

ROI for Continuous Improvement & Case-making:

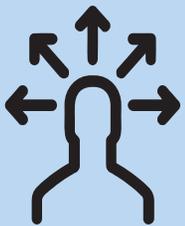
What we can learn from research, emerging practice, and each other



Essential Question for today: How can our system “use ROI” to drive more productive uses of limited resources?”

Agenda:

1. A brief history of ROI in education
2. What does “use ROI” even mean for us?
3. Profiles of 4 approaches
4. Meaning-making and application to our work



- Quantitative approaches to ROI are alluring but limited; mindset may be more important than method
- “Using ROI” can mean many things – the goals are to:
 - Support continuous improvement of existing resource use, and
 - Make the case for investment/reallocation...
...with as relevant and specific info as practicable

Traditional approaches to ROI are positive, but have limitations in informing district strategy

1. Qualitative Assessment of Spend

- + Helps leaders think about the “logic model” of their investments
- Subjective; hard to compare

2. Public Accountability

- + Identifies schools with lower or higher productivity
- Lacks context; doesn't inform improvement strategy

3. Program Evaluation

- + Compares relative effectiveness of specific investments
- Limited range of comparison

Some districts use qualitative assessments to assess current initiatives as part of the budget process

Evaluation of Current Initiative Spending

OVERVIEW

The purpose of this document is to guide you through an exercise of evaluating a current investment the district is making. Please replace "InitiativeName" in the file name with the name of the initiative you are evaluating.

Name of initiative being evaluated: _____
Yearly amount currently invested in this initiative: \$ _____
Name of individual completing this evaluation: _____

QUESTIONS

- Background:** Why did we initially invest in this initiative? What was the problem we were trying to solve? When did we learn of this problem? What else was tried before deciding on this solution?
Response: _____
- Results:** What outcomes/results were we hoping to see as a result of this investment? How do current outcomes/results compare?
Response: _____
- Execution:** What was the intended plan for implementing and managing this initiative? How does our current use compare to this intention?
Response: _____
- Strategy:** Are there other initiatives or strategies in place addressing this same problem? How does this initiative compare to the others?
Response: _____
- Investments:** Are there other investments we might make that cost the same or less to this, but might yield similar or better outcomes?
Response: _____

SUMMARY/RECOMMENDATION

Reflect on the responses below and make a recommendation about this investment. Your response should include a recommendation around increasing, decreasing, or eliminating this investment. Your response might also include alternatives to consider in place of this investment.

Recommendation: _____

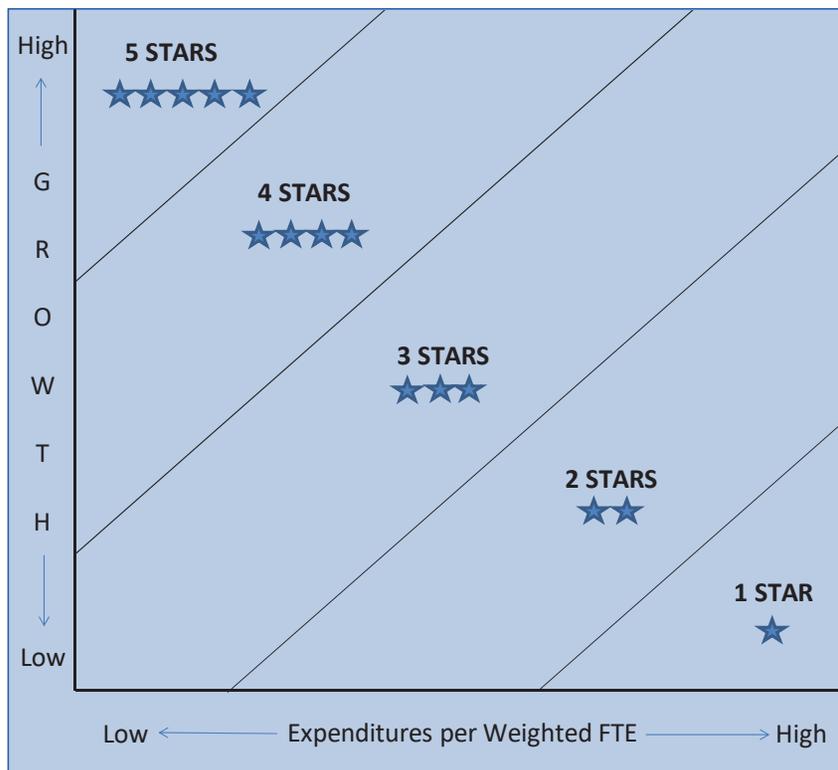
Our Perspective:

+ Helps leaders think about the "logic model" of their investments

- Subjective; hard to compare

Some states have sought to measure financial efficiency to establish public accountability for school spending

Georgia's Proposed Financial Efficiency Rating



Source: Georgia Department of Education, 2012

Similar Accountability Tools:

- Florida DOE – Return on Investment Index
- Center for American Progress – Return on Educational Investment Measure

Our Perspective:

- + Identifies schools with lower or higher “productivity”
- Lacks context; doesn't inform improvement strategy

Researchers have sought to integrate program evaluation results with cost data to try to get at relative return of related interventions

A Return on Investment (ROI) Comparison of the Far Northeast Math Tutoring and New Classrooms Programs

Rationale

A Return on Investment (ROI) analysis provides a standardized basis of comparison between educational programs so that their relative cost-effectiveness can be measured. In this case study, we generate ROI estimates for two math programs - the Far Northeast Math Tutoring Program and the New Classrooms Program.

