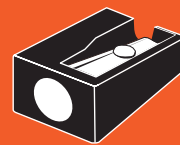




SEPTEMBER 2016

A FAIR SHARE

A NEW PROPOSAL FOR
TEACHER PAY IN DENVER



A+
Colorado
SHARPENING
PUBLIC
EDUCATION

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EXECUTIVE SUMMARY

**PROCOMP'S
IMPACTS
ON TEACHERS
AND STUDENTS
HAVE BEEN
MIXED.**

Just over ten years ago, Denver voters approved a \$25 million annual property tax increase to fund a system that promised major changes to how Denver Public School teachers are paid. Under the new Professional Compensation System for Teachers, or ProComp, teachers would be paid, in part, “for getting results with their kids,” as a leading proponent at the time said.

Now is an opportune time to examine the program's success, and to offer recommendations for improving it. Today, the structure of ProComp—and Denver's teacher pay system more broadly—are back on the table as part of negotiations between DPS and the Denver Classroom Teachers Association.

ProComp is one part of a strategy to make DPS an attractive place to teach. Denver's teachers deserve pay that is more commensurate with their impact on the lives of our kids and the future of our state. Our full report dives into evaluations of ProComp and examines opportunities that a restructuring of teacher pay could create to attract and retain excellent teachers for Denver's kids. We offer this report to teachers and district leaders alike to use as they negotiate changes to ProComp.

Designed collaboratively by DPS and the Denver Classroom Teachers Association (DCTA), the goal of ProComp was to improve upon the traditional salary

schedule and drive student achievement by incentivizing and rewarding teachers who:

- worked in positions and schools that were hard to fill,
- set and reached high learning expectations for students,
- received positive professional evaluations,
- increased their skills or education level, and
- taught in high-performing schools (see initial ProComp Ballot Language in Appendix A)

In 2008 ProComp underwent major changes, offering additional incentives to teachers to work in the most challenging schools. With the rollout of ProComp 2.0, the amount teachers received for working in high-needs schools and hard-to-staff assignments increased. Meanwhile, base pay increases capped out after 14 years teaching in the district, which was aligned to where teachers would also cap out on a traditional salary schedule.

Under the ProComp system today, initial base salaries are set according to a salary schedule, based on years of relevant experience and education levels. Subsequent increases in base pay are determined by cost of living increases as negotiated between DPS and DCTA, and by increases earned by meeting prescribed ProComp objectives (also known as base building incentive increases).

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IN 2015-16.**

Teachers can also receive non-base-building, year-to-year ProComp bonuses for working in hard-to-serve schools, high performing or high growth schools, and for boosting their students' test scores beyond expectations.

A decade in, however, ProComp's impacts on teachers and students have been mixed, several research studies show. It's hard to prove any measurable student achievement gains attributable to ProComp, and teacher pay looks only modestly different than it would under a more traditional salary schedule.

In developing a new model for ProComp, we believe there are several principles that must be upheld:

1. **CLARITY.**
The current hodgepodge of incentives should be streamlined. Teachers and taxpayers alike should be able to easily grasp what behaviors or actions merit ProComp dollars.
2. **ALIGNMENT.**
The teacher pay system should support the goals the district outlines for itself.
3. **EARLY INVESTMENT.**
The teacher pay system should frontload the investment in teachers, increasing salary competitiveness, targeting retention, and setting teachers up for higher earnings earlier in their careers.
4. **ADEQUACY AND COMPETITIVENESS.**
Teaching salaries should be competitive with similar

professional positions within the district.

5. **RESEARCH-BASED PRACTICES.**
Structures should be rooted in research and data.

Denver Public Schools spent about \$330 million on teacher pay in FY2015-16. We offer a new model of teacher pay to raise a series of questions about how a fundamental restructuring of the teacher pay system could impact teachers. How can the ProComp system be simplified? What is the impact desired from ProComp? Is the compensation system broadly aligned to district priorities? Can pay be a better tool for engaging teachers in the district and in the career of teaching, targeting both recruitment and retention?

We offer this model to provide a different way of thinking about how these dollars could be better allocated to align with district priorities and better impact teachers and students.

Here's how a new teacher pay model could work:

- Prioritize retention through early salary increases
- Streamline experience-driven salary increases to focus on expertise
- Focus resources on the district's highest priority schools
- Align teacher pay and career ladders
- Reward high performance

INTRODUCTION

Just over ten years ago, Denver voters approved a \$25 million annual property tax increase to fund a system that promised major changes to how Denver Public School teachers are paid. Under the new Professional Compensation System for Teachers, or ProComp, teachers would be paid, in part, “for getting results with their kids,” as a leading proponent at the time said.¹

Now is an opportune time to examine how the program has worked, and to offer recommendations for improving it. Today, the structure of ProComp—and Denver’s teacher pay system more broadly—is back on the table as part of negotiations between DPS and the Denver Classroom Teachers Association.

Teacher compensation is a vital issue for Denver, an urban school district that has made significant strides but still leaves too many of its students with a substandard education.

Effective teachers are the most critical school-based component to student success. Recruiting and retaining great teachers should be the number one priority of any school or school system. Research shows teachers’ effectiveness greatly increases in their first few years on the job, and continues to improve well into their careers. Having a fifth-year teacher rather than a first-year teacher in a classroom matters, yet DPS loses about half of its teachers within their first three years.^{2,3} And while just under half of new hires in DPS have more than three years of experience, the high rate of turnover makes for less consistent schools and classrooms. In DPS, teachers who say they plan to leave the classroom in two years most often cite at the main reasons an unsustainable workload and low compensation.⁴

It is not surprising that compensation ranks high on the list of reasons teachers do not stay in the classroom. Teachers looking to live and work in Denver often find it all but impossible to afford a home and support their families on a teacher’s salary. The cost of living in Denver has increased dramatically in recent years. In the metro area more than half of all renters face a serious cost burden, which is defined as paying over 30 percent of their income on housing.⁵ This hits teachers particularly hard. At an average monthly cost of \$1,380 for a one-bedroom rental in Denver, teachers need to make nearly \$50,000 to stay below that 30 percent threshold of income spent on housing.⁶ For those looking to buy a home, the financial requirements are steeper. Housing prices in the metro area are the highest ever, and the median price of a starter home, at \$212,500, is up 78 percent since 2012.^{7,8}

ProComp is one piece of a strategy to make DPS an attractive place to teach. Other elements include strong coaching and meaningful teacher evaluation; licensure and teacher preparation; career pathways via Teacher Leadership and Collaboration; and retirement benefits. There’s also an upcoming ask to Denver voters for a new mill levy (or property tax increase in plainer language), a portion of which addresses teacher supports, professional development, and teacher career pathways.

Denver’s teachers deserve pay that is more commensurate with their impact on the lives of our kids and the future of our state. This report dives into evaluations of ProComp and examines opportunities that a restructuring of teacher pay could create to attract and retain excellent teachers for Denver’s kids. We offer this report to teachers and district leaders alike to use as they negotiate changes to ProComp.

A BRIEF HISTORY OF PROCOMP

Denver has been at the forefront of a national conversation about how to reimagine teacher compensation for more than a decade. In 2005 Denver Public Schools asked Denver voters to approve a property tax increase to fund ProComp. The proposal passed easily, contributing \$25 million (adjusted annually for inflation) to the system.

Designed collaboratively by DPS and the Denver Classroom Teachers Association (DCTA), ProComp built upon a Pay for Performance Pilot program that began in 1999.⁹ The goal of ProComp was to improve upon the traditional salary schedule and drive student achievement by incentivizing and rewarding teachers who:

- » worked in positions and schools that were hard to fill,
- » set and reached high learning expectations for students,
- » received positive professional evaluations,
- » increased their skills or education level, and
- » taught in high-performing schools (see initial ProComp Ballot Language in Appendix A).

In 2008 ProComp underwent major changes, offering additional incentives to teachers to work in the most challenging schools. With the rollout of ProComp 2.0, the amount teachers received for working in high-needs schools and hard-to-staff assignments increased. Meanwhile, base pay increases capped out after 14 years teaching in the district, which was aligned to where teachers would also cap out on a traditional salary schedule.

Now, another eight years later, ProComp is again on the table. Both DPS and DCTA will have to develop and sign on to a new agreement. The current agreement has been extended repeatedly since 2013, because changes to the assessment and school rating systems, the implementation of the teacher evaluation system (LEAP), and other factors have complicated matters.

The need to renegotiate ProComp enables all parties to dig into research and engage key stakeholders and communities in a redesign process. The hope is that in resuming negotiations, both bargaining teams can agree on a system that keeps good faith with the Denver taxpayers who voted to reward teachers for their work and success, especially in hard-to-serve classrooms.

FIGURE 1: ProComp Incentives and Bonuses (2015-2016 School Year)

Knowledge and Skills	Professional Evaluation	Student Growth**	Market Incentives
Base salary increase* for completing professional development	Base salary increases based on satisfactory evaluation (for probationary and non-probationary teachers)	Base salary increase*** for meeting student learning objectives	Incentive to work in hard to serve school
Base salary increase for Advanced Degrees and/or Licenses		Incentive for teachers whose students' test scores exceed district expectations	Incentive to work in roles with high vacancy and high turnover (i.e. math, English Language Arts-Spanish, and special education)
Reimbursement for tuition and student loans		Incentive for teachers in a top performing and high-growth school	

* Base building 1-14 years of experience. 15+ years of experience is a bonus, and not base-building.

** During the transition from TCAP to PARCC, calculating top performing and high growth schools was not possible. As such, in 2014-2015 those funds were consolidated and distributed to eighty-three schools based on past SPF data and a similar schools analysis.¹⁰ The Exceeds Expectations bonus, given the lack of student growth data, was provided to teachers working in hard-to-serve schools.

*** Base-building if teachers and SSPs successfully participate in the Student Learning Objective process.

Note: DPS and DCTA reached a new agreement for the 2016-17 school year which includes: a) discontinuation of the exceeds expectations incentives, b) incentives for positions with low application rates, and c) a combination of the student learning objectives and professional evaluations incentives.

What Does Teacher Pay Under ProComp Look Like?

