

SPAC Budget Review Committee

Minority Report to the Jeffco Board of Education

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Introduction: Issues To Be Addressed

The fundamental reason we engage in budgeting is to ensure that adequate resources are allocated to activities that will ensure an organization's survival and the achievement of its goals, in order to accomplish its purpose for existence. As such, the evaluation and approval of an organization's budget is a critical aspect of Board governance.

Jeffco has previously specified its top three goals ("Ends Policies") to be the following:

1. "Every student will master the Colorado Content Standards at grade level."
2. "Every student will achieve at least one year's growth, or more as needed to catch up, in every year of school and be ready for the next level."
3. "Every student will graduate career and workforce and/or post-secondary ready."

This Minority Report will therefore logically begin with a short review of the extent to which Jeffco has achieved these goals.

We will then review the current governance process in Jeffco, as well as various issues related to the current budget development process.

Next we will provide individual analyses and recommendations related to the specific budget requests that were reviewed by the SPAC, and which stand before the Board awaiting its final decision on the District's budget for next year.

We will end with a set of conclusions that emerge from this report, as well as a summary of our recommendations to the Board with respect to the District's budget.

A Short Review of Jeffco's Academic Achievement Performance

However we choose to describe it in various mission and vision statements, as a practical matter Jeffco's purpose is to educate our children so that they are well prepared for life in an increasingly complex, competitive, and uncertain world.

To that end, previous Boards of Education have established these three goals:

1. "Every student will master the Colorado Content Standards at grade level."
2. "Every student will achieve at least one year's growth, or more as needed to catch up, in every year of school and be ready for the next level."
3. "Every student will graduate career and workforce and/or post-secondary ready."

As you can see from the analysis presented in Appendix A, for at least the past eight years, Jeffco has failed to achieve these goals, by a substantial amount.

To cite but one example, based on Jeffco's 2013 results on the national ACT test, 55% of all our District's 11th graders were below the minimum math and reading scores for "college and career readiness." For science, 61% fell below this mark.

In the video that has been played at the community budget engagement meetings, a statement was made that implied that somehow Jeffco's results are acceptable because they are better than the state of Colorado's. Nothing could be further from the truth. First, there is a negative correlation between a district's percentage of students eligible for free and reduced lunch and its results on various achievement tests. Because Jeffco's percentage of free and reduced students is 10% lower than the rest of the state, Jeffco's outperformance is nothing to brag about – it is exactly what we should expect to see.

Second, Jeffco students do not compete for college entrance and jobs simply with other students from Colorado – they compete with other students from all over the United States and the world. And the national ACT test results tell us that the majority of Jeffco 11th graders are not college and career ready. That does not bode well for their future economic success in our increasingly globalized and intensely competitive world – and most parents realize this, much to their frustration.

Finally, ask yourself this question: if the Broncos go 2 and 14 next year, while the Chiefs go 1 and 15, will you (and John Elway) be bragging to people about how the Broncos outperformed the Chiefs?

That Jeffco's achievement shortfalls have continued for so long with little or no improvement in results suggests that critical weaknesses exist in some combination of the District's management, governance, and/or oversight (i.e., School and District Accountability) processes. In this report, we will focus on only some aspects of this larger issue.

At the highest level, the fundamental budget issue facing the Board is why, despite spending almost a billion dollars per year of taxpayers' money over the past eight years, Jeffco's deeply frustrating achievement results have not improved.

As you can see from the data presented in Appendix A, the evidence suggests that the root cause of this achievement problem is not a lack of money, as the poor performance predated the budget cuts that began in 2009, and performance did not worsen afterwards. This implies that the root causes of Jeffco's poor achievement results lie in some combination of ineffective and inefficient spending of a billion dollar a year budget, and/or the inability to consistently and sustainably implement critical behavior changes across the District. This latter problem has been repeatedly alluded to by the District's Chief Academic Officer in various presentations to the Board and SPAC. For example, in October 2013 comments to the Board, she noted issues with "poor fidelity of implementation" at some schools (e.g., of achievement improvement initiatives contained in Uniform Improvement Plans). And at the January 2014 SPAC meeting, she noted "widely varying levels of rigor" in the District's classrooms and "the "lack of a common understanding in Jeffco of what rigor means."

Background on Board Governance

A 2009 report prepared for the Ministry of Education of the Canadian Province of Ontario stated the following: “Although there is little research and limited experience to provide direction to school boards in exercising a mandate for improving student achievement, there is an emerging consensus that boards need to establish high expectations for student outcomes, establish strategic directions for improvement, assign resources to support strategies and hold the system to account by regular performance monitoring” (*School Board Governance: A Focus on Achievement*).

This description of the key elements in the school board governance process generally aligns with descriptions used in the private sector, such as this one, from the global organization of management accountants: “governance is the set of responsibilities and practices exercised by the Board and executive management with the goal of providing strategic direction, ensuring that objectives are achieved, ascertaining that risks are managed appropriately and verifying that the organization’s resources are used responsibly” (*Enterprise Governance: Getting the Balance Right*).

More specifically, virtually all board directors of private sector companies would agree that their governance responsibilities include the following:

- Set Direction
 - Establish purpose, goals and metrics
 - Evaluate and approve the organization’s strategy for achieving these goals, and critical decisions
 - Approve the allocation of resources and decision power needed to efficiently and effectively execute and adapt this strategy (including hiring a CEO, regularly evaluating his or her performance, and providing advice and coaching as necessary)
- Control Risk
 - Set boundaries on acceptable organizational behavior
 - Ensure legal and regulatory compliance
 - Anticipate, assess, and approve actions in response to major threats to organizational survival and goal achievement
- Monitor Performance
 - Regularly review results against goals, and intervene as necessary
 - Regularly review risk indicators and the continuing validity of key strategy assumptions
 - Verify the accuracy of reports and other disclosures to stakeholders

In contrast to most private sector companies’ governance approach, Jeffco, like some not-for-profit organizations, uses what is known as the Carver or “Policy Governance” model (when capitalized, it is Carver’s trademarked scheme). John Carver is a clinical psychologist who devised what he calls the perfect approach to governance. He has built a

significant business training organizations on how to implement his approach, and also teaching consultants how to do this.

There are a few key elements of the Carver model: (1) the Board is responsible for devising statements that describe the purpose/goals (“ends”) the organization must achieve (hence Jeffco’s “Ends Statements”); (2) the Board is responsible for hiring a CEO to achieve those ends; (3) the Board also devises “Executive Limitations” to constrain the behavior of the CEO and the organization; and (4) the Board is responsible for regularly and rigorously monitoring the CEO’s performance compared to the Ends and Executive Limitations. Beyond that, the “means” by which the Ends are to be attained are wholly up to the CEO’s discretion, and any attempt at Board oversight over them runs the risk of being met with complaints that this represents “micro-managing.”

As you might imagine, Carver’s approach has received a substantial amount of criticism. For example, in his paper “The Promise of Governance Theory: Beyond Codes and Best Practices”, Carver states that “Corporate governance exists for one reason and one reason alone: to ensure that shareholders’ values, as informed by knowledgeable agency, are transformed into company performance. To the extent a board fails in this, no matter how many other useful things it accomplishes, it has failed. To the extent it succeeds in this, no matter that it accomplishes nothing else, it has succeeded.” To say that this view strikes many regulators, judges, corporate counsels, and providers of directors’ liability insurance policies as unrealistic is an understatement. It is no wonder that the Carver approach has found few supporters on private sector boards (see, for example, “*The Policy Governance Model: A Critical Examination*” by Alan Hough)

More specifically, criticisms of the Carver model include:

- (a) its failure to drive organizational results unless the Board strictly monitors Ends achievement and Executive Limitation compliance, which many boards do not;
- (b) its tendency to create excessively powerful CEOs;
- (c) its overly rigid focus on the CEO being the board’s only employee. For example, audit firms report to the board; similarly, in the case of a proposed management buyout, whistleblower complaints, or other potential conflicts between the board and management, prudence, case law, and regulation, particularly in a post Sarbanes-Oxley and Dodd-Frank environment, often requires boards to hire outside advisors;
- (d) the constraint it imposes on a board’s ability to offset management’s natural tendencies towards overoptimism, overconfidence, confirmation bias, and conformity;
- (e) its tendency to weaken information flows to directors, and thus undermine their ability to perform their fiduciary duties;
- (f) its lack of transparency with respect to critical decisions, many of which are made by the CEO out of view of the board (and, in the case of school districts, out of view of the public as well);

(g) “the danger that the board and staff feel disconnected from each other. With the separation of roles, board members lose their understanding of programs because of a lack of program details. Staff may be resentful or dismissive of board decisions when they perceive the board as remote and without understanding of implementation realities. The staff may also feel disempowered to contribute to the direction of the organization”;

(h) its denial of the benefits of director expertise to organizations (“Great demands are made on management, who require the necessary skills to implement the ends set by the board. Weaknesses and inadequacies on either side can not be compensated for through mutual-help and team-like activities between staff and board, since it is thought that this would result in a confusion of roles”); and,

(i) Carver’s rigid and damaging separation of ends (determined by the board) from the means (i.e, strategy and budget) of achieving them (determined by management), which is particularly unrealistic in a complex, uncertain, and fast-changing environment.

In sum, John Carver is a psychologist who tried to design the perfect system of governance. Unfortunately, as has been true throughout history of other attempts to engineer a utopia, this one too has fallen short when confronted with reality.

Carver’s approach to budgets is particularly problematic; as he notes, in a Policy Governance system, “typical budget approval [by the board] isn’t necessary”...“the board doesn’t do blanket approvals of budgets, program designs, or compensation plans.” These are all within the power of the CEO to determine, subject to the negative constraints set forth in the Executive Limitations. Rather, Carver apparently believes that having a board define an Executive Limitation that tells the CEO to “avoid financial jeopardy” should provide sufficient guidance for acceptable resource allocation.

Frankly, we would not have gone so deeply into the unique views of Carver on governance if there were any evidence that the use of his model produces superior performance compared to other governance approaches. But there is not. Hence, it has been critical to go into the shortcomings of the Carver/Policy Governance model in some detail, as they seem to be an important root cause of the problems we have observed in this year’s Jeffco budget process.

Shortcomings of the Jeffco Budget Process Thus Far

In what anybody with budgeting experience in the private sector would regard as a strange approach, the Jeffco budget review process conducted by SPAC has focused very narrowly on just the allocation of incremental revenues in the General Fund. Out of a budget of nearly one billion dollars, the process has focused solely on how to allocate forecast incremental revenues of just \$12 million. Implied by this approach is a belief that the existing one billion dollars per year in spending is already allocated and spent as effectively

and efficiently as possible. If this were the case, it would likely be unique in the entire organizational experience of everyone reading this report!

In a private sector organization, we would have considered all sources of incremental funding (since money is fungible), as well as opportunities for generating additional free cash from either improving the efficiency of or terminating the performance of ineffective existing activities. Conducting a thorough review of the effectiveness and efficiency of current spending must remain a critical “To-Do” item on the Board’s agenda going forward.

During the SPAC budget process, we also heard frequent references to “commitments made during the mill levy override campaign.” Besides the obvious, if unintended irony of campaign promises suddenly taking on the status of solemn vows, we note that short of a contractual obligation, no Board is obligated to implement the strategies or spending priorities agreed to by its predecessors; in fact, given changing circumstances, it may be foolish and destructive to do so. We believe that this also applies to statements made during the mill levy override campaign. In so far as these “political commitments” can be clearly linked to realization of the Board’s five achievement improvement priorities, they may still make sense. If that is not the case, however, we believe the Board should be free to allocate resources as it sees fit.

A problem we have repeatedly encountered in this year’s SPAC budget process is the inability or unwillingness of District staff to (a) clearly specify the existing amount of money being spent in a given area, before the addition of the proposed additional budget amount, and (b) clearly link the five academic achievement improvement priorities established by the Jeffco Board to incremental changes in activities and investments and then to incremental changes in resource allocation via the budget.

From a Carver perspective, this may make sense, as it is not the board’s role to evaluate and approve the strategy a CEO proposes to use to achieve a specified group of Ends (assuming this strategy does not violate an Executive Limitation). However, from the perspective of anyone with board experience outside the Carver universe, this divorce between the goals to be attained, the strategy (i.e., activity levels, staffing, technology, and investments) to be used, and the resources required is, to put it mildly, illogical. This is particularly so in light of Jeffco’s dismal eight year track record of low and not improving academic achievement. To assert that, despite this track record, we (SPAC members, Board directors, and the public) should simply “trust the black box” reminds us of a popular definition of insanity: doing the same thing over and over again while hoping for a different result. Needless to say, when we encountered it (and there were, we are encouraged to point out, exceptions), we found incredibly frustrating staff’s inability or unwillingness to link goals, strategies, and budgets.