Program Descriptions

The Far Northeast Math Tutoring Program. The Far Northeast Math Tutoring program (FNE program) provides students with daily, small-group math tutoring. The program is designed to accelerate learning and supplement traditional math instruction. A key component of the FNE program is regular assessments to inform student placement, monitor progress, and make adjustments to instruction. During the 2012-2013 school year, Far Northeast tutors worked with 4th, 6th and 9th grade students at eight schools.

Our Perspective:

- + Compares relative effectiveness of specific investments
- Limited range of comparison

Turn & Talk (5 min)

What does it mean to “Use ROI” in your system?



Example 1: Denver

Whether/how *quantification of ROI or potential ROI* can better support strategy design and resource allocation

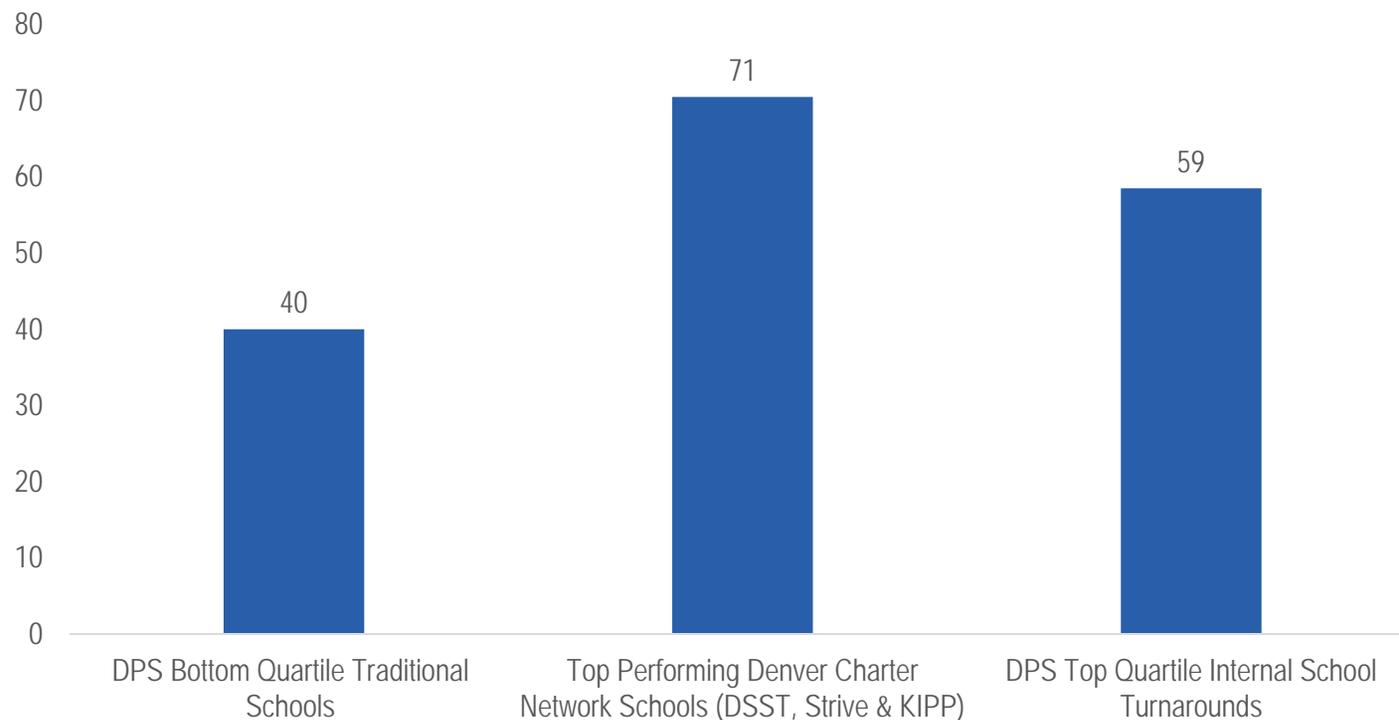


We tested several applications of ROI through this work:

1. Compare **options for the same/similar improvement strategy** (e.g., charter conversion, versus internal approach to school turnaround)
2. Compare **options for different improvement strategies** (e.g., class size, versus extending time, versus performance management)
3. Set **target for required return** where you don't have full information (either cost or impact)