Under the ProComp system today, initial base salaries are set according to a salary schedule, based on years of relevant experience and education levels. Subsequent increases in base pay are determined by cost of living increases as negotiated between DPS and DCTA, and by increases earned by meeting proscribed ProComp objectives (also known as base building incentive increases). Teachers can also receive non-base-building, year-to-year ProComp bonuses for working in hard-to-serve schools, high performing or high growth schools, and for boosting their students' test scores beyond expectations (see Figure 1).

Under the current ProComp system, teachers generally see consistent raises. Figure 2, from the analysis by Harvard Strategic Data Project, is an example of the average teacher salaries by year of experience based on data from 2009-10 to 2011-12.¹¹ More recently in 2015-16 classroom teachers saw, on average, a \$1,444 base increase from cost of living adjustments (COLA), a \$1,253 increase in base pay from ProComp, and \$4,914 bonus through ProComp one-time incentives.¹²

As Figure 2 shows, despite the attention focused on ProComp, and its stated purpose

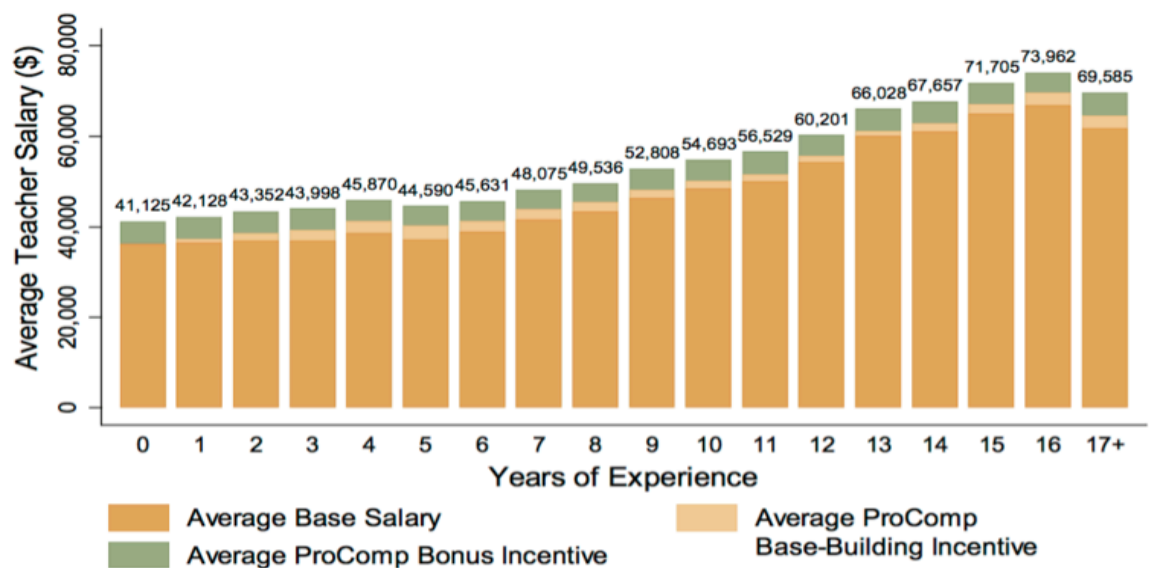
of identifying and compensating high-flyers, the lion's share of Denver teacher pay still strongly tracks with experience, a hallmark of a traditional salary schedule.¹¹

Part of this can be explained by looking at the broader picture of teacher pay.

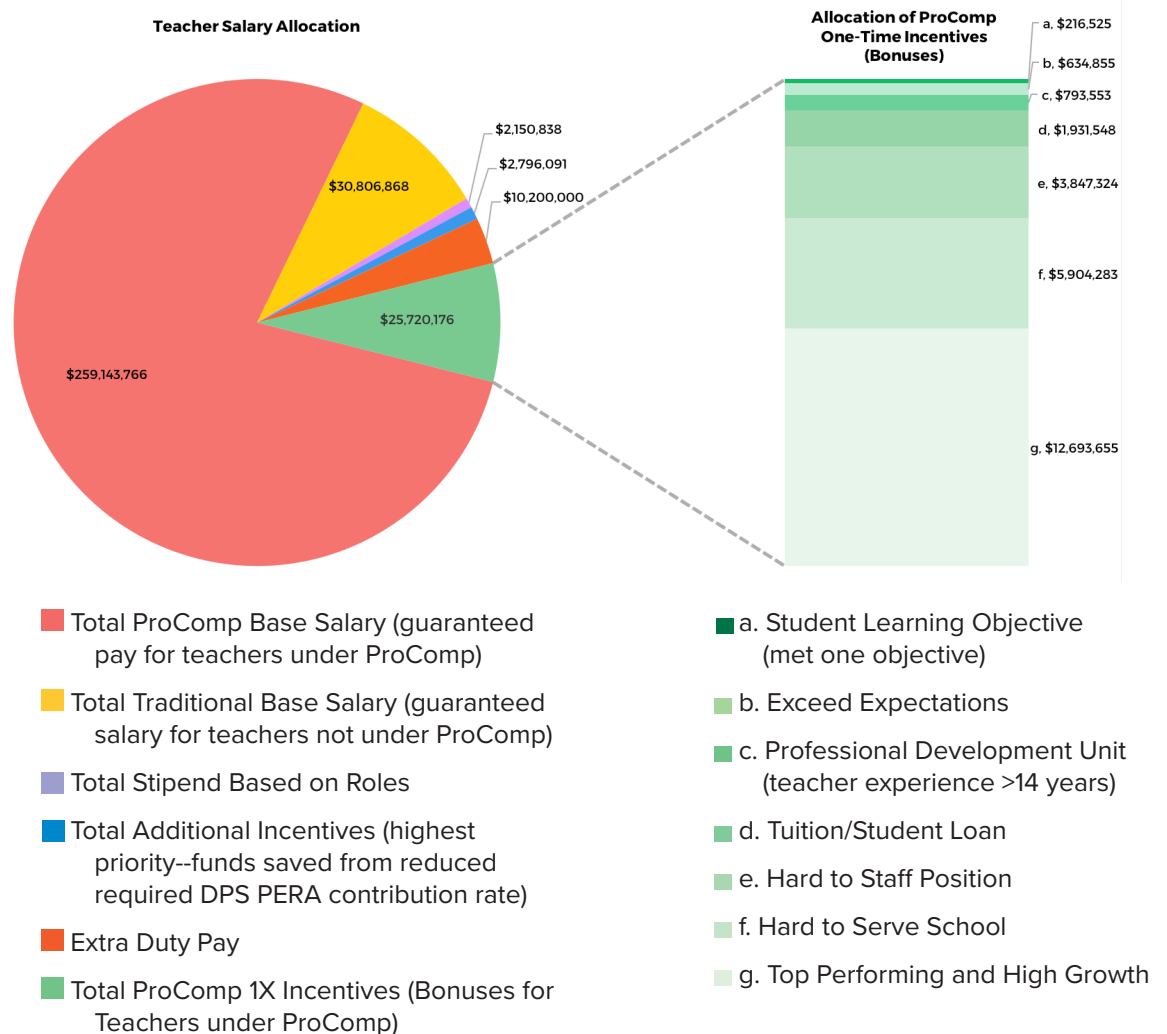
In FY 2015-2016, DPS spent just over \$400 million on teacher compensation and benefits out of a nearly \$1 billion operating budget for district-run schools. This included base salaries for teachers under the ProComp system, as well as the few hundred teachers not under ProComp. It also included ProComp incentives, and stipends based on teacher leadership roles. Figure 3 shows how teacher pay funds are allocated.

ProComp affects total teacher pay through increases in base salaries. The amount spent on one-time incentives (or bonuses) remains fairly stable at around \$25 million. The amount the district spends on base salaries for teachers under ProComp increased by \$14.3 million dollars between FY 2014-15 and FY 2015-16. About half of that increase was driven by earned base salary increases through the ProComp structure.¹³ The other half is driven by cost-of-living adjustments (COLAs), and new hires.

FIGURE 2:
Average Total Salary of Classroom Teachers by Total Years of Experience



Source: Strategic Data Project, "Human Capital Diagnostic," Center for Education Policy Reform at Harvard University (2014)

FIGURE 3: How Teacher Pay Dollars are Allocated (2015-2016 School Year)

The \$25 million spent on one-time ProComp incentives represents 8 percent of the total dollars spent on teacher pay. The allocation of ProComp one-time incentives is shown in Figure 3.

Of the one-time, non-base-building ProComp bonuses, 52 percent are aligned to student outcome measures. In 2014-15, without growth data, the district could not appropriately assign "exceed expectations" dollars to teachers (which would have been paid in FY 2015-16). For that year, 6 percent of the one-time ProComp bonus funds aligned to student outcome measures were based on teacher-specific performance, and 94 percent were based on school-level performance. In 2013-14 (to be paid in FY 2014-15), when growth data was available, dollars allocated to student outcomes

were split 13 percent to teacher-specific performance and 87 percent to school level performance. The current agreement discontinues the use of the exceeds expectations incentive, and combines the top performing and high growth incentive into one incentive.

In 2015-2016, 37 percent of one-time ProComp bonus dollars were allocated to market incentives. And 10 percent of one-time ProComp bonus dollars went to teachers who gained additional education (PDUs and tuition/student loan incentives).

The upshot of this is that of total dollars spent on teacher pay (over \$330 million), the ProComp incentives benefit the vast majority of teachers and are spread thinly across district priorities.

WHAT DO WE KNOW ABOUT PROCOMP?

The structure of teacher pay under ProComp differs from a traditional salary schedule. Under a traditional schedule, salary increases are guaranteed as teachers move up “steps” with each additional year of experience, and along “lanes” -- bigger boosts to earnings -- as they attain additional credits and degrees. Under ProComp, there are significantly more moving pieces, making it harder to understand and evaluate.

ProComp and Student Achievement

What has been the impact of ProComp on teachers and on students? Studies on ProComp abound, and their findings have been mixed.