Another frustrating aspect of this year’s budget process was its blatant disregard of Executive Limitation 5, which states, “The superintendent may not present to the Board a recommended budget which: [Point 5] fails to consider the recommendations made by each school level accountability committee, via the Strategic Planning Advisory Council, relative to priorities for expenditures of district funds.” Staff’s January 28, 2014 note to the Board on this EL states, “the budget development process includes presentation of the Proposed

Budget to the SPAC prior to its adoption by the Board. SPAC is comprised of representatives from each school articulation area accountability committee, and other community members.” One of the authors of this minority report (Mr. Coyne) is the Chair of the Wheat Ridge High School Accountability Committee. In that role, he has never been contacted by the SPAC and asked to provide his views as called for in EL-5. Moreover, the state law that created the District and School Accountability Committees makes no mention of “school articulation area accountability committees.” Nor has the Chair of the WRHS SAC ever been contacted by the chair of his “school articulation area accountability committee” to obtain his input into the budget process. Finally, when the Chair of the WRHS SAC contacted the co-chair of the Jeffco DAC to obtain clarification of these points he received no reply from him. Apparently, even the District has decided not to follow its Carver model in this budget process.

There is also the matter of the Community Budget Survey. We find two problems with this survey, one philosophical, and one quite practical. Regarding the former, we have already noted Carver’s rather unique views about the necessity, or lack thereof, for Board approval of budgets. At best, he seems to regard this as a necessary nuisance where it such approval is required by law or regulation. However, where such approval is needed, “Carverites” seem to fall back on what seems to be Carver’s supreme commandment, that the job of the board is to “transmit shareholders’ [or the community’s] values.”

Carver’s views on this issue are very similar to those political theorists who see the role of a legislator in representative democracy as nothing more than a “delegate”, whose primary function is to continually determine the will of the people use it to inform his or her votes on various pieces of legislation. Put differently, people holding this view see this approach to representative democracy is one (short) step removed from the direct democracy of ancient Greece. In contrast, proponents of the view that elected representatives should play the role of “trustee” note that the issues confronting elected representatives are today so complex and interrelated that it is unrealistic to expect citizens to hold sufficiently informed views that direct democracy is likely to produce good legislation. Recent studies into the so-called “wisdom of crowds” confirm this view, by noting that this approach to decision making produces inferior results when individual’s views can be influenced by those of other people (i.e., they are not independent). Under such conditions, it is more effective to elect representatives who function as trustees – collecting information and developing expertise on complex issues that is beyond what is possible for the average citizen, and making decision on this basis.

In the context of Jeffco, its eight year track record of dismal achievement performance, and the five achievement improvement priorities unanimously established by the Board, the elephant in the room is an obvious question: What is the purpose of asking the public to prioritize a list of issues from “reducing class size” to “classroom dashboard” to “technology infrastructure” to “athletics” to “data security/privacy”? Absent a clear comparison of how these different spending options (and I note that no dollar amounts were attached to them in the survey) are logically lined to the realization of the Board’s five achievement improvement goals, what information can we glean from the results of this survey that would help us to identify the most effective and efficient way to achieve these goals?

To be sure, there is room for community input into the budget process, especially where difficult tradeoffs are involved. However to be useful, such input must result from the community's consideration of well-defined and described options, and not from the community survey that was done by the SPAC.

The second problem we have with the survey is quite practical, and can be summed up in a simple question: How would you, the reader, react if we told you that we had a "survey" of the Jeffco community with 13,000 responses that said some things about you that struck you as very inaccurate? To begin with, you might ask how long the survey was available. You might also ask if there was any limitation on the number of times a single person could submit an answer. And you might ask if, like professional survey research, it was based on a scientific methodology that produced a statistically representative sample of Jeffco residents. These are all very reasonable questions. Unfortunately, in the case of the Community Budget Survey (CBS), you would receive negative answers to all of them.

The CBS was available for only six days. There was no limitation on how many times a person could submit an answer (i.e., there was no limitation on answers from a single IP address, and by using different email addresses a respondent could answer multiple times). Moreover, the survey did not use a methodology that would produce answers from a statistically representative sample of the Jeffco population. Consider these numbers: In November 2013, about 133,000 people voted in the school board election. Despite having been available for over two years, and despite the District emailing parents every month about it, the "Engage Jeffco" website has received only 5,884 unique visitors and under 700 sign ups. Yet about 13,000 people managed to respond to the Community Budget Survey in just six days! And despite the major controversy over student data privacy surrounding the District's proposed use of inBloom, the survey found that "data security and privacy" ranked dead last out of ten potential priorities.

In addition, the way the questions were asked on the survey was deeply problematic, to put it mildly. Consider the question about "increasing employee compensation", which the SPAC majority would have us believe ranks third highest in the community's budget priorities:

- How many people answering that question do you suppose were fully aware of the District's dismal eight-year track record of poor academic achievement?
- How many of them were aware of the findings of Jeffco's own Strategic Compensation Project and other research that, as is the case for all professionals, not just teachers, raising compensation does not produce better outcomes? (For professionals, higher compensation is most often seen as a reward for high achievement, not as a necessary condition to produce it.)
- How many people do you think are aware of the fundamental distinction between increases in cash salary and increases in total compensation (which includes not just salary, but also the higher healthcare and pension costs paid by the employer for the employee's benefit)?
- How many of them were aware of the fact that PERA contributions on behalf of Jeffco's employees have increased by 4.5% since 2010, of which 2.5% represents funds that, per the language of Senate Bill 10-001, "were otherwise available for

- employee wage increases?”
- How many people do you suppose were aware that, per the findings of the most recent study conducted by the District’s independent compensation advisors, 61% of Jeffco teachers are already paid above comparable teachers in other Front Range districts, and a further 24% are at equal pay (only newer teachers and principals are comparatively underpaid)?

If survey respondents were aware of all this obviously pertinent information, do you think they all would have answered the same way?

And how many people would have said they were against charter schools if they knew how much better the academic achievement results are for free and reduced students at Denver’s STRIVE and KIPP charters, compared to Jeffco’s stunningly poor performance for these kids?

In sum, it seems quite clear to us that rather than being the legitimate “voice of the community” as some members of the SPAC would have the Board believe, the truth of the matter is that the Community Budget Survey is nothing more than another exercise in political theater, and is largely devoid of useful input for the Board’s budget decision-making process.

We should also briefly mention the “district staff budget priorities” that were presented to the SPAC Budget Committee. Upon questioning, Jeffco representatives clarified that, rather than being the result of an anonymous survey or widespread consultation process that included all teachers and principals, the so-called “staff priorities” were actually produced by a very small group of senior district leaders.

Another general failing of this year’s budget process is that with few exceptions, District staff did not provide to us the total amount of money that is already being spent in the different areas where additional funding has been requested. Needless to say, this is a fundamental weakness in Jeffco’s budgeting and decision-making process that needs to be corrected.

Last but not least, a final problem in this budget process that we have observed is the lack of coordination between the work of the SPAC Budget Review Committee and the Choice Committee. To cite an example, the SPAC received a proposal from District staff for an additional \$600,000 to be spent on adding 13 more full day kindergarten classrooms at five schools. However, this issue was not on the Choice Committee’s agenda, despite the fact that the availability of classroom space is a critical constraint on their potential options and ultimate recommendation to the Board. Clearly, there is a lot of room for improvement here. Unfortunately, this lack of coordination at the committee level will inevitably produce a higher level of work for the Board and needlessly complicate their budget decision process.

Analysis of Specific Incremental General Fund Spending Requests

Evaluation Criteria

In our evaluation of the specific incremental budget requests presented to SPAC by District staff, we considered the strength of the logical connection between the proposed increase in spending, the change in activities and/or capital investment it would pay for, and how those would drive realization of one or more of the five achievement goals unanimously adopted by the Board. We also focused on the potential impact of this year's budget requests on future budgets – e.g., would approving a request lock Jeffco into higher levels of spending in future years, or would it generate efficiency gains that would increase the amount of free resources in future years? Budgeting is always a multiyear exercise, with implications for Jeffco's future effectiveness, efficiency, and adaptability.

Gross Funds Available For Allocation

As previously noted, the District has forecast incremental available General Fund revenue to allocate of about \$12 million. It has also allocated about \$13 million to increasing reserves. It has not forecast any additional revenue inflows from this state legislative session (e.g., from buydowns of the so-called "negative factor"). Nor does the District budget include inflows from various grants. Nor does it include additional free cash that could be made available through either efficiency improvements to or terminations of existing activities. In sum, the revenue/available cash flow information we have been working with is very materially incomplete.

PERA & Healthcare Increases; Fund Transfers; Staff Turnover Savings

The budgeted amount for the legislated PERA increase is \$3.7 million. This increase was provided for in Senate Bill 10-001. It is important to note that, per this bill, the "SAED" portion of the PERA increase represents foregone wage increases [technically, "monies otherwise available for employee wage increases"]. This SAED contribution rate has increased from 1.50% of salary in January 2010 to 4.00% in January 2015. It will further increase to 5.50% by January 2018 (in increments of .50% per year). **[RECOMMENDATION #1:** This SAED issue is important for the Board to keep in mind during compensation discussions].

As a result of the most recent changes in the Affordable Care Act, the District's healthcare costs are projected to increase by \$500,000 in the next fiscal year. This is a reduction from the original estimate of \$4 million. We should expect that, as delayed ACA changes are eventually implemented, the District will have to pay the \$4 million cost in future budget years. In response to a question, District staff clarified that most of this cost increase is due to a growing number of District staff becoming eligible for healthcare coverage under the new regulations.

The District projects that, as a result of turnover, it will realize benefits cost savings of \$4.7m. However, if the expected turnover does not occur, this will represent an additional increase in the budget. **[RECOMMENDATION #2:** The Board should seek additional information from District staff to determine the confidence range associated with this point estimate].

Mandated transfers to various restricted funds amount to \$1.9 million.

All of these cost items net to \$1.4 million, and are essentially mandatory.

Special Education Students Placed Out of District

The proposed budget includes \$1.5 million for out-of-district placements, plus another \$786,000 for their transportation, or about \$2.3 million. This is a federal law compliance issue, so this expense is mandatory.

During our budget discussions (and, we understand, those on the Choice Committee) a proposal has been made to invest funds to re-open an existing Jeffco facility to serve in-District a number of students who are now or could be placed into out-of-District programs. This is a classic “make-or-buy” decision, which is routinely made in private sector organizations. Unfortunately, the District analysis we reviewed of this issue is, in our professional opinion, insufficient to enable the Board to make a well-informed decision on this issue for the 2014/15 fiscal year. **[RECOMMENDATION #3:** The District’s Financial Oversight Committee should review the quality of this analysis, and present its views on this issue to the Board. Until that is done, the District should not spend further funds on developing an in-District facility (Martensen), if, in fact, such spending is actually occurring today without the Board’s approval].

Safety and Security

The District’s budget submission notes that the proposed additional funding of \$200,000 will fund four new employees. What was not made clear are the activities they will perform, and the extent to which those activities are new or simply an expansion of existing activities. Nor did the District provide information about its total current spending in this area. As such, while our instinct is clearly to support this request, we believe that the Board should request additional information from the District before making a final decision on this spending. **[RECOMMENDATION #4:** The Board should obtain more information about the existing goals, activities, and budget for safety and security issues, and determine how this additional spending will affect them].

Classroom Dashboard/Mobile Device Readiness/Data Security and Privacy Improvements

While the District’s budget request separates these three spending proposals, we believe that it is much more logical to view them as an integrated program package, as improved

mobile infrastructure, and improved data security and privacy, are necessary preconditions for deployment of the Classroom Dashboard.

Let's start with the latter. The \$1.0 million requested for the Classroom Dashboard was described to the SPAC as the incremental annual operating expense that will be incurred when the Classroom Dashboard goes live in January 2015. We were told that all CAPX associated with the project has been included in prior year's budgets, and that, remarkably for an IT project, the Classroom Dashboard is on schedule, on budget, and expected to deliver its full promised functionality on day one.

If it manages to accomplish this feat, its expected benefits should be very substantial. The District provided the SPAC with these calculations for the amount of teacher time currently spent on data gathering and analysis that will be freed up by the Classroom Dashboard:

- Average of 1,890 hours/year currently spent on data gathering and analysis at 147 schools = 277,830 hours per year
- Assume 75% reduction after Dashboard is introduced = 208,373 hours/year
- The District estimates that this is worth about \$7.9 million/year at an average teacher cost of \$38/hour
- 208,373 divided by 8 = 26,047 days of work
- Divided by 187 contracted work days/year = 139 full time employee equivalents who (or whose time) can be redeployed to other achievement improving activities.