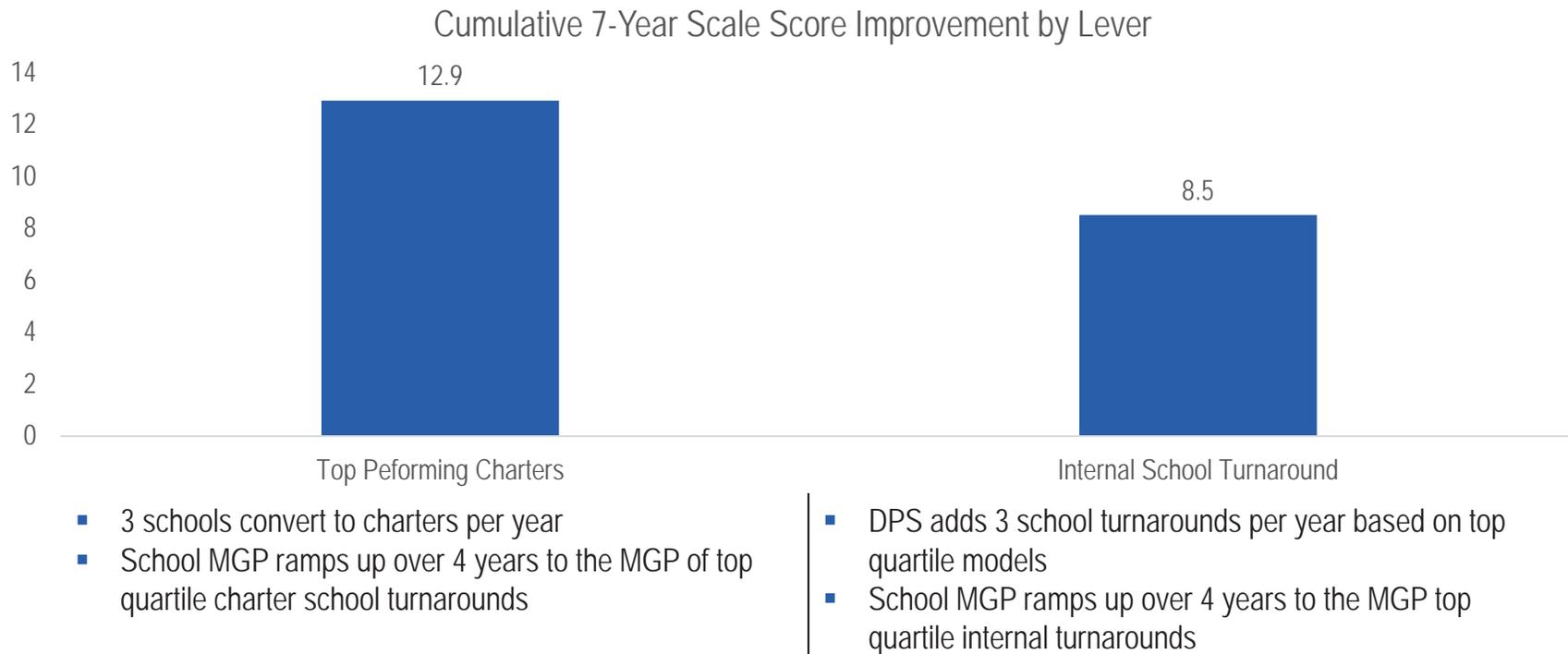
An analysis of different options for school turnaround could include a comparison of DPS turnarounds and top performing Denver charters...

Average School MGP by School Grouping (2011-12 to 2013-14)*



* Schools missing average 2014 MGP data were excluded from this chart. See Appendix for lists of top quartile turnarounds and top performing charters.

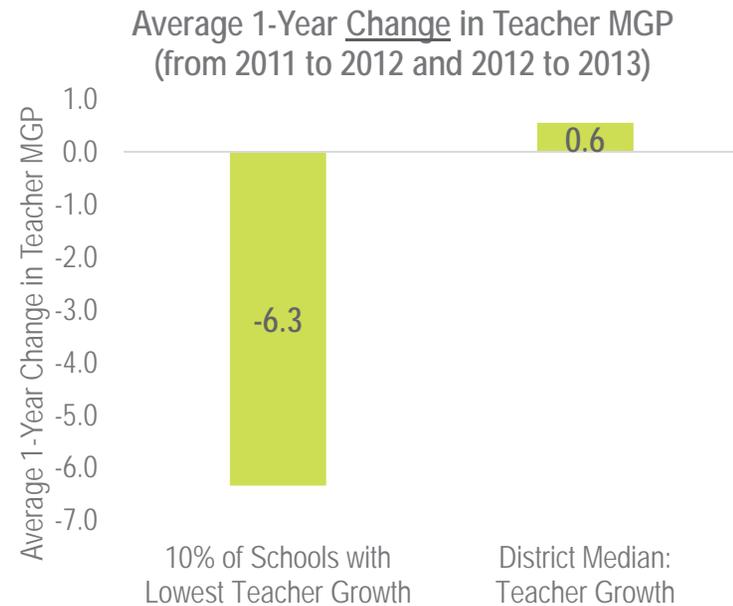
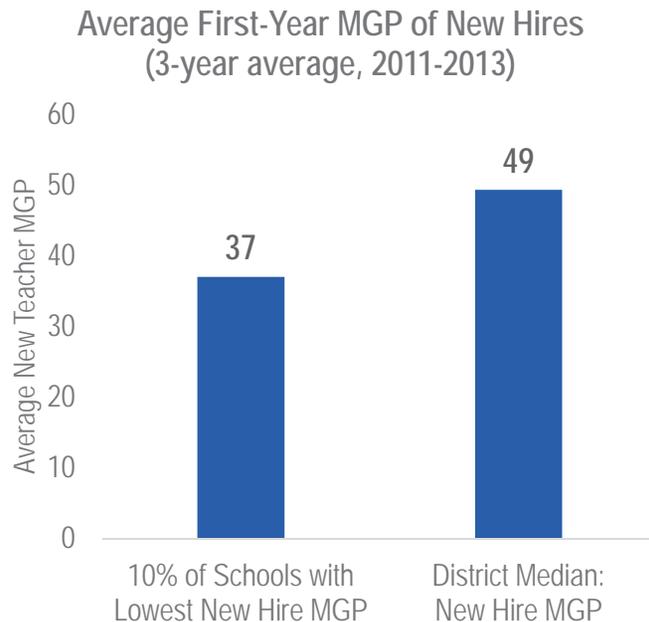
Looking solely at outcomes, the higher MGP of top performing charters implies a greater scale score opportunity in pursuing this opportunity...