According to the Center for Education Data and Research, there are small positive effects on student achievement when comparing achievement levels pre-ProComp and during ProComp implementation. At a systems level, however, it is difficult to know what, if any, portion of those gains are directly caused by ProComp. It's hard to determine causality because ProComp implementation coincides with so many other changes in DPS, including the expansion of new school governance

models (most notably innovation and charter schools), and the rollout of a unified enrollment system to facilitate school choice.¹⁴

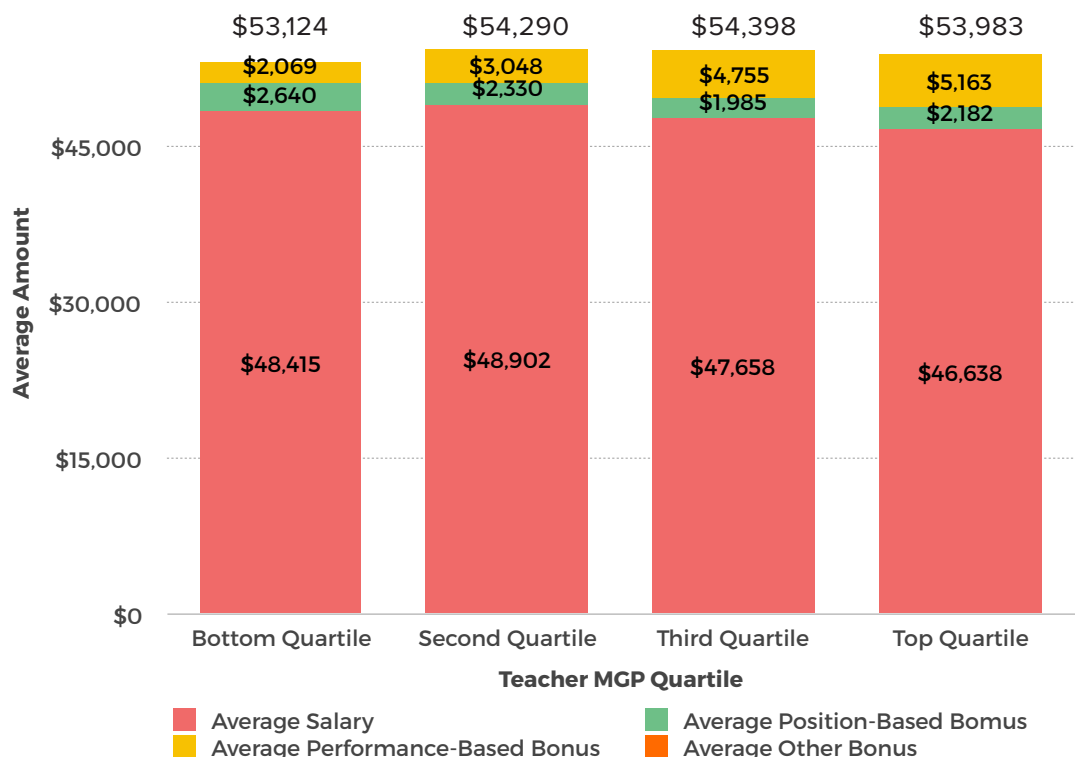
Research from the University of Colorado Boulder shows that a high proportion of teachers meet student growth objectives (SGOs)—teacher- and principal-defined outcomes of classroom-level student learning, and the predecessor to today's Student Learning Objectives. Yet that same CU study finds little correlation between meeting SGOs and increased student scores on state tests.

This study underscores the weak evidence of either a positive or negative causal effect of ProComp on student achievement by comparing experienced teachers who participate in ProComp to those who do not.¹⁵ Among the students of experienced ProComp teachers, the CU study found small positive effects in math and small negative impacts in reading and writing.

ProComp and Teacher Salaries

If ProComp's impacts on student achievement are unclear, what about its effect on teacher pay? Since pay under ProComp is

FIGURE 4: Average Classroom Teacher Salary, by Teacher Median Growth Percentile in Mathematics



**DESPITE
INVESTMENT,
IMPACT OF
PROCOMP
IS A BLURRY
PICTURE.**

determined both by a base salary and one-time bonuses earned under the system, it is more difficult to predict earnings year to year than under a traditional salary schedule. On average, teachers earn more under ProComp than they would under a traditional salary schedule, but researchers don't agree about the size of ProComp's impact on teacher salaries.

According to one study, teachers in 2006 earned an average of \$1,000 more per year, and by 2010 teachers earned over \$4,000 more annually under ProComp.¹⁶ Other research uncovered a less dramatic impact on teacher earnings, finding teachers earned an average of \$456 more, with a minimum of -\$6,063 and a maximum of \$6,785.¹⁷

Contrary to how the tax increase was marketed to voters a decade ago, salaries under ProComp have not been tightly aligned to results teachers produce in the classroom. In fact, in a study that looked at data from school years 2010-11 and 2011-12, the Strategic Data Project at Harvard University found that teachers whose students demonstrated the highest growth in math earned similar amounts to teachers whose students demonstrated the lowest growth in math, as shown in Figure 4.¹⁸

Performance-based ProComp bonuses are higher for top-scoring teachers (as we would expect), but this upward bump is offset by the fact that the average base salary actually decreases slightly in the third and top quartiles. The takeaway is that the overall average salary remains relatively flat across quartiles and actually falls slightly from the third quartile to the top quartile. This is evidence that ProComp does what it is supposed to do in terms of rewarding the district's most effective teachers. Under the current system, however, this ends up equalizing take home pay, rather than differentiating it for the top performers.

Taken together, these findings show there is little clarity or consensus on the impact of ProComp on teachers and their earnings. Nor is it clear the extent to which the system directs more money to top performers, or encourages retention in the hardest-to-staff classrooms. What these analyses leave is a blurry picture, so it is unsurprising that lived experience of teachers under ProComp is equally mixed.

Teacher Perceptions of ProComp

DPS and DCTA have undertaken investigations of teacher perceptions of ProComp, finding that the lack of clarity surrounding the compensation system was expressed by members of a Design Team in 2014, and participants in a series of focus groups in 2015.^{19,20}

For individual teachers on the receiving end of ProComp, the impact of the incentive system is equally unclear. Commonly repeated themes from the Design Team and teacher focus groups include:

- » **Complexity and predictability.** Teachers surveyed reported that they had a limited understanding of their ProComp incentives. Examining a paycheck, the ProComp incentives get lost in line items, making it unclear what portion of the check is base salary and what portion is incentive pay. Teachers also reported confusion over whether and when they receive ProComp pay.
- » **Repackaging of salary.** Teachers did not perceive ProComp as a bonus or incentive. Instead, they said ProComp asks them to do more work, and then repackages the same salary as a salary plus bonuses.
- » **Base-building opportunities.** Teachers were not satisfied with the limited opportunities to build their base salaries and expressed concerns over the 14-year cap on building base salary.
- » **Equality of access.** Teachers want equal access to ProComp bonuses so that they can choose which incentives to work for and which ones they do not want to pursue. This equality of access would also entail increased understanding of how teachers can earn ProComp bonuses/incentives.
- » **Transparency.** Teachers expressed a desire for greater transparency in the updated ProComp system. ProComp risks being perceived as an arbitrary system if teachers do not have a strong understanding of how the district makes decisions about the allocation ProComp incentives.
- » **Hard to serve incentives.** Teachers supported the hard-to-serve incentives and believed more resources should be dedicated to incentivizing teachers working in hard-to-serve schools.

IMPACT OF OTHER DISTRICT INITIATIVES

In its quest to provide support systems that improve the development and retention of effective teachers, the district is creating structures like defined career pathways, and feedback and evaluation systems, both of which interact with the compensation structure.

Teacher Leadership Pathways

Hoping to attract, develop, and retain strong leaders across DPS, the district has committed \$4.5 million to expanding its leadership program.²¹ One aspect of this program is additional pay for teachers undertaking leadership roles, or, what the district calls, Teacher Leadership and Collaboration, where teachers are organized into teams led by a Teacher Leader who provides daily coaching and feedback. Specifically, in 2016-2017 teachers receive stipends when serving in leadership positions in schools including: Senior Team Lead (\$5,000), Team Lead (\$3,000), Team Specialist (\$1,500), Regional Team Specialist (\$1,500), and New Teacher Ambassador (\$800). The district has significantly expanded these positions, with nearly 600 teachers taking on one of these roles (of which 363 are formal team leads or senior team leads).

In initial analyses, it appears that the Teacher Leadership and Collaboration roles structure is having a positive impact on teachers' work. As evidence, see responses by teachers to

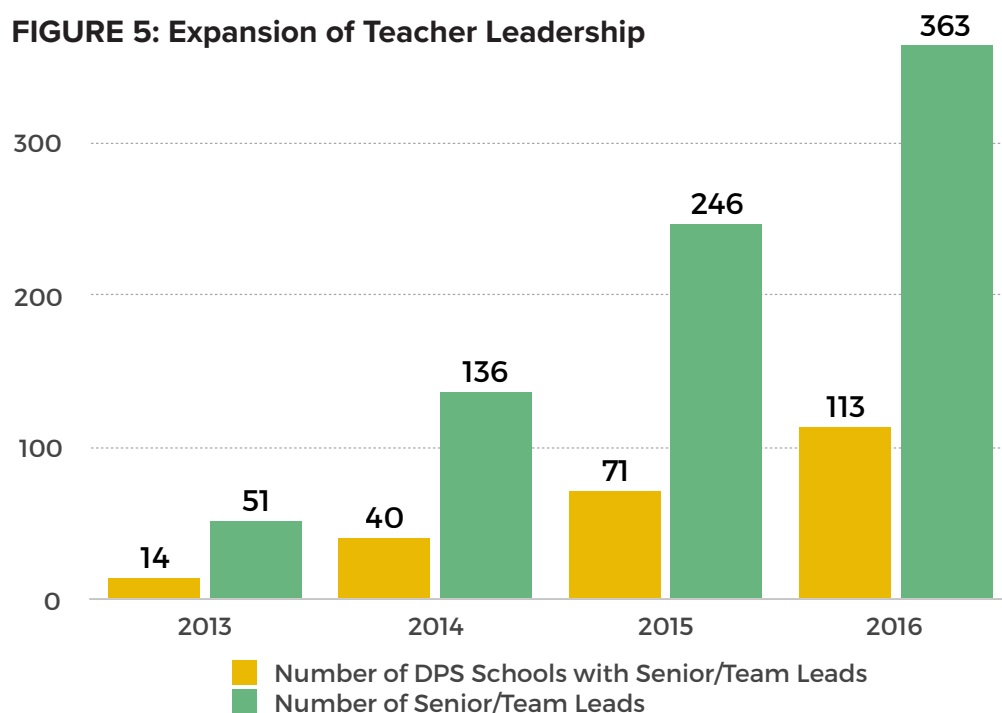
the district's survey CollaboRATE below. If this continues to be the case, the district and the union should ensure that:

- a) team leads have the time and resources to carry out their responsibilities, and
- b) are fairly compensated for their time. If this is truly to be a building block of a career trajectory, teachers in these roles could receive base-building bonuses in lieu of stipends, as long as teachers continue to fulfill the responsibilities associated with the roles.