Obviously, successful implementation of the Classroom Dashboard project can have a substantial impact on achievement improvement, through at least two different channels: improved information for teachers (which enables improved instruction and student support) and be the deployment of the equivalent of an additional 139 full time teachers into high value added activities. Of course, this begs the obvious question of just what those activities will be, which the District did not answer for the SPAC. Clearly, this should be a priority subject for discussion between the Board and District staff [**RECOMMENDATION #5:** The Board should very clearly understand the linkage between the redeployment of teaching resources made possible by the implementation of the Classroom Dashboard, changes in activities and activity levels, and the expected impact on the Board's five achievement improvement priorities].

As the District's experience with inBloom has shown, and as similar concerns across the nation (including elsewhere in Colorado) have confirmed, increased use of technologies like the Classroom Dashboard with a high potential for improving achievement results must go hand-in-hand with improvements to the District's ability to assure parents of students' data security and privacy. To that end, the District has also requested an additional \$560,000 for this purpose. As was the case with the physical safety and security budget request, the District did not provide the SPAC with information about how this additional spending (and the additional FTEs that would be hired) related to changes in the scope or level of data security and privacy activities and budget. Again, in the absence of this information, it is hard to give an unqualified recommendation to the Board to approve this request, despite its obvious logic. [**RECOMMENDATION #6:** The Board or an appropriate subcommittee

should review the District's current and go-forward data security and privacy programs before approving this budget item].

The District also needs to upgrade its IT infrastructure to support the more widespread use of mobile devices (e.g., tablets) for both test-taking (which is moving from paper to computer based) and instruction. This year's budget request for this purpose is for \$4.5 million dollars. In response to our questions, District staff clarified that of this, \$2.25 million was classified as Capital Expenditure (CAPX), and \$2.25 million as operating expense (OPEX) for items such as increased circuit costs and support staff. This would be the first of five years of CAPX (@ \$2.25 million/year) required to upgrade the District's mobile infrastructure (wireless access points, switches, etc.) at all its schools.

Once again, there is an undoubted attractiveness to this budget item, not only because of its currently envisioned benefits (e.g., ability to meet online testing requirements) but perhaps more importantly because of those that are not envisioned today, including the wider range of experiments with blended learning that will be enabled when this technology upgrade is in place.

Unfortunately, we once again find ourselves lacking the full set of information that we need to recommend this request for Board approval. From our perspective, an informed decision on this request also requires an understanding of where the District is today with respect to the actual deployment of tablet devices (some of the cost for these are included in school instructional budgets, and some are off-budget, being paid for by PTAs and other organizations). At this point, we do not have a full picture of the total cost associated with the mobile program, nor a sense of where we are today with respect to how many devices are available, and where they are. Just as important, we lack a clear understanding of the extent to which Jeffco has been experimenting with different blended learning models that utilize tablets, how carefully it has tracked the results of these experiments, what it has learned from its own and other districts' experience in this area, and how its future plans for greater use of blended learning approaches to raise academic achievement line up with the expected mobile infrastructure and device timelines. Again, we conclude that the Board must obtain more information from the District in order to make an informed decision on this budget request [**Recommendation #7:** Before approving this aggregate \$6.1 million in program funding, the Board should obtain more information about the cost and deployment of tablets, and the results to date of the District's experimentation with them in areas such as blended learning that have the potential to deliver significant achievement improvements].

Athletics

There are a large number of studies that demonstrate the linkage between participation in athletics and other activities and improved academic achievement (see, for example, "*High School Sports Participation and Educational Attainment*" by Dr. Douglas Hartman for the LA84 Foundation). Similarly, there is a large literature on how sports develops qualities like resilience, grit, and persistence that, in addition to academic achievement, have repeatedly been shown to be critical to long-term life success.

Given this body of evidence, we were very surprised to see the very low priority placed on increased spending on athletics by both respondents to the Community Budget Survey and Jeffco's top leaders. So we dug more deeply into this issue.

We discovered that the requested amount of \$400,000 was substantially reduced before it reached the SPAC, and arguably falls far short of what is actually needed. The \$400,000 covers urgently needed equipment, supply, and maintenance costs (four years ago this budget item was \$800,000 for a somewhat smaller population of student athletes). However, there are also outstanding needs related to risk/safety and expanded access that will not be met by these funds. These include:

- Football helmet reconditioning and/or replacement (see the recent Denver Post story on this), \$50,000 (District risk exposure reduction)
- Increased availability of bus transport (instead of student provided transport) to games, \$100,000 (District risk exposure reduction)
- Increased funding to schools with large at-risk populations (Alameda, Arvada, and Jefferson) to expand access to athletic programs, \$75,000 (family support for these programs is limited at these schools)
- Increased stipends for trainers and assistant coaches (head coaches, and most of the costs associated with activities like band and theater are actually included in the instructional budget), \$95,000 (with increasing intensity of athletic participation from young ages, injury rates have been rising; more trainers and assistant coaches will both increase safety and expand access to athletic programs)
- Increased pay for game workers to comply with new minimum wage laws (\$15,000)

Our recommended budget for athletic programs is therefore \$735,000. In the absence of this increased level of budgetary support (and in the face of a long-term structural decline in gate revenues) further pressure will be placed on the shrinking number of Jeffco parents who have been carrying a greater share of the cost of the District's athletic programs in recent years through their financial support for various team and school booster clubs (in addition to the athletic fees they pay – see the section on Fee Reduction). As we were told by multiple members of District staff, this is not without consequences, as the student group which has the highest decrease in athletics participation between grades 9 and 12 is our free and reduced students, who, despite not having to pay District athletic fees, still face rising demands to support our sports programs through booster clubs and other fundraising efforts.

Expanding Full-Day Kindergarten

The District has requested \$600,000 to expand free full-day kindergarten to 13 more classrooms, or about five more schools. Once again, we would have preferred to see a more explicit linkage between this proposal and, for example, the achievement of the Board's goals for improvement in early literacy and math skills. For example, will these additional kindergarten programs be located in those areas that seem to have the highest

rates of lack of proficiency in elementary reading and math? (see Appendix B). Again, this is a question the Board should ask.

More fundamentally, and as previously noted, there appears to have been no coordination between this recommendation and its impact on the Choice Committee's work. **[RECOMMENDATION #8:** Board should obtain more information from District staff about the alignment of these new full day kindergarten locations and the achievement of its early literacy and math objectives]. **[RECOMMENDATION #9:** The Board needs to integrate the full day kindergarten decision with the recommendations emerging from the Choice Committee, which may well require a degree of "rework" by the latter].

Expanding the Jeffco Virtual Academy to Include K-6 From the Current 7-12

While this \$700,000 request did not appear in the original District presentation to the SPAC Budget Review Committee, it was presented by staff at the February 13, 2014 meeting of the full SPAC. When we next saw this request, at a community budget engagement meeting on March 3, 2014, it had been further modified by the addition that it might be possible to offset this cost if a sufficient number of tuition paying students from outside Jeffco chose to attend the District's Virtual Academy. While we do not doubt the increasing appeal of various online education options (e.g., witness the explosion of Massive Open Online Courses, or MOOCs), we have two very fundamental issues with this budget request.

The first is commercial. We have seen no analysis by District staff in support of this request that addresses such basic questions as to whether the District should "make or buy" or, if you will "insource or outsource" its online education offering. Nor have we seen any analysis of why, given the proposed budget request to make/insource K-6 online education, the District expects its offering will be successful in what has become a very competitive marketplace, other than through the use of the blunt instrument of denying any choice to parents who seek online education for K-6 students, and simply telling them they must use the District's offering. Finally, the District has not presented any analysis to support its claim that \$700,000 in additional revenue from new out of district students is likely to be realized. If we were a venture capital firm, we would very quickly reject such a poorly supported investment proposal.

The second issue is one of governance and the efficacy of the District's financial controls. The February 27th Denver Post has a story describing how the Jeffco 21st Century Virtual Academy will offer programming for K-6 in the coming year. Yet the Board has not yet approved the \$700,000 funding request for this. If this does not represent a violation of an Executive Limitation, then the efficacy of Carver governance in Jeffco, and the Board's ability to exercise its legal duty of care has yet another strike against it.

[RECOMMENDATION #10: The Board should not approve this budget request to expand the Virtual Academy to serve K-6 students until it has received, and the Financial Oversight Committee has reviewed, commented on, and approved a full investment analysis of this

proposal, and until the apparent governance and financial control issues raised by the District's actions have been resolved].

Gifted and Talented Students

Approximately 12% (10,517) of Jeffco's K-12 population has been identified as gifted. This is actually slightly below what one would expect given the five gifted identification criteria defined in state law and the different tests that are used to assess students. About 92% of these students attend neighborhood schools; only 8% are in Jeffco's 15 gifted center/accelerated curriculum programs.

By comparison, about 10% of the Jeffco population has been identified as SPED and 10% as ELL. Relative to those two areas (as well as to similar GT teams in both Denver and Douglas County), the District's GT team is currently quite small. At 12 people, it is considerably smaller than both the SPED (25) or ELL (32) teams. The GT team today includes a director, a secretary, half a technician, and 9.5 resource teachers who support over 10,000 students at all the District's schools. Almost all of the funding for these resource teachers is currently provided by a \$780,000 state grant (and a small share of Title 1 funds) rather than local district funds (\$158,000).

Next year, already high demands on GT staff are set to increase (e.g., the District has approved the addition of GT Center classrooms at Sheridan Green Elementary School to relieve longstanding excess demand for these in the northern part of Jeffco). GT is at the forefront of piloting the state's transition from "seat time" to "competency" based graduation requirements. Also, next year the state is adding a section on social/emotional assessment and development to the standard Advanced Learning Plan that each GT student receives.

There is also the further problem of ensuring that students with ALPs, particularly the 92% of them who attend neighborhood schools, are adequately challenged academically, as boredom and disengagement is an especially important driver of poor achievement for this group. Unfortunately, TCAP tests provide insufficient help in meeting this challenge, as they focus on mastery of grade-level standards, when many students with ALPs are working well-above grade level. For example, consider the results of an experiment conducted in Jeffco last year, when fifth grade GT students moving from elementary school to Bell Middle School in Golden were given the ACT-Explore test. It turned out that 80% of them were already performing at a 9th grade level. Needless to say, this finding triggered a significant review of the curriculum resources and instructional approaches that Bell would use with them. The results of this experiment clearly point to the need to expand this type of diagnostic testing of GT students, especially in elementary school, to ensure that they are adequately challenged in order to accelerate their achievement improvement.

In order to meet the Board's goals for increased achievement performance by GT students, certain GT activities need to be added or increase in their intensity. These include providing professional development to principals and teachers, conducting "mini instructional rounds" to help neighborhood school teachers select curriculum materials and instructional methods that will provide a sufficient degree of challenge to their GT students, work with them to

assess and address the social/emotional needs and implement the new state Advanced Learning Plan process, increased communications with parents (a priority request based on last year's parent survey) and increase support to the District's 226 twice exceptional (GT/SPED) students as well as their teachers and parents.

We have investigated the additional budget that would be required to implement this increase in activity levels in order to achieve the Board's achievement improvement goals for GT students. We conclude that the request should be for \$855,000, to cover the cost of adding 6.5 more resource teachers, increasing elementary level diagnostic testing, and strengthening the GT team's analytic capabilities at the central office level.

This is a logical proposal whose approval we recommend. In contrast, the District's budget submission included a \$1 million request for GT for which no supporting information was presented to the SPAC Budget Committee. We further recommend that this \$1m be rejected in favor of the much better documented \$855,000 request.

Reading, Math, and Writing Proficiency Improvement, and Reduced Remediation Rates

Improving reading, math, and writing proficiency, and a reduced need for post-high school remediation courses are all among the Board's top five priority goals, which we are certain most parents and other members of the community strongly support.

However, we find the District's budget requests for the achievement of these goals to be substantially deficient.

The District's Budget Request to SPAC included the following:

- \$2.0 million for Primary Literacy/increasing the percent of Grade 3 students who are at least proficient on the reading TCAP from 80% to 85%. The justification for this request was "professional development, materials, literacy coaches for primary teachers, extended school year."
- \$5.8 million for Elementary math instruction. Of this, \$4.0 million would be a one time investment in new materials, and \$1.8 million an ongoing increase in the spending for "staff development and math coaches for elementary."
- \$1.0 million for writing, for which no justification was given.
- \$2.0 million for "remediation" for which no justification was given.