We didn't calculate marginal costs for these two approaches. Getting from impact to ROI would require making cost estimates for each...

Note: Schools missing average 2014 MGP data were excluded from this chart. See Appendix for lists of schools included for each option.

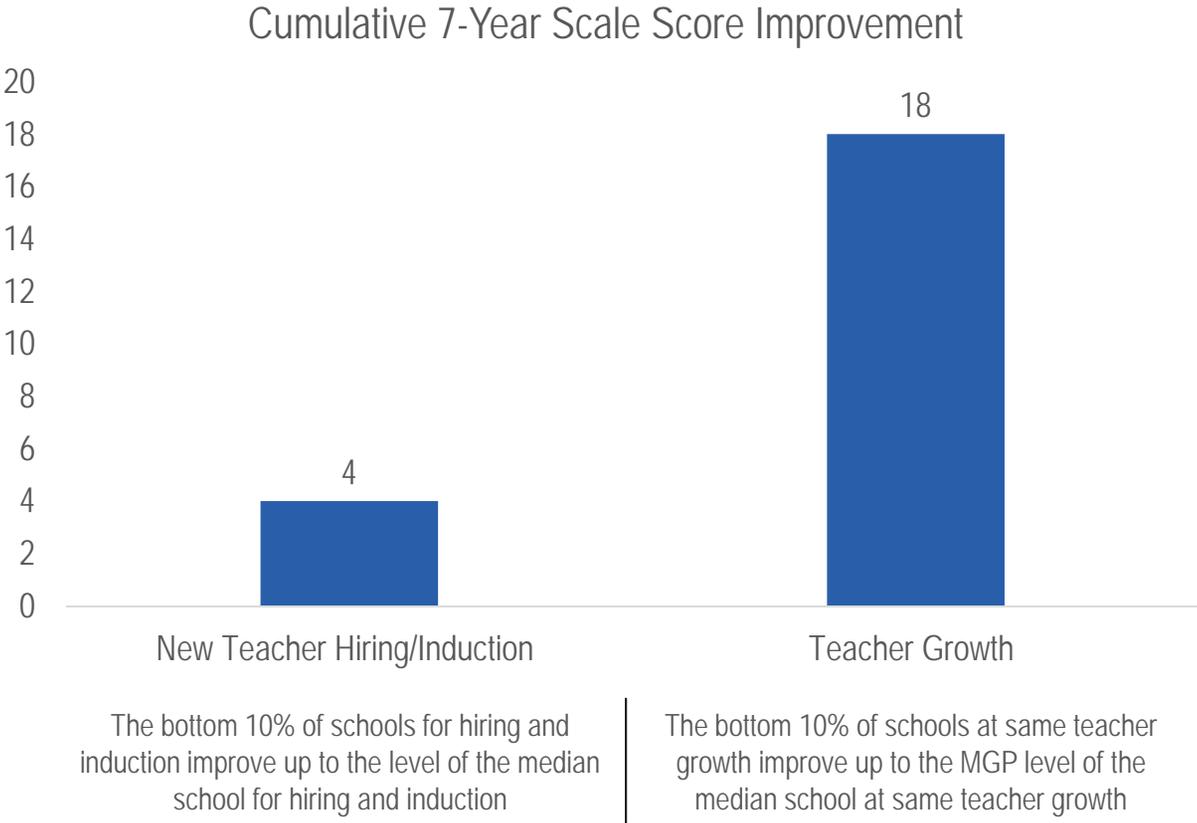
Teacher effectiveness data opens up significant areas for ROI analysis, especially for understanding impact of human capital investments



We represented MGPs as an expression of teacher effect and didn't adjust for other school level interventions (e.g. additional time). To improve these estimates, DPS should explore refining to better isolate teacher effects.

Note: MGP = Median Growth Percentile. Differences in MGPs between groups of teachers are adjusted to control for noise/randomness.

If DPS could improve teacher MGP growth at these schools, it could generate a much larger gain than a comparable improvement in new teachers



We don't know the investments needed achieve these results, but we can use the ROI from another strategy to determine how much DPS could spend to get a similar return

Applying an ROI Target to Estimate a Maximum Investment



How to read:
 "DPS could invest up to \$25K per new teacher to get the same or better ROI than our estimate of blended learning"

* Per all teachers for same teacher growth scenario; per new teacher for new teacher scenario

Denver takeaway: Equivalencies & targets were more helpful than direct estimates – which were overshadowed by qualitative considerations

Qualitative Consideration Factors	
Certainty of Returns	The degree of certainty with which we can predict the outcome of a given investment
Ease/Fidelity of Implementation	The degree to which the program can be implemented correctly and consistently
Scalability	The extent to which costs and returns increase/decrease as an investment or program expands
Timeline	The degree to which the investment has longer timelines for returns to be observed

