turnover may be widespread. Merely assessing changes in the overall quality of those teachers coming and going ignores these disruptive forces.

Next Steps: Diagnosing Causes of Teacher Retention, Mobility, and Turnover

Once personnel track teacher turnover and compare it to goals, the next step is to diagnose potential causes of undesirable turnover. A variety of frameworks, methods, and tools are needed to thoroughly and accurately analyze the determinants of teacher retention, mobility, and turnover so that appropriate solutions can be matched to particular causes and needs. However, appropriately tracking teachers by the various typologies is a beginning step toward matching appropriate solution sets to teacher mobility and turnover. Employee and teacher turnover research provides information on the many factors associated with teacher turnover and pinpoints many possible explanations for teachers' staying, moving, or leaving the profession. However, until teacher turnover is examined within a specific context, it cannot be said which explanations, and to what extent, may explain teacher turnover. These frameworks will be discussed in the following brief: Diagnosing Causes of Teacher Retention, Mobility, and Turnover.

Appendix A
Elements to Consider for Tracking Teacher Retention

This table provides a list of teacher, school, and district characteristics and factors that can be tracked over time.

Table A-1. Elements to consider for tracking teacher retention/turnover

Characteristics and factors	Examples/measures	Rationale
Teacher level		**Track to determine if, and if so, to what extent, individual- level characteristics and factors are associated with teacher retention and turnover**
Demographics	Age, race/ethnicity, gender	To monitor changes in the diversity of the workforce
Pre-service experiences	Type of teacher preparation program (TPP) attended	To assess potential differences in teachers' retention from different TPPs
Qualifications	Certification type, additional certifications (e.g., National Board Certification)	To assess differences in teachers' retention by types of qualifications
Experience levels	Teaching experience within the profession, district, and school	To determine whether beginning or more experienced teachers are leaving
Ability and/or performance levels	Teacher evaluation ratings, teacher observation ratings, student growth measures	To gauge the extent that high and/or low performers are staying, moving, or leaving
Psychological factors	Job satisfaction, organizational commitment, job embeddedness, and turnover intentions	To predict teacher retention and turnover and identify potential solution strategies
School level		**Track to determine if, and if so, to what extent, teacher retention and turnover between schools is associated with variation in these factors**
School-level demographics	In addition to the district demographic characteristics mentioned above: grade ranges, locale	To monitor potential inequities in teacher retention and turnover across schools by school demographics
School climate	Climate surveys, student discipline	To assess the influence of school climate on teacher retention and turnover
Performance levels	Achievement scores on standardized assessments	To evaluate influence of students' performance levels on teacher retention and turnover
School leadership/ administrative support	Leadership surveys, principal evaluation ratings	To consider the influence of school leadership on teacher turnover and retention

Table A-1. Elements to consider for tracking teacher retention/turnover (continued)

Characteristics and factors	Examples/measures	Rationale
District level		**Track to determine if, and if so, to what extent, changes in these factors in the district over time may be associated with teacher retention and turnover**
Demographic characteristics	Enrollment and enrollment change, student poverty level, percentage of minority students, percentage of bilingual students	To account for the extent that changes in student enrollment levels over time drive staffing needs and may influence teacher turnover To assess how changes in demographics over time may be associated with teacher retention and/or turnover
Compensation policies	Overall compensation levels, stipends for hard-to-staff schools	To determine to what extent changes in salary levels may influence teacher retention or turnover
In-service policies	Induction programs, peer assistance and review	To evaluate whether in-service policies are influencing teacher retention and turnover
Context factors		**Track to determine if, and if so, to what extent, teacher retention and turnover is associated with changes in the external environment**
Economic opportunity/ perceived alternative employment opportunities	Unemployment rates	To account for the fact that teachers' decision to stay or leave is influenced by other employment opportunities (a high rate of teacher retention is not necessarily a sign of good working conditions, during periods of high unemployment)
Federal or state policies	No Child Left Behind, teacher evaluation state statutes	To account for federal and state policies that may be influencing teacher retention and turnover

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End Notes

i   This concept of dysfunctional is conceptualized at the individual level, that is, the quality of the individual leaving; however, high levels of turnover at the school level may also be considered dysfunctional regardless of the quality of the individuals due to disruptive influences.

ii   Because teacher turnover varies from year to year, and the teacher retention targets are judgmental, action should not necessarily be based solely on a small one-year deviation from the goals. Band levels allow some small one-year deviation from the goal before taking action.

iii   There are circumstances and conditions under which schools may demonstrate more extreme fluctuations in their teacher turnover. For example, shorter time frames may depict extreme variation at one point in time. The task in these circumstances is to identify whether the phenomenon is an isolated case or a trend. These issues are discussed later in this brief.

iv   There are circumstances and conditions under which schools may demonstrate more extreme fluctuations in their teacher turnover. For example, shorter time frames may depict extreme variation at one point in time. The task in these circumstances is to identify whether the phenomenon is an isolated case or a trend. These issues are discussed later in this brief.

v   Data collection for the first wave of the BTLS was part of the 2007–08 SASS.

vi   The point here is that even with "accurate" scores, it is possible to have very different distributions of scores across these measures; it is not about the validity and reliability of these measures.

vii   This analysis is based on aggregated data; it does not follow that each school district needs to eliminate its bottom 5 percent. While the bottom 5 percent in some school districts may be low performers, in other districts the bottom 5 percent may be effective, compared to the average teacher in the local labor market.

viii   As opposed to adjusting targets for district or school demographic characteristics, the point here is that these factors may have a large proportionate effect on teacher retention rates so that wide variations in rates may be expected. The solution is to follow the occurrences and determine whether they are trends or just single instances of wide variation.

ix   Frameworks, methods, and tools for diagnosing teacher turnover will be addressed in the next brief.

x   Logistically, if a survey alone is used to track teacher mobility, it will need to include a follow-up survey.

xi   Reasons for turnover would be appropriate for a follow-up survey.

xii   These issues will be further discussed in a subsequent brief.