Quite frankly, this strikes us as the Carver model at its worst. Jeffco is already spending almost one billion dollars per year of taxpayer money. Over the past eight years, the District's achievement track record has been dismal (see Appendix A). Many of the Uniform Improvement Plans prepared by our schools contain Major Improvement Initiatives (to drive improvements in academic achievement) that essentially call for behavioral change, not additional spending. The District's Chief Academic Officer has stated to the Board (in October 2013) that problems with the "fidelity of implementation" of achievement improvement initiatives are a major problem in the District. More recently, she noted to the SPAC that "widely varying levels of rigor in our classrooms" was also a problem with

respect to achievement.

Yet in the face of this evidence, the District staff had the audacity – a word we don't use lightly, but which seems maddeningly appropriate in this case – to bring to the SPAC and to the Board \$10.8 million in new spending requests with only the thinnest, and in some cases, no linkage at all to the achievement of the Board's five priority goals, much less a clear accounting for how much Jeffco taxpayers are already spending on these subjects, or a logical, evidence-based argument for why the current amount is insufficient and needs to be increased. None of these requests would pass muster in any private sector corporation.

We therefore recommend that the Board reject these requests, and instead focus its energy on reallocating the time of the 139 full time equivalent teachers that will be produced (according to the District staff's calculations) by the successful implementation of the Classroom Dashboard in order to accelerate the achievement of its priority goals for reading, math, and writing proficiency, and reduction in remediation rates.

We further recommend [**RECOMMENDATION #11**] that the Board focus more attention on better diagnosing the causes of the District's current underperformance in these critical achievement areas (see Appendix B as an example) and on ensuring that the billion dollars we already spend today is being used effectively and efficiently to achieve its five priority achievement goals (e.g., by addressing the implementation of UIPs and the "fidelity of implementation" and "widely varying levels of rigor" issues raised by the District's Chief Academic Officer).

Reducing Student Fees Paid by Families

Even though District fees (e.g., for sports, AP and IB classes, and transportation) are waived for students eligible for free and reduced lunch, our analysis finds that a significant percentage of the District's families are likely still very pressured by the fees they have to pay (see Appendix C).

We also recognize that, up to now, the District's systems have been unable to track the total amount of fees paid by a family. And we further recognize that some people on the SPAC believe families should pay additional fees for anything and everything beyond the most basic level of education (including sports, transportation, parking, activities, AP and IB courses, etc.). We disagree with this view in the strongest possible terms.

While the Board has decided not to address the issue of capping the total amount of fees paid to Jeffco in any one year by any family (broadly defined), we strongly recommend that it revisit this question in the next budget cycle when better data should be available from the District. [**RECOMMENDATION #12**: The Board should revisit the question of capping the maximum amount of student fees paid by Jeffco families during next year's budget cycle. To this end, the Board should monitor the implementation of the District's new initiative to collect better data on this issue.]

What is the Appropriate Addition to Reserves?

A very significant decision for the Board in the current budget cycle is the appropriate amount that should be added to the District's reserves.

People on one side of this issue argue for significant additions to the District's level of reserves, which have been significantly drawn down since the onset of the global financial crisis in 2008. Their logic is twofold. First, they would like to avoid future spending cuts if revenues experience another sharp downturn. Second, they place great importance on retaining the District's current AA- bond rating, believing that a lower bond rating would result in higher debt service costs on future issues.

People on the other side of the issue note that the chances of another recession as deep as the 2008 downturn are statistically remote. They also note that the state currently has over \$1 billion in its educational reserve fund, which would likely be distributed in the case of another downturn. And they question whether another downturn in revenues could not be met with a combination of lower reserves and more efficiency gains in a billion dollar a year budget. Furthermore, two factors seem to undermine the bond-rating based argument. First, most of Jeffco's debt issuance is very short term where the cost difference between issuers with different ratings is minimal. Second, they also note that this lack of cost difference between an issuer with an AA and an A rating is minimal all the way out to at least ten years maturity, and likely to fifteen. Also, in light of the pension uncertainties weighing on almost every issuer in the municipal bond market, a downgrade of Jeffco's rating is likely to happen regardless of its decision about how much to add to reserves this year. Last but not least, people on this side of the reserves argument note that the single best thing Jeffco could do to improve its financial health – as measured by the taxpayers' likely future willingness to increase their investment in the District – is to substantially improve its student achievement results.

After weighing these arguments, we conclude that while Jeffco should undoubtedly demonstrate financial prudence by adding to its reserves this year, there is not a compelling case for adding the full amount recommended by District staff. **[RECOMMENDATION #13:** While the Board should increase reserves by some amount this year, it does not have to do so by the full amount recommended by District staff, and should instead consider using a portion of the planned addition to reserves to instead increase compensation].

Compensation Issues

The District's budget request to SPAC includes \$11,725,100 for increased compensation, in the form of an approximate 2.5% increase for all employees (though the District's presentation notes that this is only the cost to the General Fund, and "there will be cost increases in other funds too." So we really don't know the total cost of what they have in mind.

We have very substantial problems with this request.

First, It either ignores or does not explicitly address the provisions in Senate Bill 10-001 that the “SAED” portion of the PERA increase represents foregone wage increases (technically, “monies otherwise available for employee wage increases”). If these are taken into account, then the proposed 2.5% across the board increase is actually much larger, and it is also not accurate for anyone to claim that Jeffco’s employees have not received a compensation increase in recent years.

Second, the request makes no distinction between classified employees, teachers, and administrators.

Third, it is in philosophical conflict with the findings of both the District’s own “Strategic Compensation Project” as well as a large body of research with respect to the lack of impact of compensation as an incentive to increase the motivation and performance of professionals (e.g., see the most recent Strategic Compensation Project report to the Board, or “*Incentive Pay Programs Do Not Affect Teacher Motivation or Reported Practices*” by Yuan et al from the RAND Corporation). In point of fact, you do not get better healthcare by paying a doctor more; like all professionals, doctors are motivated by a professional ethic that by itself motivates them to deliver their best performance. That is not to say that professionals, be they teachers, doctors, or lawyers, do not like to have superior performance recognized and rewarded. Rather, it is simply to say that paying a professional more is very unlikely to produce better outcomes. Given this, it seems much more logical to tie better teacher pay to better school or district outcomes than it does to simply give everyone a 2.5% pay raise and expect better achievement results.

Rather than the District’s proposal, we recommend [**RECOMMENDATION #14**] that the Board consider the following:

- An increase in pay for classified employees which reflects market conditions plus the premium that we pay in order to attract high quality people to work around our children.
- Increased pay for new teachers, where Jeffco is currently below market comparables.
- Increased pay for principals for the same reason.
- Institute an annual bonus program for school teams who have delivered outstanding achievement performance, as measured by appropriate metrics that do not simply “reward zip codes.”
- Tie any future overall increase in the Jeffco teacher payscale to the realization of significant improvements in district-wide achievement results, again as measured using appropriate metrics.

Four Spending Requests That Aren't In the Budget – But Possibly Should Be

Increased Staff for the Office of Instructional Data Services

We note the absence of a request for additional staff that is not in the budget request submitted by the District, but which, based on our experience, should be there. Jeffco's Instructional Data Services team is the central office group charged with analyzing and reporting on the large volume of data that is now available to decision makers throughout the District, including the Board and the District and School Accountability Committees. It is an axiom of performance improvement in any endeavor that without timely, accurate feedback, better results are orders of magnitude more difficult to achieve. Yet despite this, Jeffco's office of Instructional Data Services is about one quarter the size of the analogous office in Denver Public Schools. It seems critically important that Jeffco immediately strengthen its ability to analyze data not just at the student and classroom level, but also at the school and district level to accelerate the pace of achievement improvement. We therefore recommend **[RECOMMENDATION #15]** that the Board, after consultation with Dr. Carol Eaton (who heads Jeffco's IDS office) add funds to the budget for this purpose.

Create a Single Office for the Support of At-Risk Students

Today Jeffco has separate offices for the support of English Language Learners and Diverse students. However, as you can see from the chart in Appendix D, these do not cover a substantial number of the District's at risk students, who now make up almost half the District. From our observations, too much valuable teacher and school administrator time is currently taken up trying to get different central office departments to deliver the support our at Risk students and their families often need to improve their academic achievement. There is a very strong and logical case to be made on both effectiveness and efficiency grounds for creating a single point of contact at Denver West that can coordinate the delivery of the full range of District services to better support teachers and school teams as they work hard to improve at risk students' academic achievement. **[RECOMMENDATION #16:** The Board should hold a hearing to better understand this problem and decide whether additional funds are required to create the proposed Office of at Risk Student Support].

Improve District-Wide Innovation and Continuous Improvement Processes

One would think that the nation's 34th largest school district would itself be an effective learning organization. However both Jeffco's inability to improve achievement results and our anecdotal observations (e.g., as a high school School Accountability Committee Chair) suggest that this is surprising not the case. The reality is that attempts by Central Office staff to learn more about the root causes of high performance at our best schools, much less to encourage the sharing and transfer of them between schools, seem to be few and far between. Nor is there much evidence of strong a District wide capability for systematically experimenting with promising innovations to increase academic

achievement, at both the building and district level. The lack of this capability is absolutely central to Jeffco's poor achievement results, as the performance of complex adaptive systems is improved not by silver bullets, but by systematically "experimenting your way to success."

Logically, one would expect this capability to reside in the office of the Chief Academic Officer. It remains an open question, which the Board should further investigate as part of this budget process, whether Jeffco's shortcomings in this area are due to a lack of funding and staff for this purpose. **[RECOMMENDATION #17:** The Board should hold a hearing to better understand the root causes of Jeffco's apparently weak capacity for systematic district-wide innovation and continuous learning, and decide whether additional funds are required to strengthen this process].

Improve District-Wide Change Management and Implementation Processes

As elsewhere noted in this report, we are greatly concerned by the references made by Jeffco's Chief Academic Officer in various presentations to poor "fidelity of implementation" and "widely varying levels of rigor" in the District. This clearly points to issues related to Jeffco's processes for managing a complex change process and ensuring high quality implementation of initiatives to improve academic achievement. Our concern is only made more acute by the impending implementation of new, and even more rigorous, academic standards in Colorado, which will affect all of our schools.

Given the District's current organizational structure, it appears to us that the logical point of responsibility for change management and effective implementation lies with the Achievement Directors, and with the oversight provided by the District and School Accountability Committees, which were created by the Colorado Legislature to drive faster improvement of academic achievement in our state's K-12 system. It remains an open question, which the Board should further investigate as part of this budget process, whether Jeffco's shortcomings in the areas of complex change program management and effective implementation are due to a lack of funding for staff and/or systems. **[RECOMMENDATION #18:** The Board should hold a hearing to better understand the root causes of Jeffco's apparently weak capacity for complex change program management and effective district-side implementation of achievement improvement initiatives, and decide whether additional funds are required to strengthen this process].

Key Conclusions

- Jeffco's current budget development process has significant shortcomings, many of which have their root cause in its use of the Carver/Policy Governance model.
- The current budget development process appears to be in violation of Executive Limitation 5.

- Both the “district staff” and “community survey” inputs into the current budget process are deeply flawed and should have no impact on the Board’s final budget decision.
- Demands from some quarters that the Board “respect” the political promises that were allegedly made during the 3A campaign should be rejected.
- Some of the District’s budget requests to the SPAC were critically lacking in the information required for the Board to make an informed decision about them.
- There appears to have been poor coordination thus far between the work of the Choice Committee and the work of the SPAC Budget Review Committee, which will require more work on the Board’s behalf to reconcile the outcomes of their respective work.

Conditional Budget Recommendation, Based on Information Available

Recommended Budget Requests as of March 6, 2014	\$ million (rounded)
PERA, Healthcare, Transfers, net of Turnover	\$ 1.4
SPED Out of District Placement	\$ 2.3
Safety and Security (subject to additional info)	\$ 0.2
Classroom Dashboard/Privacy&Security/Mobile Infrastructure Upgrades	\$ 6.1
Athletics	\$ 0.7
Full Day Kindergarten Expansion (subject to additional info)	\$ 0.6
Gifted Education	\$ 0.9
Additions in Reserves (to be determined along with compensation)	
Total	\$ 12.2

Summary of Additional Recommendations to the Board

RECOMMENDATION #1: The PERA SAED issue is important for the Board to keep in mind during compensation discussions, as Senate Bill 10-001 specifically notes that the 2.50% increase in the SAED contribution rate from 1.50% in 2010 to 4.50% in 2015 represents money that was “otherwise available for wage increases”. In short, it is not accurate to say that District employees eligible for PERA have not received any compensation increase since 2010.

RECOMMENDATION #2: The Board should seek additional information from District staff to determine the confidence range associated with its point estimate of \$4.7 in cost savings from staff turnover. If these savings do not materialize, the net budgeted spending for PERA and Healthcare contributions and transfers to various fund accounts will increase.