Where Denver left off as a result of the project:

1. Given limitations of ROI analysis, ensure “ROI mindset” for decision-makers:
 - Clear on expected impact & “logic model” of investments
 - Focused on maximizing returns across functions v. within
 - Committed to monitoring results and adapting based on data
2. Ensure **budget development processes span departmental boundaries** and include structural costs/strategies
3. Invest in **data collection and analysis *opportunistically*** to inform discussion of strategic options

Example 2: Fairfax County

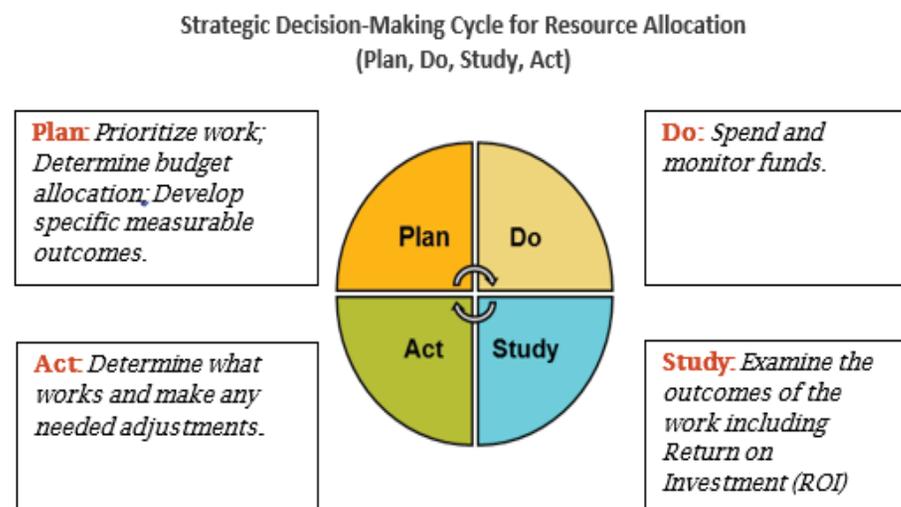
Getting granular with ROI metrics



FCPS is rolling out a Strategic Decision Making Cycle to be leveraged in central office and in schools

SDMC focuses on resource use and leverages ROI throughout:

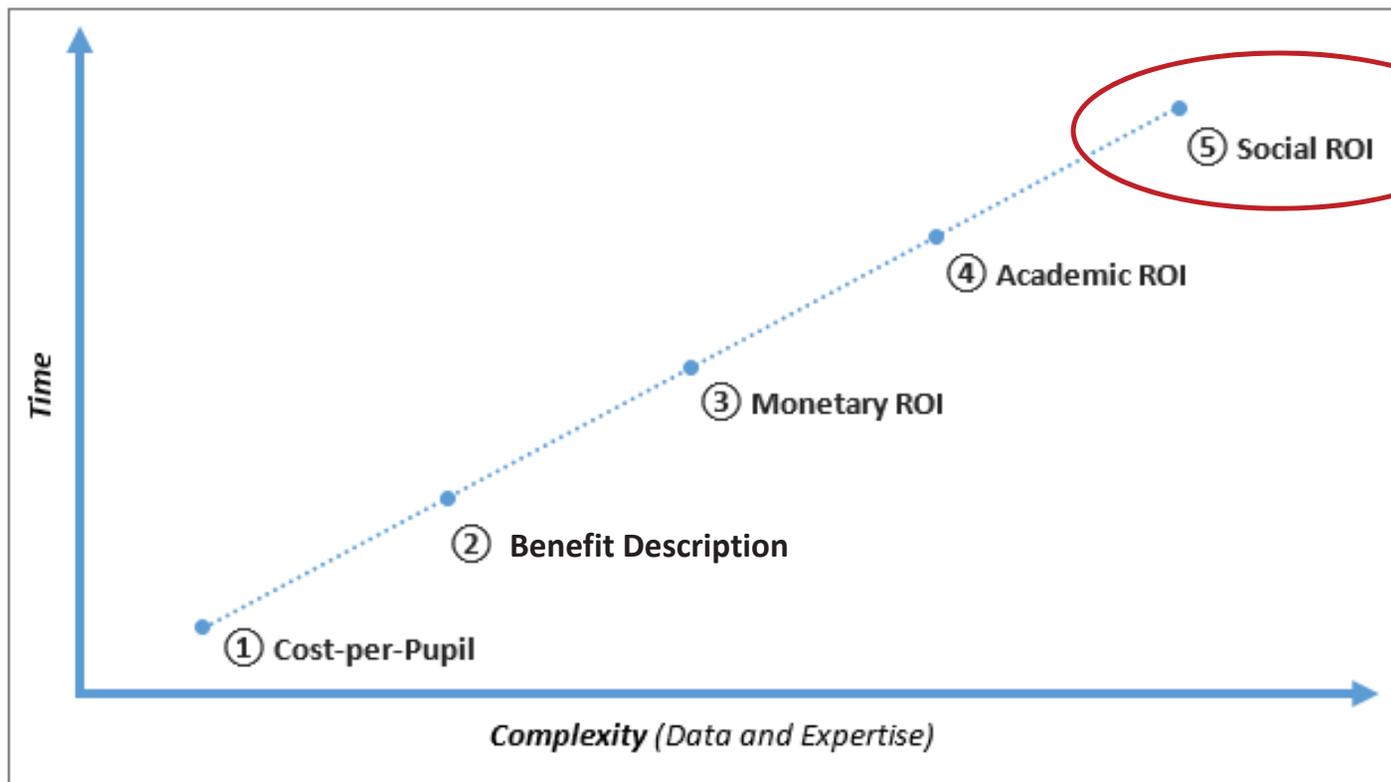
- Plan- identifying and aligning the most critical resources to current strategic aims
- Do- Allocating and monitoring the use of funds toward specific aims
- Study-Monitoring and communicating the impact of resources
- Act- Adjusting resource allocations for the subsequent years based on impacts