Of the teachers who responded to CollaboRATE in December 2015 and have been supported by Team Leads:

- » 92 percent report that their Team Lead ensures they receive feedback and coaching to improve job performance
- » 91 percent report that their Team Lead spearheads efforts to support the use of academic standards
- » 88 percent report that their Team Lead ensures that teachers understand and consistently use student data to drive effective instruction
- » 89 percent report that their Team Lead empowers teachers to do their jobs²²

FIGURE 5: Expansion of Teacher Leadership



Teacher Evaluations

The biggest challenge in any pay-for-performance system is designing a meaningful method for measuring performance. In the current ProComp system, teachers receive incentives based on both individual and school performance.²³

State law requires all Colorado districts to implement a professional evaluation system. DPS has been in the forefront of this effort with the creation of the Leading Effective Academic Practice (LEAP) system. Developed collaboratively by DPS leaders, DCTA leaders, teachers, and other stakeholders, and first implemented in the 2013-2014 school year, LEAP is the process by which teachers are observed, evaluated, and receive feedback on their instructional practices.

LEAP uses multiple measures to evaluate teaching practice. Half of an individual teacher's LEAP score consists of student growth measures (including state standardized assessments, if teachers are in a tested subject). The other half is professional practice, determined by observations, including of professionalism, and student perceptions surveys. Though all teachers participate in the Student Learning Objectives process, and for teachers in untested subjects, the growth outcomes measured by LEAP rely on this process, on classroom-level

assessments, and school-wide measures of achievement.²⁴

ProComp ties a portion of compensation to LEAP results. Teachers receive a base-building increase in salary for satisfactory professional evaluations, defined as earning an approaching, effective, or distinguished rating on LEAP. Currently the size of this bonus is small-- until recently it was just under \$400 annually. In the most recent agreement the Student Learning Objective and Professional Evaluation incentives have been combined, and teachers with fewer than 15 years of experience are eligible for an \$800 annual raise. Some discussions between DPS and DCTA have broached the possibility of tying additional compensation to LEAP. As it currently stands, there is some skepticism amongst teachers about LEAP, its ability to differentiate teachers' performance and the appropriate consequences associated with LEAP performance ratings.

DPS conducts an annual survey of teachers on their satisfaction with the LEAP system.²⁵ Key questions are summarized below.

To have compensation linked to teacher evaluations, it is critical that teachers and administrators believe that LEAP-- or any other evaluation system-- is a fair measure of teacher performance. Teachers are much more positive about their personal experience with LEAP

FIGURE 6: Teacher Responses to DPS End of Year LEAP Survey (2015)

	Strongly Disagree	Disagree	Somewhat Disagree	Somewhat Agree	Agree	Strongly Agree	Change in percent positive 2014-15 to 2015-16
Overall, my experience with LEAP this year so far has been positive	13%	9%	10%	24%	33%	12%	Stayed constant
The LEAP system does a good job of distinguishing effective from ineffective teachers	14%	13%	16%	32%	22%	4%	Increased 5.5 percentage points
The consequences tied to LEAP results are reasonable, fair, and appropriate	20%	14%	18%	27%	17%	3%	Increased 8.6 percentage points
I believe my final rating is an accurate reflection of my teaching practice.	10%	5%	9%	20%	39%	16%	Increased 6.4 percentage points

MANY DISTRICT INITIATIVES AND TEACHER SUPPORTS INTERACT WITH THE COMPENSATION STRUCTURE.

than they are about the system more broadly. This could point to a need for greater transparency about how the system works for all teachers. For example, teachers should know that the rating of their schools does not singularly impact their LEAP performance rating. To that point, it is critical that the evaluation system differentiate effectiveness to ensure that compensation is appropriately targeted to the most effective teachers.

It is worth noting that, through the '15-'16 school year, less than 1 percent of the average teacher's salary was determined by his or her evaluation (the annual base building payout for a satisfactory evaluation is just under \$400). In 2016-17, with the combination of the Student Learning Objective incentive, the Professional Evaluation incentive, teachers with fewer than 15 years of service will receive just under \$800 for an approaching or above rating on LEAP (the amount remains \$400 for teachers with 15 or more years of services). Further investigation into whether teachers are willing to tie more of their compensation to LEAP is warranted as the district pursues tying compensation to teacher evaluations.

Both LEAP and the teacher leadership program could serve as promising components of a compensation structure. To have a truly strategic compensation system, the district will need to better clarify the impact it wants from LEAP and the Teacher Leadership & Collaboration structures, then monitor and track the extent to which that impact is borne out. Finally, DPS will have to align compensation to those structures to reinforce the impact.

PERA and Other Benefits

Total compensation encompasses more than what teachers pocket each month. The district provides benefits to teachers including health care, and a pension retirement system. The costs to the district and teachers of each existing benefit, and the possibility of additional benefits, is beyond the scope of this paper. That said, it is clear that there needs to be a conversation about how to restructure benefits, particularly pensions.

DPS joined the Public Employees Retirement Association (PERA) in 2010. Both employer and employee contribution rates are set in statute: employees contribute 8 percent of their salary annually to PERA. DPS, after legislation in 2015 that equalized the district's contribution level with other organizations in PERA, now

contributes 10.15 percent of each employee's gross pay annually to PERA, a 4.5 percent Amortization Equalization Disbursement (AED), and a 4.5 percent supplemental Amortization Equalization Disbursement (SAED) for a total 19.15 percent employer contribution rate. In exchange, employees receive a defined benefit which begins after five years of service in district and gradually increases until the employee nears retirement, at which time the value of the benefit increases sharply.

PERA, like many state pension plans, faces structural challenges. There are questions about its solvency and sustainability. The fund isn't portable across state lines. Teachers are not vested for five years, meaning they receive none of DPS' investment unless they have served as a DPS teacher for five years. The system is back-loaded, meaning benefits are much richer for people who stay in the system for 20 or more years, compounding the overall problem of low wages for young teachers.²⁶

What this means is that the vast majority of teachers never receive the full value of their total compensation package, even though DPS is spending over \$62 million annually on retirement benefits.²⁷

Mill Levy Sharing with Charters

DPS is a leader in providing equal funding to charters. Unlike many districts in Colorado and nationally, charters in DPS receive pro-rata shares of voter approved mill levies. There is one exception: the 2005 ProComp mill levy.

Legislation introduced in the Colorado General Assembly in 2016 failed, but would have required all districts to share all mill levy funding with charters. Charter school students make up about 20 percent of all DPS students and that percentage continues to grow. As with all other DPS mill levy funding, ProComp funds should be shared equally with charter schools. Not only should these funds be shared because charter families contribute equally to the ProComp mill levy as taxpayers, but also because there is much to be learned from the variety of ways that charter schools structure teacher compensation.

But this may be difficult to achieve with ProComp funds, because taxpayers would have to reapprove the 2005 mill levy to explicitly include charter schools, and, in the mill levy's current form, charters would have to implement LEAP in their schools.

WHERE DO WE GO FROM HERE?

Clearly, teachers are one of the district's biggest investments—if not the biggest investment—well beyond the annual \$25 million from the 2005 ProComp tax increase. ProComp dollars were meant to be part of a rethinking of teacher pay, and there is an opportunity now to return to that original intent and ask the bigger question of how can dollars be reallocated to have a more significant impact on student learning and effective teaching.

A+ Recommendation:

Our teacher pay proposal is intended to provide a conversation starter as DPS and DCTA negotiate the future of ProComp. It seeks to raise a (non-exhaustive) series of questions. How can the ProComp system be simplified? What is the impact desired from ProComp?

Is the compensation system broadly aligned to district priorities? Can pay be a better tool for engaging teachers in the district and in the career of teaching, targeting both recruitment and retention? Below is an example of a teacher pay system that could work to better incentivize teachers to stay in Denver Public Schools, particularly in schools needing the most effective teachers, and to reward the district's most effective teachers.

This model borrows and combines ideas from other teacher pay systems and proposals, including Baltimore City Public Schools, Washington D.C. Public Schools, Louisiana Department of Education, and Denver's Design Team for Compensation and Career Pathways.

DESIGN PRINCIPLES

In developing a model that addresses these questions, there are some clear principles that we believe should be upheld.

CLARITY:

The current allocation of ProComp dollars is a hodgepodge of incentives that should be streamlined. Teachers and taxpayers alike should be able to easily grasp what behaviors or actions merit ProComp dollars.

ALIGNMENT:

The teacher pay system should support the goals the district outlines for itself.