RECOMMENDATION #3: The District's Financial Oversight Committee should review the quality of the analysis of out-of-district SPED placement versus opening a new in-district facility, and present its views on this issue to the Board. Until that is done, the District should not spend further funds on developing an in-District facility (Martensen), if, in fact, such spending is actually occurring today without the Board's approval.

RECOMMENDATION #4: The Board should obtain more information about the existing goals, activities, and budget for safety and security issues, and determine how this additional requested spending will affect them.

RECOMMENDATION #5: The Board should very clearly understand the linkage between the redeployment of teaching resources made possible by the implementation of the Classroom Dashboard, changes in activities and activity levels, and the expected impact on the Board's five achievement improvement priorities.

RECOMMENDATION #6: The Board or an appropriate subcommittee should review the District's current and go-forward data security and privacy programs before approving this budget request.

Recommendation #7: Before approving this aggregate \$6.1 million in program funding for the Classroom Dashboard, improved data security and privacy, and mobile infrastructure improvements, the Board should obtain more information about the cost and deployment of tablets in Jeffco, and the results to date of the District's experimentation with them in areas such as blended learning that have the potential to deliver significant achievement improvements.

[**RECOMMENDATION #8:** The Board should obtain more information from District staff about the alignment of the proposed new full day kindergarten locations and the achievement of its early literacy and math objectives.

RECOMMENDATION #9: The Board needs to integrate full day kindergarten decision with the recommendations emerging from the Choice Committee, which may well require a degree of "rework" by the latter.

RECOMMENDATION #10: The Board should not approve this budget request to expand the Virtual Academy to serve K-6 students until it has received, and the Financial Oversight Committee has reviewed, commented on, and approved a full investment analysis of this proposal, and until the apparent governance and financial control issues raised by the District's actions have been resolved.

RECOMMENDATION #11] that the Board focus more attention on better diagnosing the causes of the District's current underperformance in these critical achievement areas (see Appendix B as an example) and on ensuring that the billion dollars we already spend today is being used effectively and efficiently (e.g., by addressing the implementation of UIPs and the "fidelity of implementation" and "widely varying levels of rigor" issues raised by the District's Chief Academic Officer.

RECOMMENDATION #11: The Board should revisit the question of capping the maximum amount of student fees paid by Jeffco families during next year’s budget cycle, as our preliminary analysis shows that they likely represent an onerous burden for at least 25% of our population. To this end, the Board should monitor the implementation of the District’s new initiative to collect better data on this issue.

RECOMMENDATION #12: In light of the substantial benefits that District staff projects will be realized through the successful implementation of the Classroom Dashboard project, as well as the District’s poor justification of its proposed spending increases for reading, math, and writing achievement, and post-graduation remediation rate reduction, the Board should reject the District’s budget requests in these areas. Before spending additional funds in these areas, the Board should first focus much more attention on better diagnosing the causes of the District’s current underperformance in these subjects (see Appendix B as an example) and on ensuring that the billion dollars we already spend today is being used as effectively and efficiently as possible to achieve the five priority goals the Board has unanimously established (e.g., by addressing the implementation of UIPs and the “poor fidelity of implementation” and “widely varying levels of rigor” issues raised by the District’s Chief Academic Officer).

RECOMMENDATION #13: While the Board should increase reserves by some amount this year, it does not have to do so by the full amount recommended by District staff, and should instead consider using a portion of the planned addition to reserves to increase compensation

RECOMMENDATION #14: With respect to compensation, the Board should consider the following mix of initiatives, instead of the flat 2.5% across-the-board increase proposed by the District:

- An increase in pay for classified employees which reflects market conditions plus the premium that we pay in order to attract high quality people to work around our children.
- Increased pay for new teachers, where Jeffco is currently below market comparables.
- Increased pay for principals for the same reason.
- Institute an annual bonus program for school teams who have delivered outstanding achievement performance, as measured by appropriate metrics that do not simply “reward zip codes.”
- Tie any future overall increase in the Jeffco teacher payscale to the realization of significant improvements in district-wide achievement results, again as measured using appropriate metrics.

RECOMMENDATION #15: The Board, after consultation with Dr. Carol Eaton (who heads Jeffco’s Instructional Data Services office) should add additional funds to the budget to increase the District’s central office analytical capacity, in order to better use evidence to drive accelerated academic achievement improvement.

RECOMMENDATION #16: The Board should hold a hearing to better understand this problem and decide whether additional funds are required to create the proposed Office of at Risk Student Support.

RECOMMENDATION #17: The Board should hold a hearing to better understand the root causes of Jeffco's apparently weak capacity for systematic district-wide innovation and continuous learning, and decide whether additional funds are required to strengthen this process.

RECOMMENDATION #18: The Board should hold a hearing to better understand the root causes of Jeffco's apparently weak capacity for complex change program management and effective district-side implementation of achievement improvement initiatives, and decide whether additional funds are required to strengthen this process.

Appendices

Appendix A: An Overview of Jeffco's Eight Year Achievement Results

Appendix B: Background Analysis on Grade 3 Reading Proficiency Improvement

Appendix C: Preliminary Analysis of the Percent of Jeffco Families Experiencing Significant Pressure as the Result of Various School Fees

Appendix D: Jeffco's At-Risk Student Population

Appendix A
Jeffco's Academic Achievement
Results

Executive Summary - 1

- The Colorado Growth model uses CSAP/TCAP “scale scores” to measure students’ progress over time along the novice to expert/learning curve spectrum
 - The minimum “cut-score” for proficiency rises every year
- In Jeffco, the average student’s year-to-year increase in scale score is often less than the increase in TCAP’s cut score for proficiency, which causes the percentage of students scoring proficient or advanced to decline from grade-to-grade
- This pattern is not due to poverty; it is present in at least the past eight years of results for all categories of students in Jeffco, including at-risk, SPED, Gifted, and other students
 - It was also in the data before and after the budget cuts that began in 2009, suggesting that lack of money is not the root cause
- There are examples of schools in and outside of Jeffco that have achieved excellent achievement improvement during the eight years of data covered in this analysis – we have excellent building teams whose achievements should be recognized and rewarded
 - However, for the past eight years, the district has not been able to identify them, understand the drivers of their success, and/or consistently scale them up to improve proficiency rates in Jeffco
- Frequently cited data about Jeffco’s growth percentiles hide this failure to significantly improve proficiency. Growth percentiles only measure the relative year-to-year increase for students who all started out with the same TCAP score
 - A good analogy I have heard used is to a running race in which 100 students start on the same line, and your child finishes 24th – that is, in the 75th percentile (assuming a 0 to 99 scale)
 - While this tells you how well your child performed compared to the others who were on the starting line with her, the 75th percentile tells you nothing about whether her time was good enough to get a college track scholarship (i.e., how proficient she is against an absolute standard). For that, you need to know her time, or, in the case of TCAP, her scale score

Executive Summary - 2

- Another frequently heard assertion is that Jeffco's Median Growth Percentiles are a sign of excellent performance because they are higher than the state's MGPs
- In fact, this is exactly what you would expect, because Jeffco has about 10% fewer at risk (free and reduced lunch eligible) students than the state not including Jeffco, and there is a negative correlation between MGP and the percentage of F&R students in a district
 - Based on the 2013 TCAP results, for math the negative correlation is (.19), for reading, (.21) and for writing it is (.24)
- The weakness of MGP-based claims for Jeffco's superior performance is very similar to the weakness of the frequently heard claim that Jeffco's performance is superior because its high school graduation rate ranks high among the top 50 largest school districts in the nation
 - Again, given the dynamics at work, this is exactly what we would expect to find. There is a (.83) correlation between the top 50 districts' free and reduced students percentages and their HS graduation rates
 - For the 44 of the top 50 districts for which the National Center for Education Statistics has current data on both the F&R percentage and the HS graduation rate, Jeffco has the 3rd lowest F&R percentage, but only the 6th highest HS graduation rate
 - And 29% of Jeffco's HS graduates who attend a public college or university in Colorado have to take remedial courses, which suggests we are pushing too many kids out the door who aren't prepared
- These results are NOT acceptable, nor evidence of a strong track record:

	2013 Grade 10 TCAP Results for Jeffco	
	Free and Reduced	Not Free and Reduced
NOT Proficient in Math	80%	48%
NOT Proficient in Writing	68%	37%
NOT Proficient in Reading	43%	18%

Percent of Jeffco 11th Graders Below ACT College and Career Ready Cut Score in 2013			
English	Math	Reading	Science
33%	55%	55%	61%

Over the Past Eight Years, There Has Been a Continuing Pattern of Grade-to-Grade Declines in the Percent of Proficient Students in Jeffco

Percent of Students Scoring Proficient or Advanced on CSAP/TCAP by Subject, Grade, and Year								
Jeffco TCAP Data from CDE Schoolview/Datalab								
Math	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	76	72	74	76	74	76	75	74
Grade 4	72	73	71	72	75	75	77	77
Grade 5	70	67	70	67	70	71	68	70
Grade 6	65	68	67	71	69	71	71	70
Grade 7	53	58	55	61	56	61	61	63
Grade 8	54	55	56	61	58	59	58	59
Grade 9	47	44	48	45	50	47	43	46
Grade 10	38	39	40	40	39	42	42	43
Reading	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	75	77	77	80	76	80	80	80
Grade 4	74	72	72	72	75	73	75	76
Grade 5	75	73	77	74	75	78	77	78
Grade 6	77	79	80	81	82	82	84	83
Grade 7	72	72	71	73	75	74	75	76
Grade 8	73	70	75	69	74	73	74	74
Grade 9	72	73	73	75	73	72	72	72
Grade 10	70	74	72	75	70	71	71	75
Writing	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	62	63	59	63	56	61	58	56
Grade 4	60	57	60	57	58	63	56	58
Grade 5	68	62	65	62	62	66	63	63
Grade 6	69	68	68	69	66	71	65	67
Grade 7	64	68	65	67	65	64	67	68
Grade 8	57	59	58	57	60	59	59	60
Grade 9	58	57	56	59	56	58	56	59
Grade 10	54	57	55	56	53	53	52	53

This Problem is Not Due to Poverty: Here are the Percent Proficient and Advanced for Students Not Eligible for Free and Reduced Lunch

Percent Proficient & Advanced -- Students Not Eligible for Free and Reduced Lunch								
Jeffco TCAP Data from CDE Schoolview/Datalab								
Math	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	83	78	81	82	82	84	84	83
Grade 4	79	80	79	80	83	83	86	85
Grade 5	77	74	78	76	79	80	78	81
Grade 6	72	75	74	79	78	79	80	79
Grade 7	60	64	63	70	66	72	73	74
Grade 8	61	62	63	69	67	69	69	71
Grade 9	53	50	54	52	57	56	52	57
Grade 10	43	44	45	46	45	49	50	52
Reading	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	82	83	84	86	84	87	87	87
Grade 4	80	79	81	80	83	81	85	85
Grade 5	83	80	84	82	84	86	85	87
Grade 6	84	85	86	88	88	89	91	90
Grade 7	78	79	78	80	83	84	84	85
Grade 8	79	76	81	77	82	82	84	83
Grade 9	78	78	79	81	80	80	80	82
Grade 10	75	79	77	81	77	78	79	82
Writing	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	69	70	67	71	66	71	68	67
Grade 4	67	65	69	67	68	72	67	69
Grade 5	76	70	74	72	72	75	74	74
Grade 6	76	75	75	78	76	80	74	77
Grade 7	71	74	72	76	74	74	77	78
Grade 8	64	66	65	66	69	69	70	71
Grade 9	65	62	63	66	63	68	66	70
Grade 10	59	63	60	62	61	60	61	63

Moreover, this problem existed before District budget cuts started in 2009, which suggests that a lack of money is not the root cause.