FCPS has laid out a path of approaches that start seek to combine spend and impact information

ROI Approach	Typical Question Answered
Cost-per-Participant	What amount of funds is spent in relation to the number of participants?
Benefit Description	What benefits are expected from an expenditure and have the benefits been observed?
Monetary ROI	Is the expenditure contributing to actual cost savings (current) or estimated cost avoidance (future)?
Academic ROI	Which academic benefits have been observed after funding and how do they compare to similar expenditures within the Division, outside the Division, or to pre-determined baselines?
Social ROI	What are the monetary, social, and community benefits associated with specific expenditures and how can we compare these benefits to each other?

Each ROI approach is increasingly difficult to measure

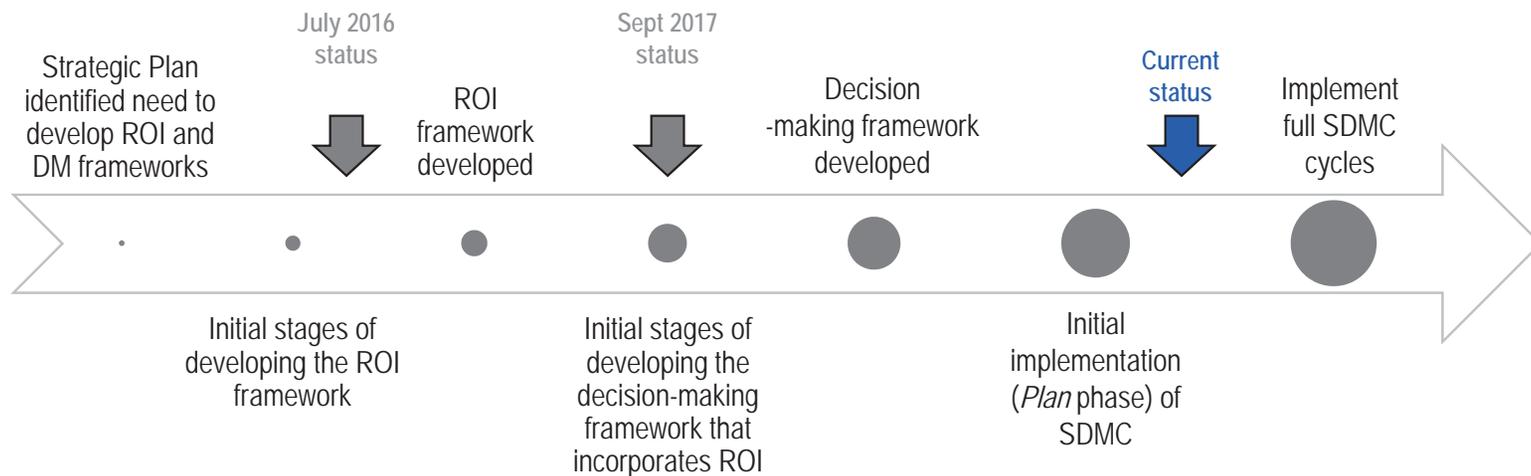


Social ROI is long-term goal

Social ROI evaluates a combination of monetary, academic, and community outcomes to assess the full impact of funds spent

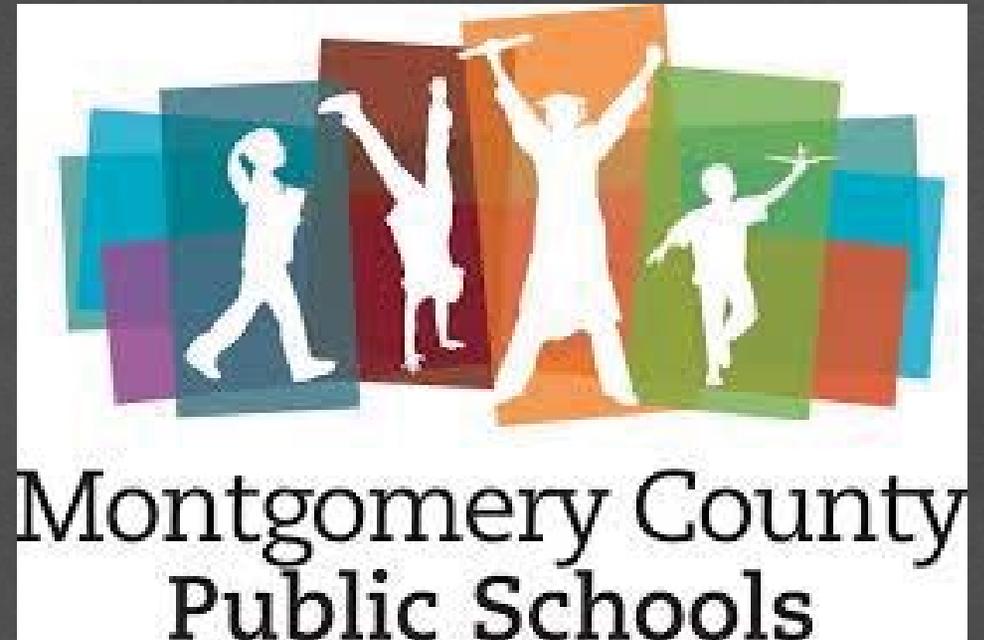
Advantages	Challenges
<ul style="list-style-type: none">• Standardizes both monetary and non-monetary outcomes in order to evaluate the total impact of specific expenditures• Can evaluate multiple outcomes at once• Does not require a point of comparison, such as a similar program, another school or division, or a pre-determined expected value	<ul style="list-style-type: none">• Requires expertise regarding how to convert non-monetary outcomes into monetary proxies; requires consensus regarding how much monetary value to place on each non-monetary outcome• Difficult for a lay audience to understand• Requires the largest investment of time, information/resources, and expertise; may require an external economic consultant to fully execute