EARLY INVESTMENT:

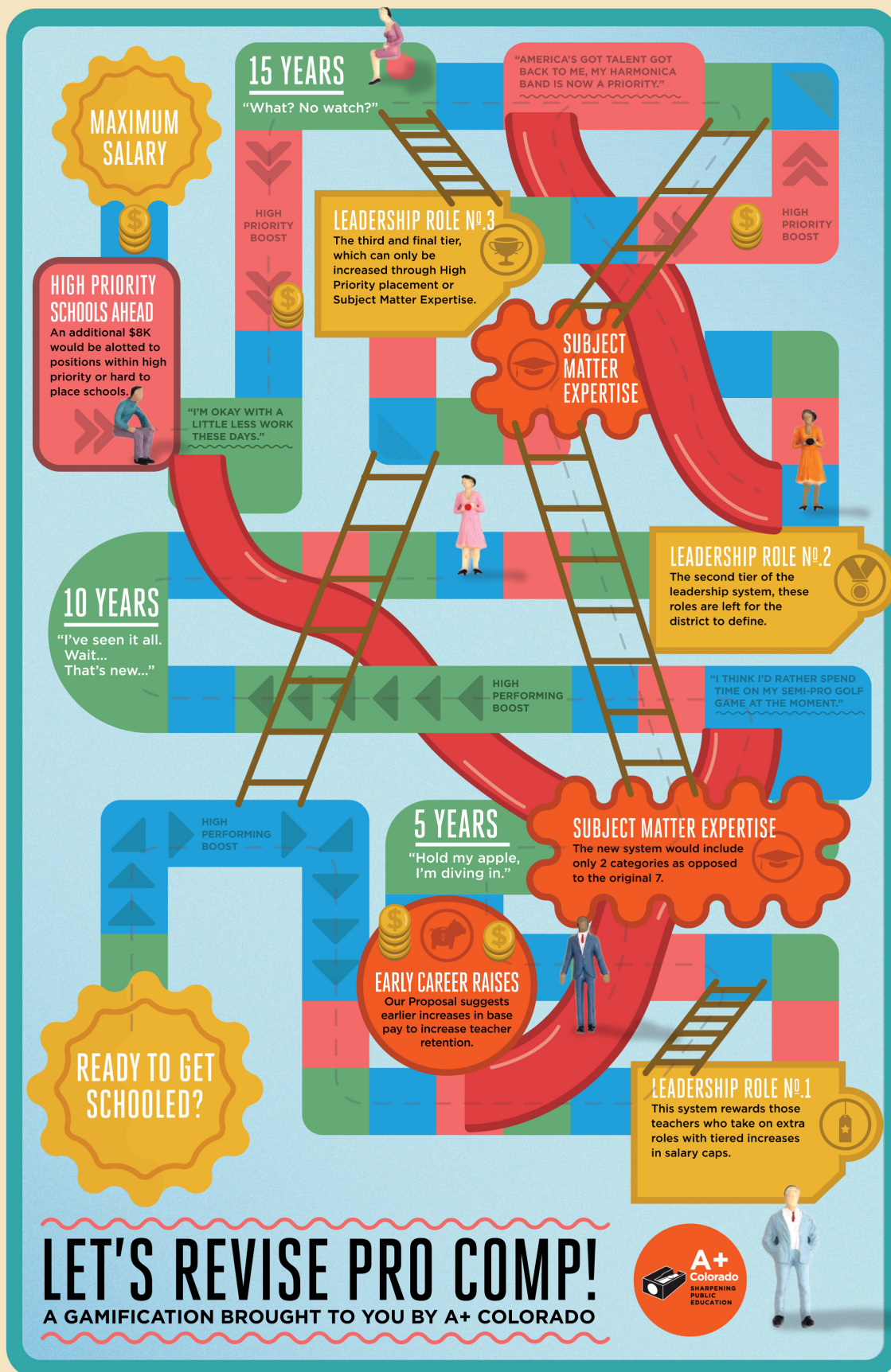
Research shows there is a clear difference in efficacy between first year teachers and sixth-year teachers. But remember, half of new teachers in DPS leave within the first three years. Though 46 percent of new DPS hires have at least three years of experience, about a quarter of all DPS teachers have three or fewer years of experience. The teacher compensation system should frontload the investment in teachers, increasing salary competitiveness, targeting retention, and setting teachers up for higher earnings earlier in their careers.

ADEQUACY AND COMPETITIVENESS:

A teaching salary should provide a living wage, particularly as housing prices and other costs of living increase in the metro area. Teaching salaries should be competitive with similar professional positions within the district.

RESEARCH-BASED PRACTICES:

Structures should be rooted in research and data.



Here's how a new teacher pay model could work:

- » **Prioritize retention through early salary increases**
- » **Streamline experience-driven salary increases to focus on expertise**
- » **Focus resources on the district's highest priority schools**
- » **Align teacher pay and career ladders**
- » **Reward high performance**

The following explores how each of these components of a teacher pay system could better impact teachers.

Teacher Pay Component 1:

Prioritize retention through early salary increases

DPS loses half of its teachers within their first three years in the district and a quarter of DPS teachers have fewer than three years of experience. There is ample research showing that, particularly in the wake of an economic

recession, starting salaries and lack of early career growth dissuade top college graduates from considering teaching.^{28,29} Research also shows that teachers make significant gains in effectiveness in the first five years of their career.³⁰ From a recruitment, effectiveness, and retention perspective, early pay matters. Increasing early pay can also boost later earnings.³¹

This scenario below shows a 10 percent increase in a teacher's salary for their first five years of experience, and a 1 percent increase in current dollars every year thereafter up to year fifteen.

Early career salary increases ensures that teachers are rewarded for the learning that happens early in their career, and guarantees that teachers receive adequate salaries as they stay in the district over time. Although the rate of annual salary increase slows during the middle and later stages of a career, a teacher with a Bachelor's degree would earn around \$63,000 in her 15th year of teaching, compared to less than \$60,000 under a traditional salary system.

FIGURE 7: Early Salary Raises



FIGURE 8: Streamlined Salary Schedule

Step	BA	BA + 30	BA + 60	MA	MA + 30	MA + 60	Doctorate		General Teacher	Subject Matter Expert		
1	\$39,850	\$40,142	\$40,433	\$43,729	\$43,729	\$44,543	\$47,340		1	\$42,000	\$44,100	
2	\$40,149	\$40,524	\$40,903	\$44,111	\$44,111	\$46,686	\$49,611		2	\$44,730	\$46,967	
3	\$40,262	\$40,784	\$42,529	\$44,371	\$45,553	\$48,586	\$51,643		3	\$47,637	\$50,019	
4	\$40,466	\$41,005	\$44,117	\$44,592	\$47,286	\$50,454	\$53,634		4	\$50,734	\$53,271	
5	\$40,832	\$42,707	\$45,992	\$46,293	\$49,275	\$52,580	\$55,900		5	\$54,032	\$56,733	
6	\$41,078	\$44,521	\$47,948	\$48,108	\$51,359					6	\$54,842	\$57,584
7	\$42,810	\$46,409	\$49,960	\$49,996	\$53,561					7	\$55,665	\$58,448
8	\$44,614	\$48,335	\$52,075	\$52,075	\$55,835					8	\$56,500	\$59,325
9	\$46,481	\$50,412	\$54,297	\$54,297	\$58,212	\$62,160	\$66,111			9	\$57,347	\$60,215
10	\$48,456	\$52,551	\$56,637	\$56,637	\$60,730	\$64,805	\$68,961		10	\$58,207	\$61,118	
11	\$50,500	\$54,752	\$59,033	\$59,033	\$63,280	\$67,587	\$71,938		11	\$59,080	\$62,035	
12	\$52,655	\$57,090	\$61,571	\$61,571	\$66,061	\$70,503	\$75,033		12	\$59,967	\$62,965	
13	\$55,346	\$60,014	\$64,841	\$64,841	\$69,349	\$74,042	\$78,760		13	\$60,866	\$63,909	
									14	\$61,779	\$64,868	
									15	\$62,706	\$65,841	

Teacher Pay Component 2:

Streamline experience-driven salary

Teacher Pay Component 2:**Streamline experience-driven salary increases to focus on expertise**

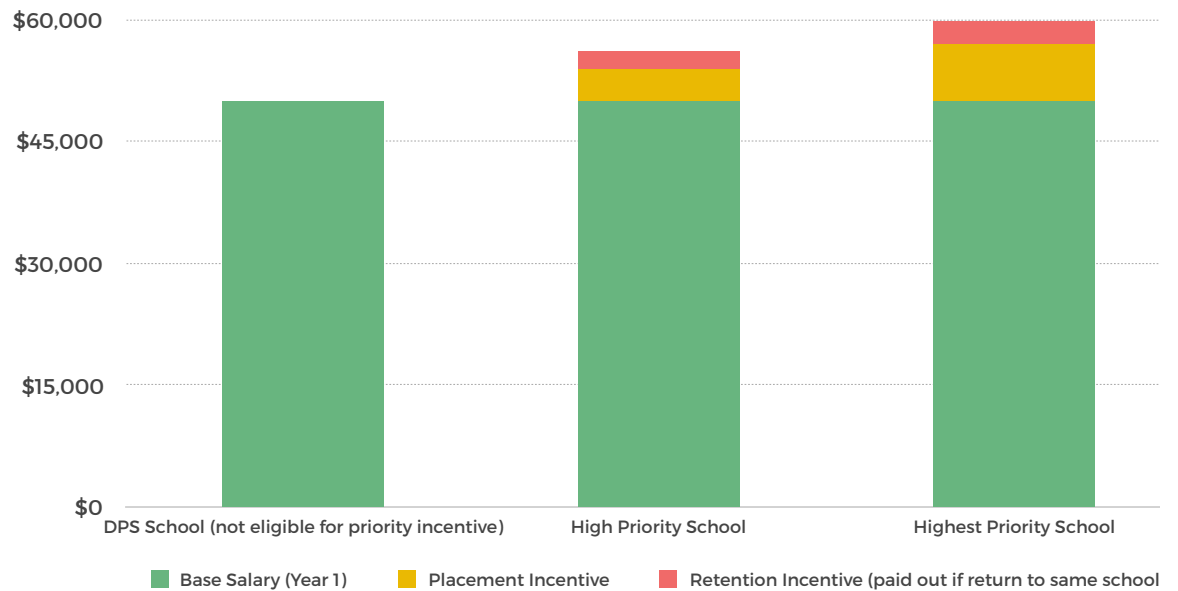
Research on the impact of higher education on teacher effectiveness is, at best, mixed.³² Yet a significant proportion of teacher pay is currently driven by credentials and advanced degrees. Rather than differentiating lanes based on credits earned toward advanced degrees, the district could reconfigure how it rewards advanced degrees. Teachers could either be paid according to a general salary schedule, or a subject matter expert salary schedule, reducing the number of lanes, or levels, in a salary schedule from the traditional, which is between six and eight lanes, to two.