You Also See the Same Performance Problems for Free and Reduced Students (34% of the District) – Only They Are Worse

Percent Proficient & Advanced -- Students Eligible for Free and Reduced Lunch								
Jeffco TCAP Data from CDE Schoolview/Datalab								
Math	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	56	54	53	59	56	58	58	57
Grade 4	53	53	51	53	57	59	60	61
Grade 5	48	43	47	45	49	53	49	50
Grade 6	43	47	47	51	49	54	53	51
Grade 7	28	33	27	35	32	38	39	42
Grade 8	29	28	31	34	34	36	35	36
Grade 9	22	21	23	20	27	23	21	24
Grade 10	16	15	19	16	17	21	20	20
Reading	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	54	59	58	64	60	64	66	65
Grade 4	55	48	51	51	58	55	57	59
Grade 5	53	50	56	55	56	60	60	60
Grade 6	56	60	63	62	67	67	71	70
Grade 7	50	48	49	51	54	54	57	58
Grade 8	49	46	52	45	52	50	54	56
Grade 9	47	51	51	51	53	50	53	53
Grade 10	46	50	49	53	47	52	51	57
Writing	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	38	42	37	41	35	38	39	36
Grade 4	37	33	35	35	35	44	34	37
Grade 5	44	37	39	39	39	46	44	41
Grade 6	47	46	46	47	46	53	46	50
Grade 7	40	45	39	42	41	42	47	49
Grade 8	33	33	33	32	35	35	37	38
Grade 9	30	31	31	32	32	33	32	37
Grade 10	29	30	30	31	27	30	29	32

In Massachusetts in 2013, 82% of Free and Reduced students in Grade 10 scored at least proficient on the English Language Arts state achievement test, and 63% did so on the math test. And these tests are tougher than TCAP.

What's Wrong With Jeffco?

Achievement Data for Gifted Students (11% of District) Tell the Same Frustrating Story

Percent of GT (ALP) Students Scoring Advanced on CSAP/TCAP								
Jeffco TCAP Data from CDE Schoolview/Datalab								
Math	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	85	72	83	77	91	83	83	79
Grade 4	76	76	73	80	82	82	82	80
Grade 5	79	82	83	79	85	86	84	80
Grade 6	71	80	78	83	81	88	85	87
Grade 7	73	71	73	82	76	80	86	87
Grade 8	74	69	74	74	79	75	79	84
Grade 9	62	56	63	57	63	61	58	67
Grade 10	31	28	31	31	29	33	37	35
Reading	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	31	39	34	39	42	37	33	34
Grade 4	30	39	28	42	25	34	26	24
Grade 5	41	41	42	45	51	43	42	41
Grade 6	48	53	54	58	64	65	55	55
Grade 7	39	41	41	40	41	44	41	42
Grade 8	41	39	47	33	38	44	37	40
Grade 9	23	21	33	19	23	19	23	19
Grade 10	48	42	47	43	41	36	29	40
Writing	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	50	47	50	44	46	37	31	34
Grade 4	38	40	44	41	47	51	34	35
Grade 5	52	41	52	45	44	47	46	38
Grade 6	50	48	46	44	50	55	44	45
Grade 7	48	57	50	54	48	46	53	52
Grade 8	36	43	43	34	42	42	39	39
Grade 9	33	35	37	34	34	33	31	31
Grade 10	36	35	40	37	36	21	22	28

Note that this analysis uses percent scoring advanced, not percent scoring proficient or advanced. Percent advanced is a more rigorous metric for GT student achievement.

The Same Depressing Pattern Also Occurs in the Results for Special Education Students (10% of District)

Percent of Special Education (IEP) Students Scoring Proficient or Advanced on CSAP/TCAP								
Jeffco TCAP Data from CDE Schoolview/Datalab								
Math	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	40	36	41	41	39	41	35	36
Grade 4	34	33	33	35	33	35	34	35
Grade 5	27	26	30	26	27	27	27	25
Grade 6	19	25	26	24	24	25	26	25
Grade 7	12	14	15	17	11	15	15	16
Grade 8	12	12	15	17	16	14	13	15
Grade 9	8	8	12	7	11	10	5	8
Grade 10	5	5	7	7	3	6	7	4
Reading	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	31	36	36	37	35	35	35	39
Grade 4	29	24	30	27	24	28	27	29
Grade 5	28	27	31	28	27	31	30	29
Grade 6	30	35	34	34	36	37	38	37
Grade 7	22	24	24	23	23	24	24	24
Grade 8	23	21	27	21	24	21	24	26
Grade 9	22	23	25	25	25	23	22	24
Grade 10	16	22	23	25	24	21	22	27
Writing	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Grade 3	19	20	19	19	17	17	14	17
Grade 4	19	14	19	14	13	20	14	15
Grade 5	21	18	22	19	16	18	20	16
Grade 6	21	20	22	19	20	24	18	20
Grade 7	15	20	20	16	14	15	16	18
Grade 8	9	12	11	10	10	9	10	11
Grade 9	11	10	11	10	11	11	8	11
Grade 10	5	9	8	8	9	9	7	6

In sum, despite spending about \$1 billion per year for eight years, at the district level Jeffco has failed to improve student achievement performance.

Appendix B
Grade 3 Reading Proficiency
Background Briefing

Agenda

- The Issue
- Background
 - The Colorado Growth Model
 - Effect Size
- Approach
- Findings
- Conclusions
- Recommendations

The Issue

- In 2012, the Colorado Legislature passed the Reading to Ensure Academic Development (READ) Act
- The Act “focuses on early literacy development for all students, and especially for students at risk for not achieving third grade reading proficiency”
 - From READ Act Fact Sheet
- The READ Act focuses on Kindergarten through third grade literacy development
- The Jeffco Board has asked District Staff for an estimate of what it would cost to achieve 85% Grade 3 reading proficiency
 - Based on the 2013 TCAP, 79.6% of Jeffco third graders are at least proficient in reading (9.1% scored at the Advanced level, and 70.5% at the Proficient level)
- This Briefing is intended to help the public evaluate the District’s response to the Board’s request

Background

- This analysis is based on publicly available TCAP testing data, which are available on the CDE's School View website (via the Data Lab function)
- TCAP testing begins in Grade 3; results from K-3 assessments performed using reading-specific instruments (e.g., PALS, DIBELS, or DRA2) are not available to the public
- As such, the data available to the public for TCAP Grade 3 reading shows us the end-result of all the initiatives that have been undertaken over the four years from kindergarten through the spring administration of TCAP tests to third graders
- In evaluating the TCAP data, it is important that we start with a solid understanding of two concepts: (a) the Colorado Growth Model; and (b) the Effect Size metric

The Colorado Growth Model

- CSAP/TCAP scale scores measure progress along the novice to expert spectrum
- “Cut Scores” used to classify students’ achievement as unsatisfactory, partially proficient, proficient, and advanced increase in each grade. Cut scores rise every year
- “Growth Percentile” is a standardized measure that compares the increase in a student’s scale score to the increase achieved by other students who all had the same scale score the previous year
- “Median Growth Percentile” (MGP) is the “Growth Percentile” achieved by the middle student in any grouping of students (e.g., a class, a school, a district)

The Same MGPs Can Reflect Different Absolute Scale Score Increases

Across Colorado, the distribution of TCAP scores for a grade should be approximately normal (i.e., bell-shaped). In normal distributions, the mean (average) score of the distribution is equal to the median (midpoint) score. Therefore, the grade-to-grade change in average TCAP score should be very close to the median gain in TCAP scale score that corresponds to the 50th Median Growth Percentile. This highlights a critical point to keep in mind about the MGP: If for different grades, the grade-to-grade changes in average TCAP scale scores are different, then two students can be in the same growth percentile, yet have very different absolute increases in TCAP scale scores. Put differently, the same Median Growth Percentile can represent very different degrees of movement up the novice to expert scale that we measure with TCAP scores. To make this more concrete, I've attached a summary of grade-to-grade changes in CSAP/TCAP Scale Scores by subject from 2006/07 to 2012/13. As you can see, the absolute score gains from Grade 8 to Grade 9 are very low compared to the score gains from Grade 6 to Grade 7. As a result, the fact that the Grade 7 and Grade 9 students were both in the 60th growth percentile does not mean that, in the absolute sense, they made equivalent progress up the novice to expert spectrum.

Grade-to-Grade Increases in TCAP Scores

<i>Change in average state CSAP/TCAP scale score, from grade to grade</i>								
	<i>2006 to 07</i>	<i>07 to 08</i>	<i>08 to 09</i>	<i>09 to 10</i>	<i>10 to 11</i>	<i>11 to 12</i>	<i>12 to 13</i>	<i>Average</i>
Math								
3 to 4	27.07	32.06	28.10	33.86	24.76	35.18	28.92	29.99
4 to 5	30.50	28.79	26.71	28.00	28.42	25.89	25.00	27.62
5 to 6	17.23	17.68	19.66	21.66	19.34	15.54	22.52	19.09
6 to 7	27.86	11.37	24.33	11.71	22.44	21.99	27.84	21.08
7 to 8	21.82	11.15	24.50	13.69	23.90	16.29	15.79	18.16
8 to 9	7.60	11.12	0.36	5.40	0.93	-0.15	2.48	3.96
9 to 10	10.36	16.05	10.51	19.36	13.73	17.52	17.09	14.95
Reading								
3 to 4	30.21	30.51	32.49	26.54	32.86	27.48	24.80	29.27
4 to 5	21.54	29.13	24.77	26.04	25.18	25.34	24.90	25.27
5 to 6	11.34	16.91	13.76	17.94	14.00	18.68	18.92	15.93
6 to 7	12.88	14.53	10.89	13.79	11.36	14.39	11.42	12.75
7 to 8	11.46	15.73	8.83	13.63	11.42	10.59	10.27	11.70
8 to 9	9.99	14.05	7.26	14.10	6.37	7.90	8.48	9.74
9 to 10	25.48	22.17	24.14	21.71	18.23	23.22	25.28	22.89
Writing								
3 to 4	15.01	19.00	18.90	17.08	26.03	16.70	20.52	19.04
4 to 5	22.50	27.10	20.25	22.07	25.59	17.44	23.01	22.56
5 to 6	16.12	19.12	17.78	15.70	22.09	10.42	14.44	16.52
6 to 7	31.70	23.79	32.54	24.49	29.98	29.49	37.55	29.94
7 to 8	10.26	3.33	9.85	6.47	11.92	10.92	6.17	8.42
8 to 9	7.33	3.15	6.28	1.01	3.41	1.17	8.13	4.35
9 to 10	15.09	8.49	17.87	8.90	12.54	7.54	12.21	11.80

What is Effect Size?

Effect Size (ES) is a measure of how well a system (be it a school or district) is able to continuously improve its performance over a period of time. The mathematical formula for my ES calculations is (Average TCAP Scale Score in 2013 less Average Scale Score in 2009) divided by the Standard Deviation of 2013 Scale Scores. The ES metric recognizes that improved performance can come from both higher average scores and from scores that are less variable around the average (i.e., more consistent). In his review of over 800 studies of academic performance improvement, Professor John Hattie found that the average grade-to-grade improvement in test scores was equal to about 33% of a standard deviation (see his book, Visible Learning). On this basis, he concluded that any initiative, or set of initiatives, that raised scale scores by more than .30 standard deviations was worthwhile, as it represented at least an additional year of progress along the novice to expert scale (which in Colorado we measure with TCAP scores).

More to the point for the Jeffco Board, we cannot substantially increase the percentage of students scoring at the proficient and advanced levels of TCAP or PARCC in the absence of significant positive Effect Sizes.

Relationship Between Median Growth Percentile (MGP) and Effect Size (ES)

It is also important to understand the relationship between Effect Size and Median Growth Percentile. Effect Size is based on the absolute change in scale scores over a five-year time horizon for students at a constant level (E/M/H) or grade. In contrast, Median Growth Percentile is a relative measure based on the median absolute scale score increase in a single year from grade-to-grade. It is *critical* to note that MGPs can be above the 50th percentile each year without generating a significant positive Effect Size. For example, assume that in each of five years, incoming students have a previous grade TCAP score of XXX. Further assume that in each of five years, a school raises the median student's scale score by 50 points to YYY, which results in a median growth percentile of 60 each year. Because there was no increase in YYY (the ending scale score) over the five-year period, the Effect Size would be zero. This highlights that while the school in this example is doing a commendable job with different classes of students each year, over the full five year period it has not, as a system, improved its ability to move them up the novice to expert spectrum, as there is no growth in the average ending TCAP scale scores (note that in this example I assume that the median score equals the average score, as is the case in a normal distribution).

I believe that annual Median Growth Percentiles are a useful way to measure and compare school or district value added over a one-year time horizon. However, in order to get a more accurate picture of system performance over a longer time horizon, we need to use the Effect Size metric.