FCPS spent the last two years developing the ROI and decision-making frameworks...they are now implementing the full SDMC cycles



Example 3: Montgomery County

Building the muscle: Analyzing programs and services from the lens of efficiency and effectiveness



Montgomery County piloted a cross-departmental process for assessing ROI of various investments

Departmental Directors:

- Attend **training meeting** to learn about assessing efficiency and effectiveness
- Select a component (program or service) to study
- Identify data related to the component for analysis
- Determine plan for collecting data
- Share selected component and plan for analysis with Budget Specialist
- Implement plan and report findings
 - Monthly financial monitoring meetings
 - Submit post-analysis plan to Budget Specialist 3 months from training meeting (done at regular intervals to ensure investments still make sense from ROI perspective)

Montgomery County anchors ROI conversations in two essential questions:

Efficiency

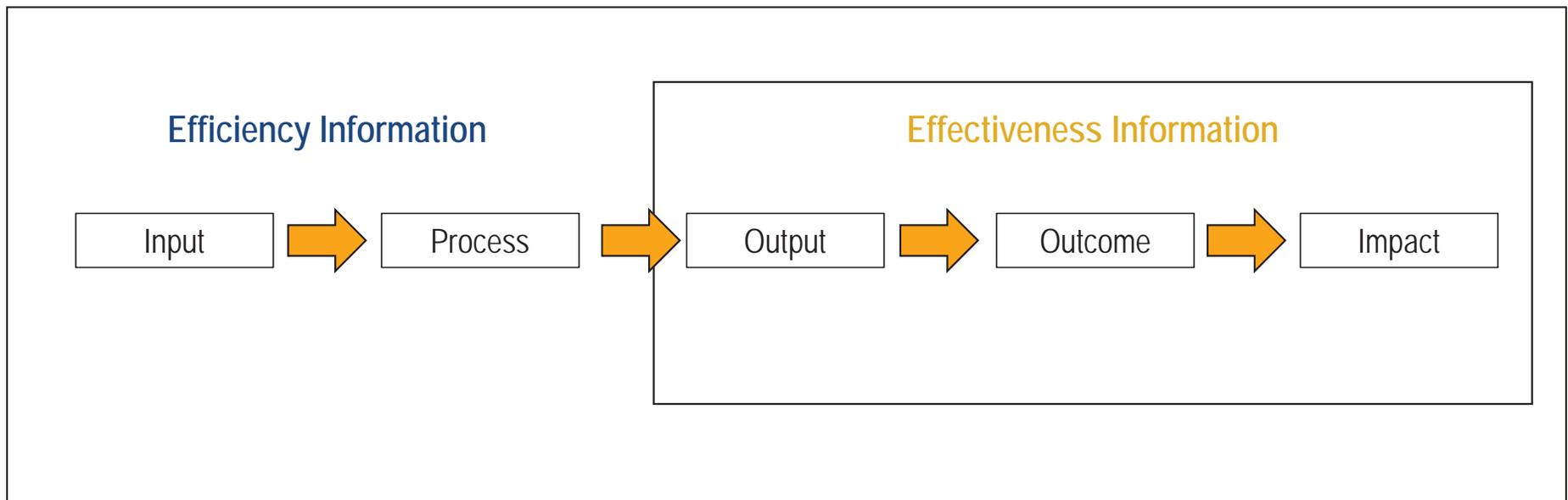
Are we
doing
things
right?



Effectiveness

Are we
doing the
right
things?

They assess programs and services by identifying key metrics along the delivery chain



And continuously gather data to monitor progress

EFFICIENCY

- How much are we spending on this service/program in time, money, staffing, etc. (**input**)?
 - What is the cost per student?
 - What is the cost per student, per day/hour?
- How do the components of the program/service affect the cost?
- How many stakeholders are we impacting by providing the service/program?
- How are we providing the service/program (**process**)?
 - Are we providing it in the right manner?
 - Is there a different way that we can provide this same service/program?