Teachers could demonstrate their qualification for subject matter expertise by obtaining advanced degrees in content-specific areas where research shows that subject matter expertise has a significant impact on teacher effectiveness, including special education, English language arts-Spanish, or secondary math, or perhaps could include credentials like National Board Certification.³³ The district and union would need to define the appropriate subject matter expertise credentials, and should take into account the value of the credentials as

teachers transfer between grade levels or content areas. With fewer lanes, there is an opportunity to shift starting salaries up. It simplifies the compensation system. It creates a significant financial incentive for teachers to invest in the most relevant and impactful higher education, while not requiring this investment for more moderate salary growth.

Teacher Pay Component 3:**Focus resources on the district's highest priority schools**

Under the current ProComp system, teachers in “hard to serve” schools earn a bonus of just under \$2,500 each year. Additionally, DPS has introduced a “highest priority incentive” which was paid in FY 2015-2016 to 30 schools, ranging from \$1,500 to \$4,000 per teacher, depending on their evaluation rating.³³ Research has shown that the current hard to serve incentive is too small and has not had a significant impact on reducing teacher turnover in the schools serving the highest needs students.³⁴

FIGURE 9: High Priority Schools Incentives

NOTE WORTHY

In Washington D.C., eligibility for bonuses through the ImpactPlus performance pay system is determined by teachers' evaluation rating as well as the demographics of their school.

Teachers who earn a highly effective rating receive \$10,000 if they teach in a school where more than 60 percent of students qualify for free or reduced lunch, another \$10,000 if they teach a tested subject, and an additional \$5,000 if they teach a high-need subject. If teachers are in a school where fewer than 60 percent of students qualify for free or reduced lunch, they can still earn up to \$2,000 for highly effective ratings.³⁶

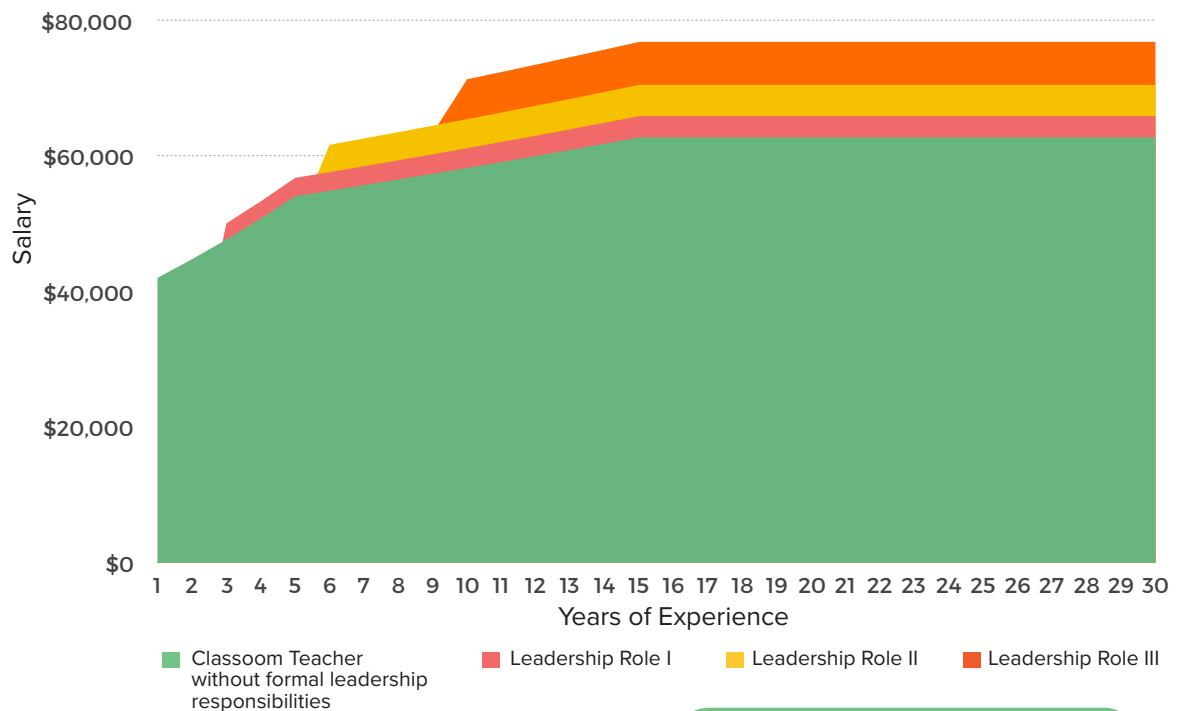
It is worth noting that Washington D.C., like many east coast districts, faces a very different funding landscape. While D.C. receives a per pupil revenue of nearly \$30,000, DPS receives just under \$12,000.³⁷

The addition of the highest priority incentive underscores the importance of attracting and retaining teachers to schools with higher needs:

- » where most students are eligible for free or reduced lunch
- » where student populations are highly mobile
- » where high proportions of students are English language learners or students with disabilities

With a reorganization of ProComp, there is an opportunity to make this incentive even larger, both in the number of teachers and schools eligible for tiered incentives (see chart below), and by size of payout, which could reasonably approach \$10,000.

The benefits of this model are its clarity and its alignment to district priorities. But the district must exercise caution when using a market-driven incentive of this type. The method by which the district identifies high priority schools must be clear and transparent. The list of schools must be relatively stable. The payment should be structured so that teachers are incentivized to remain at the same school rather than switching between schools that are identified as highest priority.

FIGURE 10: Role-Based Salary Increases

Teacher Pay Component 4:

Align teacher pay and career ladders

As DPS continues to implement its Teacher Leadership & Collaboration system across the district, it is worth considering a better alignment between compensation and roles and responsibilities. In other words, a compensation system should support a career ladder. This is particularly critical if DPS envisions the Teacher Leadership & Collaboration system becoming its primary leadership pipeline. Under this model, as teachers serve as teacher leaders, they would experience a base pay increase to align with their new responsibilities, but only as they continued to fulfill that leadership role.

This model would align to district priorities and other investments. It could also be a strong check on the adequacy and competitiveness of the teacher compensation system: do increases between role-driven lanes align with compensation levels of other professional district staff with parallel level and scope of responsibilities?

NOTE WORTHY

Baltimore City Public Schools implemented an aligned career ladder and salary structure in 2011. Teachers can move between a Standard Pathway, focusing on instruction within their own classroom, a Professional Pathway, with more school-based responsibilities, a Model Pathway, with a more formal leadership role amongst colleagues, and a Lead Pathway, serving as the academic leader of the school. Salary increases are aligned to the career trajectories.³⁸

Teacher Pay Component 5:

Reward high performance

Arguably the most important aim of any compensation system is to reward and retain an effective and high quality workforce. Compensation should be aligned to results teachers are producing for their students in the classroom. This component of compensation could take a number of forms.

There could be individual bonuses for teachers, akin to the Exceeds Expectations bonus in past iterations of ProComp. Evaluation could determine promotion from one salary step or lane to another, as in Harrison School District in Colorado Springs. Strong evaluations in the classroom could accelerate movement up a salary schedule. Evaluation could be used as the basis for promotion to leadership roles. What is critical is that compensation meaningfully track with effectiveness in the classroom. Reasonable people can disagree about what constitutes an effective, high quality teacher. Both the district and teachers need to trust that the evaluation system will differentiate teachers' performance, provide specific, constructive feedback for improvement, and empower teachers to act upon growth opportunities.

There are pockets of mistrust within DPS about the LEAP system, its ability to differentiate performance, and to drive growth. It is imperative that the district better understand the strengths and shortcomings of the current system, to integrate feedback into the system, and to continue refining the process. We believe DPS must strengthen and clarify LEAP, as a first step toward aligning compensation with performance.

NOTE WORTHY

For Harrison School District in Colorado Springs, salary increases are tied directly to compensation. Teachers are evaluated according to grade level and subject level criteria. Their evaluation score, determined by the criteria, places them at a compensation level.^{39,40}

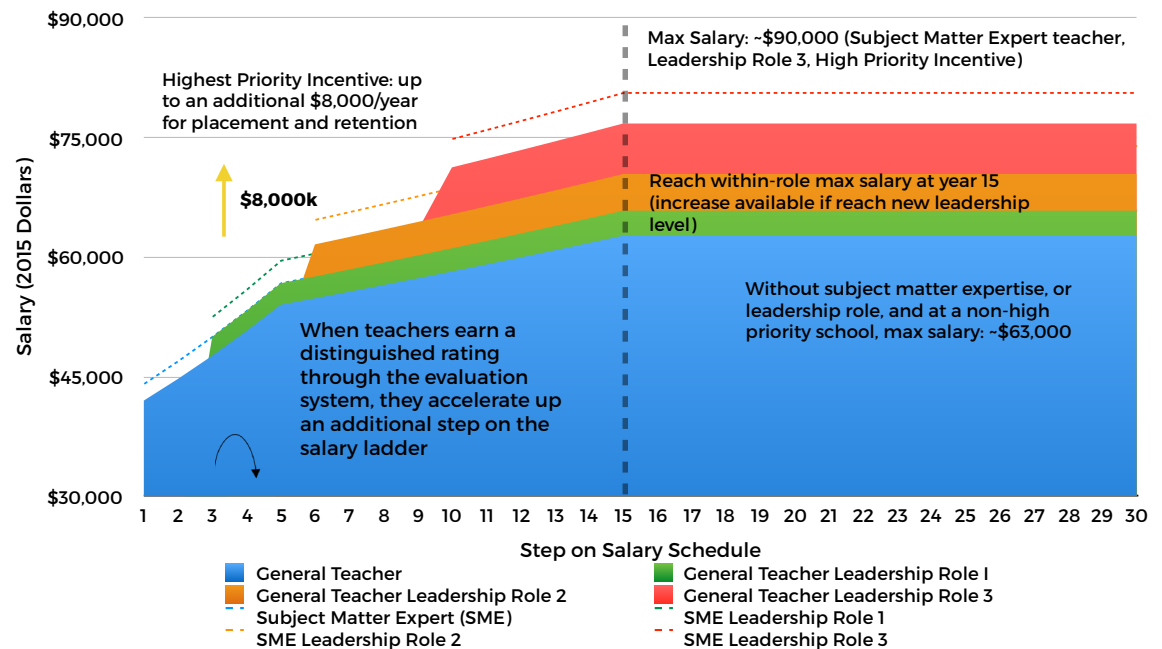
In D.C.'s ImpactPlus model, evaluation results determine both bonuses and increases in base pay. With a "Highly Effective" rating, teachers are eligible for bonuses-- up to \$20,00 in high poverty schools and \$2,000 in lower poverty schools. Evaluation results also determine teachers' eligibility to advance up career stages and, when in high poverty schools, teachers can accelerate up the salary schedule after reaching the "advanced teacher" stage.⁴¹