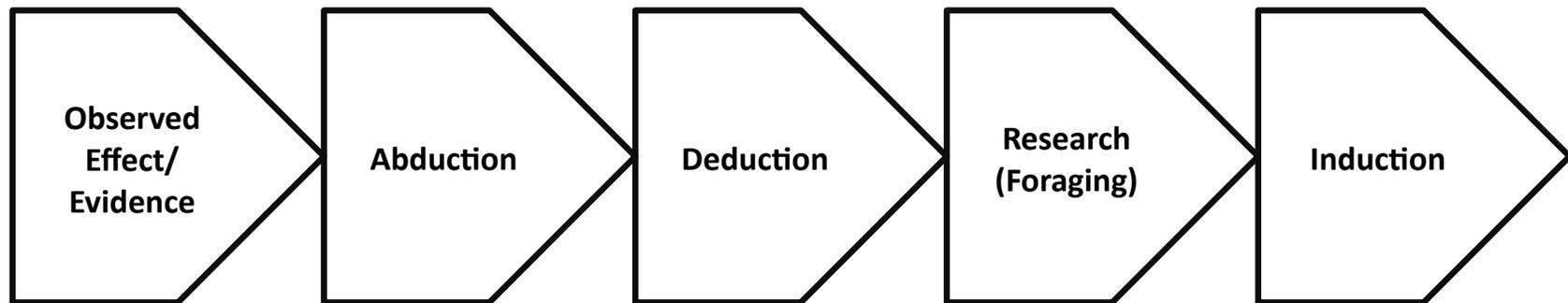
Approach

- The District and Board face a common decision problem: How to allocate scarce resources to maximize the probability of achieving a target goal (in this case, achieving 85% Grade 3 Reading Proficiency)
 - This problem is made more challenging because the metric we use to measure goal achievement will be changing (from TCAP to PARCC), and the underlying Proficiency standard will also become more challenging
- Implicitly or explicitly, boards and individuals tend to follow a four step decision process:
 - First, describe the most important features of the current situation
 - Second, explain what has caused the situation we observe
 - Third, given this causal model, predict the result of different possible courses of action
 - Fourth, on the basis of some implicit or explicit criteria, decide on the course of action to pursue
 - Note that the use of explicit criteria becomes more common when more time is available to a decision maker, and when it will be necessary to explain/justify a decision to others

Approach (cont'd)

- In complex social systems (like K12) causal explanations and predictions are usually much more difficult than they are in most physical or mechanical systems
- For example, it is hard to repeat experiments in a social system under the same conditions, because the system itself is usually constantly evolving
- As a result, in social systems, causal explanations and predictions will almost always be incomplete and subject to some unavoidable residual uncertainty about their degree of accuracy
- In social systems, causal reasoning tends to follow the process shown on the next slide

A Simplified Causal Reasoning Process



*E.g.
performance
shortfalls,
anomalous
data, near
misses, large
or rapid
change*

*Generate
insights
about
possible
causal
explanations*

*If a possible
explanation is
true, what
other evidence
should we
observe or not
observe?*

*For each
possible
explanation,
search for
additional
evidence
with highest
diagnostic
value*

*Use collected
evidence to
test possible
explanations
and reach
conclusions
about their
respective
probabilities*

Abduction Is The Most Difficult Step

- The range of causal explanations that come to mind is limited by our knowledge and experience (hence, it pays to be curious)
- It can also be constrained by our judgment about what constitutes a “plausible” (hence, it pays to be imaginative)
- Organizational limits on “acceptable” explanations can also inhibit causal reasoning (e.g., if I say this, will I offend my boss, challenge important organizational assumptions, etc.)
- For example, when explaining Grade 3 TCAP Reading results, possible explanatory factors could include:
 - Differences in curriculum used in elementary schools
 - Differences in the materials available in classrooms (e.g., books)
 - Differences in the use of technology
 - Differences in staffing (e.g., how many reading specialists at a school?)
 - Differences in teacher qualities (experience, training received, skill as evaluated by peers using SB 191 excellent teaching rubric)
 - Differences in the amount and type of support provided to students (e.g., do they have Jefferson County library cards? Has the teacher/school reached out to the parents/guardians of at-risk students, etc.)
 - Differences in the amount and type of support provided to teachers (peer evaluations, coaching, professional development received in reading skills, etc.)

Findings

- This section presents a review of Jeffco's Grade 3 TCAP Reading scores
- It is based on a number of different perspectives:
 - Differences across student groups
 - Differences between Jeffco and Cherry Creek (the District most demographically similar to Jeffco, in terms of its relative mix of different student groups)
 - Performance over time
 - Differences across schools
- The Findings will be presented as answers to different questions the public might ask
 - One set focused on where the problems are
 - And another focused on the system's rate of improvement between 2009 and 2013, as measured by Effect Sizes

On the 2013 TCAP, What Percent of Students Were Proficient or Advanced in Reading?

Grade	Jeffco P&A Percent	Of which, Advanced	Creek P&A Percent	Of which, Advanced	Comment
3	79.6%	9.1%	79.6%	10.1%	
4	76.0%	5.5%	77.1%	7.1%	
5	77.7%	11.2%	78.9%	12.7%	
6	83.1%	16.6%	70.2% **	13.2% **	** 14% of tests were not scored
7	75.9%	11.6%	74.4%	11.3%	
8	74.0%	10.6%	73.8%	11.6%	
9	72.4%	4.3%	73.4%	4.7%	
10	74.8%	12.3%	76.1%	13.9%	
11 (Average ACT Score for District)	21.3		21.7		21 is 55 th national percentile

How Much Does a Student's Scale Score Have to Increase to Move From Grade 3 Unsatisfactory or Partially Proficient to the Lowest Grade 4 Proficient Score?

- For Grade 3 Reading, the midpoint scale score for Unsatisfactory is 308, and for Partially Proficient, 496 (based on the 2012 TCAP Technical Manual; these “cut scores” are consistent over time)
- The minimum Grade 4 scale score for Proficient is 572 (a gain of 76 from the Grade 3 PP midpoint, and 264 from the Unsat midpoint)
- From 2007 to 2013, the average scale score gain from Grade 3 to Grade 4 Reading was 29.97, across all students
- Therefore, a move from the Grade 3 Unsat midpoint to the Grade 4 minimum Proficient score takes about 9 times the average annual increase in scale score. From the Grade 3 PP midpoint it requires 2.6 times the average increase in scale score
- This makes it clear how important it is to get students to a Proficient Reading Standard by Grade 3, as the scale of the catch up challenge increases non-linearly with every passing grade
 - The minimum cut score for Proficient increases every grade...
 - While the average scale score gain from grade to grade tends to decrease over time, particularly between Grades 5 to 9

What Percent/Number of Grade 3 Students in Jeffco and Cherry Creek With IEPs Scored in the Unsatisfactory and Partially Proficient Categories on the 2013 TCAP Reading Test?*

Group	Jeffco/ Unsat	Jeffco/ Partial	Jeffco/ Total	Creek/ Unsat	Creek/ Partial	Creek/ Total
Female/Free & Reduced Eligible/IEP	40.0% (53)	36.0% (27)	76.0% (80)	41.8% (23)	38.2% (21)	80.0% (44)
Female/NotF&R/IEP	21.6% (16)	37.8% (28)	59.4% (44)	23.5% (20)	30.6% (26)	54.1% (46)
Male/F&R/IEP	40.8% (53)	31.5% (41)	72.3% (94)	54.5% (67)	23.6% (29)	78.1% (96)
Male/NotF&R/IEP	22.4% (41)	24.6% (45)	47.0% (96)	21.1% (34)	28.6% (46)	49.7% (80)

* Percentages are rounded

What Percent (Number) of Grade 3 Students Within Different Groups Scored in the Unsatisfactory and Partially Proficient Categories on the 2013 TCAP Reading Test?*

Group	Jeffco/ Unsat	Jeffco/ Partial	Jeffco/ Total	Creek/ Unsat	Creek/ Partial	Creek/ Total
F&R/Minority/ ELL	21.9% (68)	29.3% (91)	51.2% (159)	25.4% (86)	24.2% (82)	49.6% (168)
F&R/Min/ NotELL	10.2% (81)	24.5% (195)	34.7% (276)	11.6% (55)	23.9% (113)	35.5% (168)
F&R/NotMin/ ELL	18.4% (7)	15.8% (6)	34.2% (13)	26.6% (17)	21.9% (14)	48.5% (31)
F&R/NotMin/ NotELL	9.2% (82)	18.2% (162)	27.4% (244)	8.7% (27)	16.2% (50)	24.9% (77)
NotF&R/Min/ ELL	6.2% (8)	16.2% (21)	22.4% (29)	9.0% (17)	14.3% (27)	23.3% (44)
NotF&R/Min/ NotELL	4.6% (30)	14.1% (91)	18.7% (121)	3.7% (27)	10.3% (76)	14.0% (103)
NotF&R/ NotMin/ELL	0% (0)	22.0% (11)	22.0% (11)	3.2% (2)	14.3% (9)	17.5% (11)
NotF&R/ NotMin/NotELL	2.2% (71)	9.0% (283)	11.2% (354)	2.4% (46)	8.0% (151)	10.4% (197)

* Percentages are rounded

*Which Student Groups Account for the Greatest Percentage/
Number of All Grade 3 Students in Jeffco Who Scored
Unsatisfactory or Partially Proficient on the 2013 Reading TCAP?*

	2013 TCAP Reading			Number	Percent
Grade 3	FARM Eligible	Minority	ELL	159	13.2%
Grade 3	FARM Eligible	Minority	NON-ELL	276	22.9%
Grade 3	FARM Eligible	Non-Minority	ELL	13	1.1%
Grade 3	FARM Eligible	Non-Minority	NON-ELL	244	20.2%
Grade 3	Not FARM Eligible	Minority	ELL	29	2.4%
Grade 3	Not FARM Eligible	Minority	NON-ELL	121	10.0%
Grade 3	Not FARM Eligible	Non-Minority	ELL	11	0.9%
Grade 3	Not FARM Eligible	Non-Minority	NON-ELL	354	29.3%
			Total	1,207	100.0%

Looking Back Three Years, Starting with Students Who Were in Grade 5 in 2013, How Have Reading Problems Evolved in Jeffco Over Time?

Jeffco	Grade 3 in 2011			Grade 4 in 2012			Grade 5 in 2013				
Group	Unsat	Partial	U&P	Unsat	Partial	U&P	Unsat	Partial	U&P	Grade 3 to Grade 4 U&P Change in Jeffco	Grade 4 to Grade 5 U&P Change in Jeffco
F&R/Minority/ELL	12.8%	34.1%	46.9%	17.7%	36.6%	54.3%	20.4%	27.2%	47.6%	7.4%	-6.7%
F&R/Min/Not ELL	15.6%	25.7%	41.3%	16.4%	30.2%	46.6%	19.9%	26.3%	46.2%	5.3%	-0.4%
F&R/NotMin/ELL	17.6%	20.6%	38.2%	15.4%	35.9%	51.3%	12.5%	34.4%	46.9%	13.1%	-4.4%
F&R/NotMin/NotELL	8.6%	18.4%	27.0%	8.3%	26.1%	34.4%	11.5%	19.6%	31.1%	7.4%	-3.3%
NotF&R/Min/ELL	8.8%	13.2%	22.0%	7.1%	23.2%	30.3%	7.6%	17.2%	24.8%	8.3%	-5.5%
NotF&R/Min/NotELL	4.5%	11.3%	15.8%	3.0%	15.5%	18.5%	4.1%	12.1%	16.2%	2.7%	-2.3%
NotF&R/NotMin/ELL	6.3%	10.4%	16.7%	4.8%	9.5%	14.3%	4.3%	10.6%	14.9%	-2.4%	0.6%
NotF&R/NotMin/NotELL	2.8%	8.5%	11.3%	2.6%	10.8%	13.4%	3.8%	7.8%	11.6%	2.1%	-1.8%

Scores got worse...

... then got better

Looking Back Three Years, Starting with Students Who Were in Grade 5 in 2013, How Have Reading Problems Evolved in Cherry Creek Over Time?

Creek	Grade 3 in 2011			Grade 4 in 2012			Grade 5 in 2013				
Group	Unsat	Partial	U&P	Unsat	Partial	U&P	Unsat	Partial	U&P	Grade 3 to Grade 4 U&P Change in Creek	Grade 4 to Grade 5 U&P Change in Creek
F&R/Minority/ELL	18.1%	28.8%	46.9%	21.3%	36.5%	57.8%	20.3%	24.9%	45.2%	10.9%	-12.6%
F&R/Min/Not ELL	10.1%	23.8%	33.9%	15.3%	28.2%	43.5%	14.3%	22.7%	37.0%	9.6%	-6.5%
F&R/NotMin/ELL	16.7%	22.9%	39.6%	22.9%	29.2%	52.1%	18.9%	17.0%	35.9%	12.5%	-16.2%
F&R/NotMin/NotELL	7.8%	19.3%	27.1%	9.4%	25.2%	34.6%	10.9%	20.9%	31.8%	7.5%	-2.8%
NotF&R/Min/ELL	7.6%	13.5%	21.1%	8.4%	21.8%	30.2%	3.6%	15.6%	19.2%	9.1%	-11.0%
NotF&R/Min/NotELL	2.8%	10.9%	13.7%	3.6%	13.5%	17.1%	5.0%	11.1%	16.1%	3.4%	-1.0%
NotF&R/NotMin/ELL	3.6%	18.2%	21.8%	4.0%	26.0%	30.0%	6.3%	14.6%	20.9%	8.2%	-9.1%
NotF&R/NotMin/NotELL	2.9%	7.0%	9.9%	3.4%	10.3%	13.7%	2.9%	7.4%	10.3%	3.8%	-3.4%

Scores also got worse...

... but got better much faster

Which Jeffco Elementary Schools Had the Highest Percentage of Grade 3 Reading Problems on the 2013 TCAP?

School	Percent Unsat	Percent Partial	Total
Thompson	14%	19%	33%
Westgate	6%	24%	30%
Lasley	6%	21%	27%
Swanson	7%	20%	27%
Bear Creek	3%	20%	23%
Vanderhof	6%	16%	22%
Pennington	6%	15%	21%
Stevens	11%	9%	20%
Weber	3%	17%	20%
Wilmore Davis	3%	17%	20%
Eiber	7%	12%	19%
Lumberg	6%	13%	19%
Molholm	8%	11%	19%
Prospect Valley	6%	13%	19%
Stein	4%	15%	19%

These 15 Schools (15% of total elementary schools) account for 28% of Grade 3 students with reading problems (338)

Between 2009 and 2013, to What Extent (as Measured by Effect Size) Has Jeffco Improved Its Ability to Raise Reading Scores for Grade 3 Students with IEPs?

Student Group	Effect Size
Female/F&R/IEP	(.10)
Female/NotF&R/IEP	(.08)
Male/F&R/IEP	(.31)
Male/NotF&R/IEP	.09

These Effect Sizes capture cumulative impact (or lack thereof) of all the improvement initiatives that were undertaken in 2010, 2011, 2012, and 2013 with the goal of raising Grade 3 TCAP Reading scores. While we cannot tell from the public data what those initiatives were, or what their individual impact was, we can still measure their cumulative effect.

Between 2009 and 2013, to What Extent (as Measured by Effect Size) Has Jeffco Improved Its Ability to Raise Reading Scores for Grade 3 Students in Different Groups?

Student Group	Effect Size
F&R/Minority/ELL	(.12)
F&R/Min/NotELL	.02
F&R/NotMin/ELL	.05
F&R/NotMin/NotELL	(.07)
NotF&R/Min/ELL	.24
NotF&R/Min/NotELL	.02
NotF&R/NotMin/ELL	.32
NotF&R/NotMin/NotELL	.05

Remember: An Effect Size of .30 represents roughly a year of scale score gains

Between 2009 and 2013, to What Extent (as Measured by Effect Size) Has Jeffco Improved Its Ability to Raise Reading Scores for Grade 3 Students in the Most Challenged Schools?

School	Effect Size (F&R)	Effect Size (Not F&R)
Thompson	(0.37)	(0.34)
Westgate	0.26	(0.12)
Lasley	(0.10)	
Swanson	(0.19)	
Bear Creek	0.03	(0.09)
Vanderhof		(0.45)
Pennington	(0.34)	
Stevens	(0.13)	
Weber	0.06	(0.07)
Wilmore Davis	(0.20)	(0.01)
Eiber	(0.32)	
Lumberg	(0.11)	
Molholm	0.16	
Prospect Valley	(0.31)	0.03
Stein	(0.18)	

An Obvious Question is The Extent to Which the District Understands the Factors that are Driving the Differences in Effect Sizes Between the Challenged Schools and These Top Performers

School	2009-2013 Effect Size	Student Group
Belmar	0.61	F&R
Edgewater	0.35	F&R
Westgate	0.26	F&R
Deane	0.18	F&R
Foster	0.17	F&R
Green Mountain	0.16	F&R
Molholm	0.16	F&R
Stott	0.96	Not F&R
Green Mountain	0.90	Not F&R
Excel Academy	0.87	Not F&R
Mount Carbon	0.74	Not F&R
Compass Montessori WR	0.73	Not F&R
Kendrick Lakes	0.72	Not F&R
Warder	0.56	Not F&R

Causes/Explanations of Differences in Effect Sizes Could Include Some or All of These Factors:

- Differences in curriculum used in elementary schools between Grades K and 3
- Differences in the materials available in classrooms (e.g., books)
- Differences in the use of technology
- Differences in staffing (e.g., how many reading specialists at a school?)
- Differences in teacher qualities (experience, training received, skill as evaluated by peers using SB 191 excellent teaching rubric)
- Differences in the amount and type of support provided to students (e.g., do they have Jefferson County library cards? Has the teacher/school reached out to the parents/guardians of at-risk students, etc.)
- Differences in the amount and type of support provided to teachers (peer evaluations, coaching, professional development received in reading skills, etc.)

Conclusions

- Reaching 85% Grade 3 Reading Proficiency will be a challenge, as the movement from TCAP to PARCC will “raise the bar” for meeting the Proficient Standard (to a level more in line with the National Assessment of Educational Progress standard, and the international PISA standard)
 - Drops in the percent of proficient students in states like New York which have piloted the move to PARCC have been substantial
- Currently, the population of Jeffco Grade 3 students who fall short of the Proficient standard is concentrated in certain student groups and schools
- Disturbingly, the path followed by students who were in Grade 3 in 2011 shows that reading problems grew worse in Grade 4 before they were successfully addressed in Grade 5
 - Also, Cherry Creek delivered much larger reductions between Grade 4 and 5 in the percentage of students below Proficient in Reading (Why?)
- As measured by Effect Size, between 2009 and 2013, Jeffco as a system showed little progress in its ability improve Reading scores for Grade 3 students across most student groups, and in the schools with substantial percentages of Grade 3 students below the Proficient standard
- The good news is that there are examples of very substantial positive Effect Sizes in some elementary schools; whether the District has attempted to systematically understand the causal factors behind exceptionally strong and weak elementary school reading performance is an open question

Recommendations

- The Board has asked the District Staff to present estimates of what it would cost to take the action steps required to raise Grade 3 Reading Proficiency to 85% (about a 5% gain from the current level, using the TCAP Proficiency standard)
- Explicitly or implicitly, the District's recommendations will be based on predictions of the expected impact of the proposed action on the metric used to measure Reading proficiency
- There are a number of possible bases for these predictions:
 - Intuition and anecdotal experience (a questionable guide for an organization with a billion dollar budget)
 - Causal analysis of the results of successful and unsuccessful initiatives undertaken by the District, or a similar analysis of initiatives undertaken by Jeffco and other districts, like Cherry Creek
 - The results of academic analyses of the effectiveness of reading improvement initiatives
 - However, these analyses should be viewed with caution. The “Gold Standard” for this research is set by the “What Works Clearinghouse” of the Institute of Educational Sciences. For example, they recently evaluated 166 studies that had been done on the impact of the “Reading Mastery” K-6 program, and concluded that “none of these studies meet WWC evidence standards for quality research.”
- It is therefore important to ensure that the District provides the Board with a clear description of the Grade 3 Reading performance problem, and its likely causes, before proposing potential solutions, and reviewing the bases for predicting their success
- In addition to ensuring that the District's recommendations are backed by clear logic, the Board should also insist that (1) the District present multiple options; (2) each option should include not only an assessment of its likely impact on Proficiency, but also its cost, timing, relative risk and potential sources of failure; and (3) a clear explanation of why it is recommending one option over the others

Appendix C
School Fees Place Increasing
Pressure on Many Jeffco Families

Fees Are Likely a Heavy Burden for at Least 26% of Jeffco Families

Family Incomes in Jeffco

Family Income Band	Number	Cumulative Families	Cumulative Percent
Less than \$10,000	3,802	3,802	3%
\$10,000 to \$14,999	2,391	6,193	4%
\$15,000 to \$24,999	6,438	12,631	9%
\$25,000 to \$34,999	8,744	21,375	15%
\$35,000 to \$49,999	15,466	36,841	26%
\$50,000 to \$74,999	25,171	62,012	43%
\$75,000 to \$99,999	23,729	85,741	60%
\$100,000 to \$149,999	31,814	117,555	82%
\$150,000 to \$199,999	13,955	131,510	91%
\$200,000 or more	12,372	143,882	100%

Note: Family income cut off for free and reduced meals is \$43,568 for a family of four (higher for larger families); about 34% of Jeffco students qualify for F&R meals. However, 60% of families have incomes below \$100k.

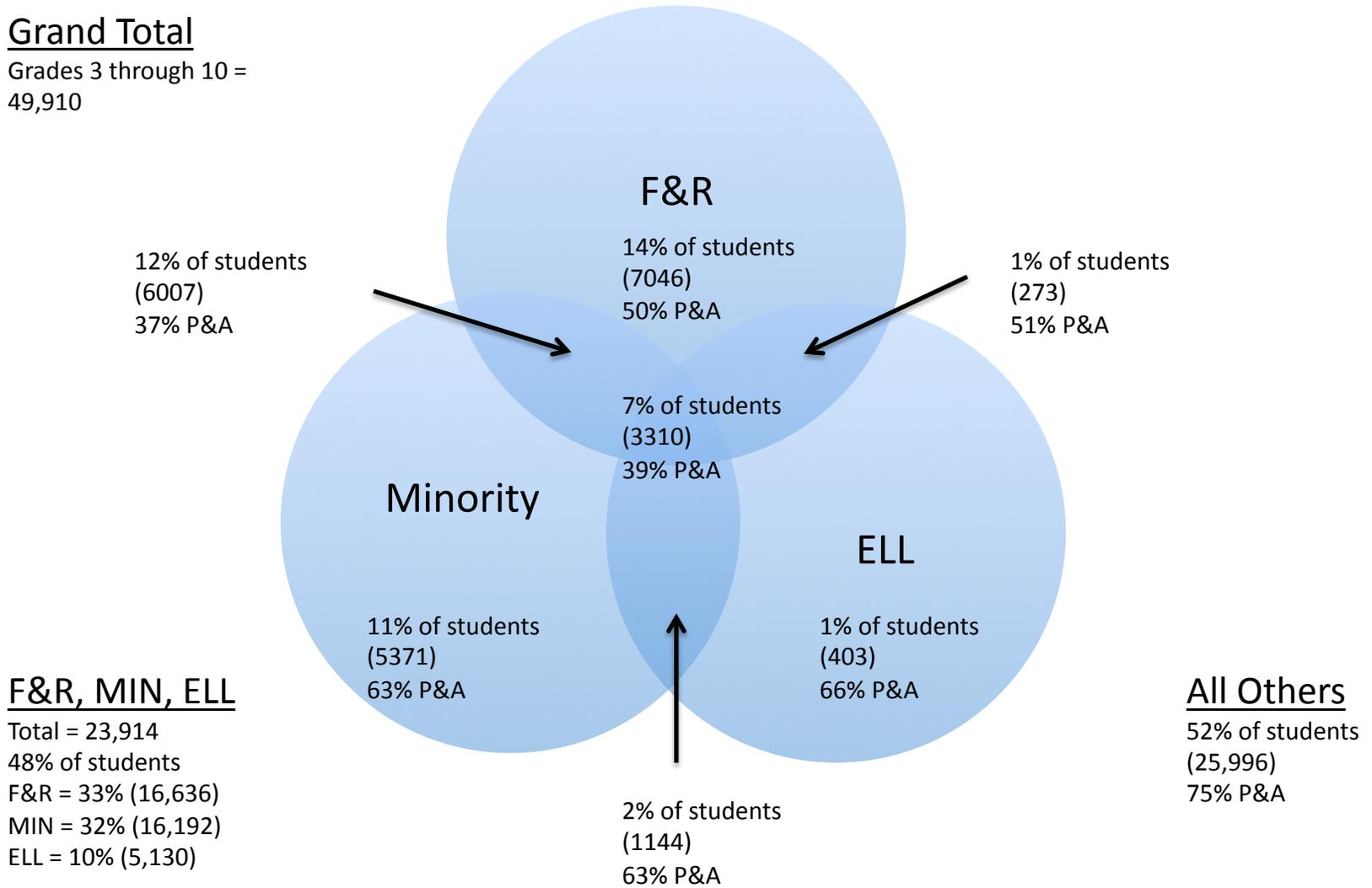
Appendix D

Jeffco at Risk Demographics

Free & Reduced, Minority, and ELL Students in Jeffco: Percent Proficient/Advanced in Math on 2013 TCAP

Grand Total

Grades 3 through 10 =
49,910



F&R, MIN, ELL

Total = 23,914
48% of students
F&R = 33% (16,636)
MIN = 32% (16,192)
ELL = 10% (5,130)

All Others

52% of students
(25,996)
75% P&A