Keeping in mind these components of a teacher pay system, we reiterate our recommendations:

- » **A restructuring of teacher pay that accelerates earnings in the early years of a teacher's career, affecting both short-term and long-term earnings;**
- » **A meaningful focus on higher education credentials;**
- » **Significant inducements to work in high priority schools;**
- » **Alignment to career pathways;**
- » **Rewarding the most effective teachers by accelerating their ascent up the salary schedule leadership pathways.**

THE A+ TEACHER PAY MODEL

FIGURE 11: Teacher Pay Schedule Proposal



The A+ Teacher Pay Model demonstrates how these different components of pay systems could work together. Specifically, the model includes:

- **Salary increases as steps on a salary schedule, with the largest annual raises awarded in the first five years.** As with traditional salary schedules, this model would continue to reward years of service. most research shows that the fastest gains in teacher effectiveness occur within the first five to six years.⁴² There is also evidence that teachers continue to improve well into their careers.⁴³ A model with early increases gets teachers to a higher earning level sooner, ensuring that they can spend more of their careers at a higher salary level.
- **The traditional multiple lane system based on higher education level is streamlined to two lanes:** teachers with a subject matter expertise credential and those without the credential. The district and union could discuss what credentials would constitute subject matter expertise.
- **Teacher evaluation should be used as a primary way to accelerate earnings for teachers.** Similar to the model in DC, the model above shows that after achieving a distinguished LEAP rating, teachers could earn an additional step. Classroom performance should also be taken into account, and perhaps be the strongest factor in determining which teachers are eligible for leadership roles.
- **Compensation increases are aligned to roles.** Essentially this replaces a traditional lane system with a roles- and responsibilities-based system. Under such a system, to move up lanes teachers take on positions as grade or subject leaders, or other teacher leadership roles the district or school leaders define.
- **High Priority incentives enable the district to continue to promote staff retention in its hardest to serve schools.**

This model examines how current dollars spent on teacher pay could be reallocated, staying within the current resources allocated to teacher pay, and with the current teaching population. It assumes similar turnover and thus a similar distribution of teachers across experience levels and roles as we see today.

If a new teacher pay system succeeds in retaining more teachers—and specifically highly effective teachers, the cost of this model could grow. While we hope the model encourages dialogue, there are questions left unanswered. Understanding that DPS has been spending more from the ProComp trust than it earns, begs the question of whether even this level of investment in teacher pay is sustainable.⁴⁴ There are other likely costs of switching to a new teacher pay system including the actual development of the system, and the cost of grandfathering current teachers into a new system. These are not conversations the district should shy away from, but they will require a more thoughtful discussion and understanding of how money is allocated in the district.

Perhaps, in fact, the time has come for a conversation at both the district and the state level about money spent on teacher pay. Starting salaries, annual raises, differentiation between levels, and maximum salaries could all be increased if more money were committed to teacher pay. Even a 5 to 10 percent increase could have a significant impact on teachers' earnings. Top teachers could potentially earn more than \$100,000. There are several approaches to increasing the amount spent on take home teacher pay; this could be tackled by reallocating resources, or raising new revenue either at the state level or through a local mill levy. Regardless of where the dollars come from, this model plainly shows that more money in the system could make a real impact for individual teachers.

NOTE WORTHY

RADICAL IDEA: SCHOOL-BASED COMPENSATION SYSTEM

A radically different way for the district to think about teacher pay is at the school level. As DPS pushes the idea of increased autonomy at the school level, perhaps it is time to align the compensation system with this particular theory of change. Specifically, a school-based strategy would allow schools to create their own compensation models. The district could provide alternative models, but ultimately, decisions about teacher salaries would be made by the school leader. She or he would be responsible for allocating budget, including in human capital categories. A school-based structure could enable innovative and community-specific practices aligned with school-specific needs.

Of course, there should be due process guarantees for teachers, given the likelihood of disputes between teachers and school leaders. This requires a different set of skills than some school leaders currently possess, and a place where collaboration with charter leaders could prove valuable. Pilots and innovation waivers may provide the legal structures to experiment with school-based compensation models. And while this idea could pose significant administrative challenges, it is worth a conversation. More control over teacher pay at the school level could help ensure that schools have the tools and resources they need to most effectively serve their students.

CONCLUSION

Moving forward with negotiations presents an excellent opportunity for Denver to lead the way in creating an effective and competitive compensation system that rewards teachers for driving student achievement and also keeps teachers in the classroom. Renegotiation also offers DPS and DCTA the chance to evaluate how to allocate funds more strategically so that they have the highest possible leverage on student achievement, and long-term district goals. The teacher pay model presented in this paper presents a possible starting point for the conversation. As the district and union discuss a path forward, the following themes should remain salient:

- » **Teachers and administrators must understand compensation system and incentives.** Teacher are concerned that ProComp repackages their salaries and asks them to work more for the same pay. At the same time many teachers do not understand why they did or didn't receive bonuses. These are significant problems. An incentive pay system only functions effectively if people working in the system have a clear understanding of what they need to do to earn bonuses.
- » **Think of compensation building blocks.** A traditional salary schedule is relatively easy to understand because the building blocks of compensation are simple: years in the classroom (steps) and education level (lanes). Just because ProComp is innovative does not mean it should be difficult to understand. What are the building blocks of a new teacher pay system? Are they accessible to all teachers?

And how can both base-pay increases, and one-time incentives be clearly communicated to prospective and current teachers?

- » **Better define the theory of change.** Is ProComp intended to attract teachers to Denver, retain the teachers we already have, or some combination of both? How does the district believe compensation can/should impact student achievement? Clarifying the intentions and goals behind ProComp will allow the district to better monitor the system's effectiveness and change course if the intended outcomes are not being achieved.
- » **Understand impact of other systems.** Teacher leadership initiatives and teacher evaluation systems, among other district systems, have an impact on ProComp. The district, DCTA, and individual teachers should have a strong understanding of the ways that teacher compensation is tied to their leadership development and their evaluations. Clarifying and streamlining these relationships will create the conditions for better monitoring of the impacts of ProComp.
- » **Align ProComp with DPS 2020.** DPS' strategic plan, DPS 2020, presents lofty goals related to quality schools, student achievement, and closing the opportunity gap. Aligning teacher compensation systems with the goals presented in the strategic plan would help DPS invest teachers in the strategic plan and ProComp, both of which are not as well understood or supported as they could be.

ALLOCATE FUNDS MORE STRATEGICALLY TO HAVE THE MOST LEVERAGE ON STUDENT ACHIEVEMENT, AND LONG-TERM DISTRICT GOALS.

- » **Make attracting teachers to hard to serve schools a central goal. Equity should be an underpinning of Denver's teacher compensation system. Attracting effective teachers to schools with the highest need could go a long way toward closing the opportunity and achievement gaps that currently exist in Denver.**
- » **Ensure Denver's teacher compensation is nationally competitive. Denver is a great city that attracts people from all over the state and country, which drives up the cost of living. In order to ensure that teachers want to live and work in Denver, teacher compensation must be nationally competitive.**

When Denver voters approved the ProComp property tax increase a decade ago, Denver moved to the forefront nationally on teacher compensation. But ProComp was too complex to achieve the vision the district and the union set out for it. Progress has been far too slow on the district's efforts to attract and retain a high quality workforce. Having more effective and engaged teachers is key if DPS is to accelerate achievement and reach the goals it has outlined for itself.

It is high time for the district to invest in those who are in front of students every day by partnering with teachers to develop a strategy to recruit, retain, and support strong educators.

ENDNOTES

1. Bess Kellet, "Denver Voters Pave Way for Incentive Pay," Education Week, November 8 2005. <http://www.edweek.org/ew/articles/2005/11/09/11denver.h25.html>
2. Jennifer K. Rice, "The Impact of Teacher Experience: Examining the Evidence and Policy Implications." National Center for Analysis of Longitudinal Data in Education Research Brief, no. 11 (2010). <http://www.urban.org/sites/default/files/alfresco/publication-pdfs/1001455-The-Impact-of-Teacher-Experience.PDF>
3. Strategic Data Project, "Human Capital Diagnostic," Center for Education Policy Reform at Harvard University (2014). <http://sdp.cepr.harvard.edu/files/cepr-sdp/files/sdp-diagnostic-hc-dps.pdf?m=1431470885>
4. Denver Public Schools, "Denver Plan 2020: Every Child Succeeds" (presentation, Update on culture, including CollaboRATE results Board Work Session, Denver, CO, January 19, 2016). [http://www.boarddocs.com/co/dpsk12/Board.nsf/files/A6B3SV0852C3/\\$file/BOE%20Culture%20Update%20and%20Discussion%20incl%20Collaborate%20Jan%2019%20Final.pdf](http://www.boarddocs.com/co/dpsk12/Board.nsf/files/A6B3SV0852C3/$file/BOE%20Culture%20Update%20and%20Discussion%20incl%20Collaborate%20Jan%2019%20Final.pdf)
5. "The State of the Nation's Housing 2016," Joint Center for Housing Studies of Harvard University (2016): 1-40, http://www.jchs.harvard.edu/research/state_nations_housing
6. "Apartments for Rent in Denver, CO." 100 Best Apartments For Rent in Denver, CO (2016) <https://www.apartmentlist.com/co/denver#rental-price-monitor>.
7. Aldo Svaldi, "Denver, Boulder Hit Record High Home Prices in March," Denver Post (Denver, CO), April 20, 2016. <http://www.denverpost.com/2016/04/20/denver-boulder-hit-record-high-home-prices-in-march/>
8. Emily Badger, "Why it Seems Impossible to Buy your First Home," Washington Post (Washington D.C.) Mar. 22, 2016. <https://www.washingtonpost.com/news/wonk/wp/2016/03/22/why-it-seems-impossible-to-buy-your-first-home/>
9. Phil Gonring, Paul Teske, & Brad Jupp. Pay-for-Performance Teacher Compensation: An Inside View of Denver's ProComp Plan. Harvard Education Press (2007).
10. Denver Public Schools, 2014-15 Top Performing/High Growth: Recipients (Denver: 2015), http://hr.dpsk12.org/wp-content/uploads/2015/12/FINAL_TPHG-2014-15.pdf
11. "Human Capital Diagnostic," Center for Education Policy Reform at Harvard University
12. Provided by DPS finance, based on 2015-16 data.
13. This was calculated as the total dollars allocated to teachers who earned a base building ProComp incentive in FY 2014-15 (paid in FY 2015-16).

14. Dan Goldhaber & Joe Walch, “Strategic Pay Reform: A Student Outcomes-Based Evaluation of Denver’s ProComp Teacher Pay Initiative,” Center for Education Data & Research (2011-13): 1-40, [http://www.cedr.us/papers/working/WP%202011-3%20Procomp%20Strategic%20Compensation%20\(9-28\).pdf](http://www.cedr.us/papers/working/WP%202011-3%20Procomp%20Strategic%20Compensation%20(9-28).pdf)
15. Derek C. Briggs, Elena Diaz-Bilello, Andrew Maul, Michael Turner & Charles Bibilos, “Denver ProComp Evaluation Report: 2010-2012,” Colorado Assessment Design Research and Evaluation (CADRE) Center and the National Center for the Improvement of Educational Assessment (2014): 1-132, http://www.colorado.edu/education/sites/default/files/attached-files/CADRE_NCIEA%20ProComp%20Full%20Report%20FINAL%20022814.pdf
16. Dan Goldhaber & Joe Walch, “Strategic Pay Reform: A Student Outcomes-Based Evaluation of Denver’s ProComp Teacher Pay Initiative,” [http://www.cedr.us/papers/working/WP%202011-3%20Procomp%20Strategic%20Compensation%20\(9-28\).pdf](http://www.cedr.us/papers/working/WP%202011-3%20Procomp%20Strategic%20Compensation%20(9-28).pdf)
17. “Human Capital Diagnostic,” Center for Education Policy Reform at Harvard University
18. Ibid
19. The Design Team for Compensation and Career Pathways, “A Report from the Design Team for Compensation and Career Pathways,” Denver Public Schools and Denver Classroom Teachers Association (2014): 1-21, <http://static.dpsk12.org/gems/newprocomp/DesignTeamReportFINAL.pdf>
20. Kara Penn, “ProComp Teacher Perspectives on Design, Usability, and Impact: Focus Group Findings, Implications, and Recommendations,” Mission Spark, LLC. (2015). <http://www.rcfdenver.org/sites/default/files/pdfs/ProComp%20Teacher%20Focus%20Group%20Report%202015.%20MissionSpark.pdf>
21. Denver Public Schools, “Denver Plan 2020: Every Child Succeeds” (presentation, Update on culture, including CollaboRATE results Board Work Session, Denver, CO, January 19, 2016). [http://www.boarddocs.com/co/dpsk12/Board.nsf/files/A6B3SV0852C3/\\$file/BOE%20Culture%20Update%20and%20Discussion%20incl%20Collaborate%20Jan%2019%20Final.pdf](http://www.boarddocs.com/co/dpsk12/Board.nsf/files/A6B3SV0852C3/$file/BOE%20Culture%20Update%20and%20Discussion%20incl%20Collaborate%20Jan%2019%20Final.pdf)
22. Ibid
23. At the school level, all teachers in a top-performing school and all teachers in a high-growth school receive lump sum bonuses. At the individual level, teachers in grades 4-10 teaching in a tested subject receive a lump sum bonus if more than 50% of their students are in the 55th percentile or higher for statewide student growth, a base salary increase if teachers meet Student Learning Objectives (2015-2016 structure of this incentive is currently being negotiated), and a base salary increase (if 14 or fewer years of service in the district, a lump sum payout if more than 14 years) based on a satisfactory professional evaluation.

24. "LEAP Handbook: Growing as an Educator," Leading Effective Academic Practices, 2015-2016, <http://leap.dpsk12.org/LEAP/media/HostedResources/2015-16%20LEAP%20Handbook/Growing-as-an-Educator.pdf>.
25. LEAP End of Year Survey: 2015. Provided by DPS.
26. Chad Aldeman and Michelle Welch, "Few Reach the Peaks: How to Fix Colorado's Teacher Pensions," Colorado Pension Project (2015) http://coloradopensionproject.com/wp-content/uploads/2015/01/Few_Reach_the_Peaks_Final.pdf
27. Colorado PERA Comprehensive Annual Financial Report 2015. Colorado PERA (2015). <https://www.copera.org/sites/default/files/documents/5-20-15.pdf>
28. "Missing Elements in the Discussion of Teacher Shortages," National Center for Analysis of Longitudinal Data in Educational Research (2015) <http://www.caldercenter.org/missing-elements-discussion-teacher-shortages>
29. Erica Blom, Brian C. Cadena, Benjamin J. Keys, "Investment over the Business Cycle: Insights from College Major Choice." IZA DP No. 9167 (2015) <http://ftp.iza.org/dp9167.pdf>.
30. "Human Capital Diagnostic," Center for Education Policy Reform at Harvard University
31. "Shortchanged: The Hidden Costs of Lockstep Teacher Pay," TNTP. (2014): http://tntp.org/assets/documents/TNTP_Shortchanged_2014.pdf
32. Many studies, and meta-studies find little or no impact on higher education degrees and teacher effectiveness. See Hanushek, Eric and Steven Rivkin, "Chapter 18: Teacher Quality in Handbook of the Economics of Education," No. 2 (2006), edited by Eric Hanushek and Finis Welch; Dan Goldhaber and Dominic Brewer. "Evaluating the Effect of Teacher Degree Level on Educational Performance." In *Developments in School Finance 1996*, edited by William Fowler, Washington, DC: NCES (1997), 197-210; Charles T. Clotfelter, Helen F. Ladd, and Jacob L. Vigdor "How and Why do Teacher Credentials Matter for Student Achievement?" NBER Working Paper No. 12828 (2007) <http://www.nber.org/papers/w12828.pdf>.
33. See: Li Feng and Tim Sass. "What Makes Special-Education Teachers Special? Teacher Training and Achievement of Students with Disabilities." CALDER Working Paper No. 49. (2010); Harris and Sass, "Teacher Training, Teacher Quality and Student Achievement." CALDER Working Paper 3 (2007); Betts, Zau and Rice "Determinants of Student Achievement: New Evidence from San Diego" Public Policy Institute of California (2003) http://www.ppic.org/content/pubs/report/R_803JBR.pdf. and "The Proven Impact of Board Certified Teachers on Student Achievement," National Board of Professional Teaching Standards. (2012) http://www.nbpts.org/sites/default/files/Policy/impact_brief_final.pdf
34. Methodology for highest priority incentives can be found at http://hr.dpsk12.org/wp-content/uploads/2015/08/overview-doc_teacher-incentive-HP_final.pdf

35. Furbeck and Richards, "The Impact of School-based Financial Incentives on Teachers' Strategic Moves: A Descriptive Analysis." *Teachers College Record* Vol. 117, No. 9, (2015), 1-40.
36. "Leadership Initiative For Teachers Guide Book." District of Columbia Public Schools. (2015-2016) <http://dcps.dc.gov/sites/default/files/dc/sites/dcps/publication/attachments/LIFT%20Guidebook-July24.pdf>
37. "Common Core of Data." National Center for Educational Statistics. <https://nces.ed.gov/ccd/districtsearch/index.asp>
38. "Career Pathways," Baltimore City Schools. (2016). <http://www.baltimorecityschools.org/Page/14091>
39. "Student Achievement Templates." Harrison School District (2015). http://www.hsd2.org/pages/HSD2/District/Research___Data___Accountabilit/Student_Achievement_Templates
40. "Teachers Effectiveness & Results (E&R) Salary Scale," Harrison School District. (2015) http://www.hsd2.org/dynimg/_SaAAA_/docid/0x7D6406FB35EF6F64/2/EandR%2BSalary%2BScale%2B-%2BTeachers.pdf.
41. "Leadership Initiative For Teachers Guide Book." District of Columbia Public Schools.
42. "Human Capital Diagnostic," Center for Education Policy Reform at Harvard University
43. John Papay and Matthew Kraft. "Productivity Returns to Experience in the Teacher Labor Market: Methodological Challenges and New Evidence on Long-Term Career Improvement" *Journal of Public Economics*, No. 130, (2015): http://scholar.harvard.edu/files/mkraft/files/jpubec_-_returns_to_experience_manuscript_-_r2.pdf
44. "Teacher Weekly: Special Edition: Important Pay Announcement" DPS Newsletter to Teachers. (2016) <http://myemail.constantcontact.com/Important-Pay-Announcement-from-DPS-and-DCTA.html?soid=1110617542386&aid=TCwPbAvpZyU>.

APPENDIX A: PROCOMP BALLOT LANGUAGE

Shall Denver Public Schools (School District No. 1) taxes be increased \$25 million per year, adjusted for inflation, solely and exclusively to fund the professional compensation system for teachers (ProComp), which tax increase shall terminate if ProComp terminates, including compensation to teachers for:

- **Teaching in hard-to-staff schools**
- **Teaching in hard-to-fill positions such as math, science and special education**
- **Increasing teaching knowledge and teaching skills by successfully completing ProComp approved advanced degrees, professional teaching standards licenses and additional training to improve classroom skills**
- **Positive professional evaluations,**
- **Achieving distinguished school status**

By an additional property tax levy that results in the dollar amount of revenues set forth above in the current budget year and the same dollar amount, adjusted annually in each budget year thereafter for inflation as measured by the Denver-Boulder-Greeley consumer price index, which revenues shall be used solely and exclusively for, and none of which will be spent for any purpose other than, funding ProComp?