EFFECTIVENESS

- Are we providing the right service/program? How do we know?
- What are the **outputs** of the service/program compared to our expectations?
- What are the expected **outcomes** of providing the service/program?
 - Did we achieve the expected outcomes?
- What **impact** is the service/program having (student outcomes, opportunities, etc.)?
 - Is the impact what we expected?
- Is this an effective use of funds? How do we know?



Programs and services should be effective and efficient

Pursuit of Appropriate Goals/ Doing Right Things	Effective	Pursuing right goals, but inefficient (cost are high – the system exists)	Pursuing right goals and efficient (high-ROI, cost-efficient, the system thrives)
	Ineffective	Pursuing wrong goals and inefficient (not producing enough and are expensive, the system in an expensive failure)	Pursuing wrong goals, but is efficient (not producing enough, but low cost, the system is in control of costs but fails to succeed)
		Inefficient	Efficient

Use of Resources/Doing Things Right

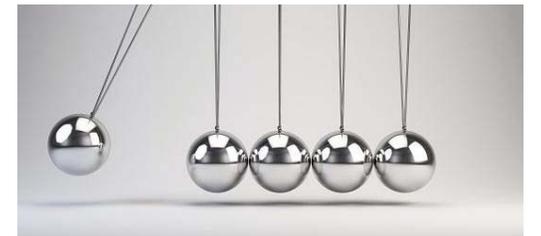
Example 4: Boston

Using ROI as a lever to build public engagement in the budget and an understanding of where dollars are going

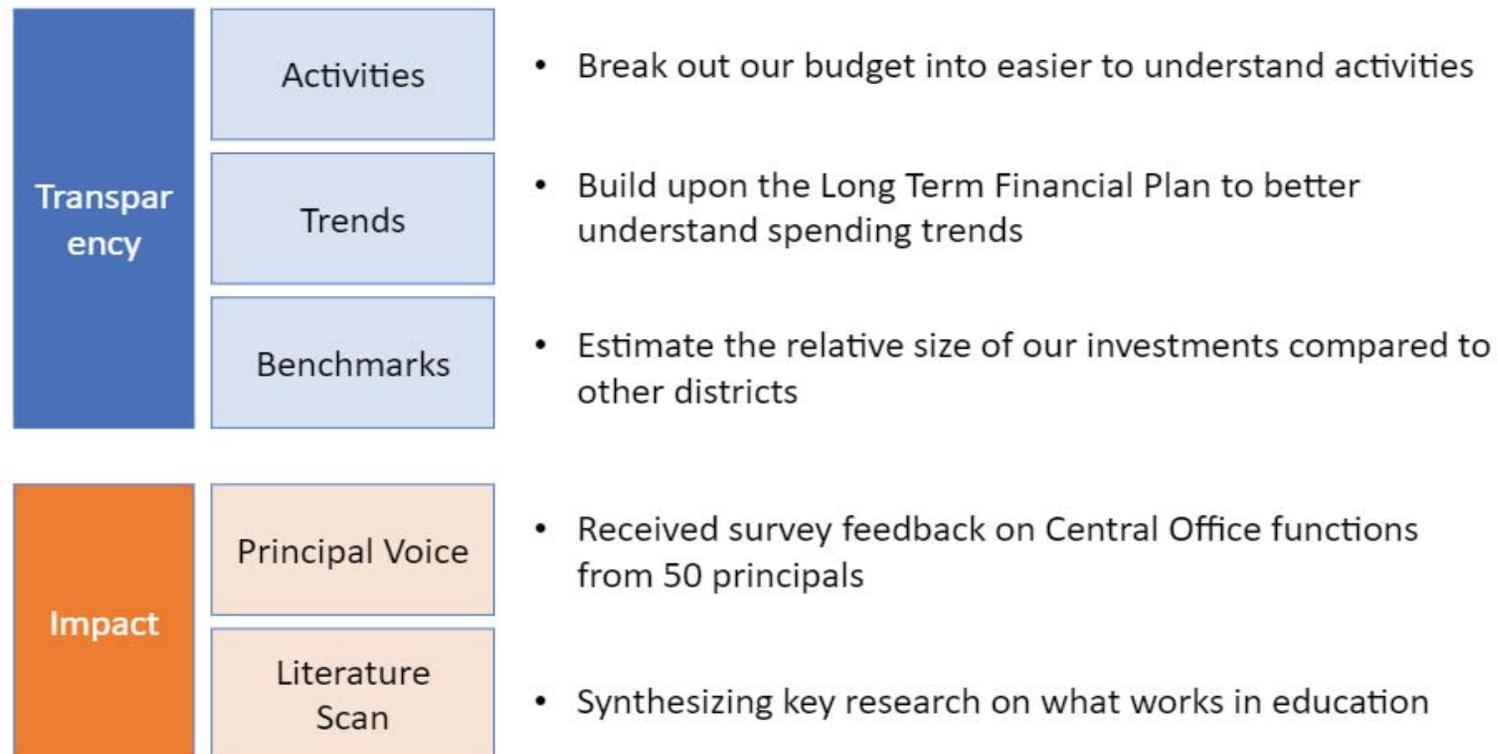


Boston is seeking to increase transparency into spending and assess impact of central functions

- **Transparency-** All stakeholders can easily understand where we spend our money, to encourage rich public engagement on the BPS budget and enable decision-making
- **Impact-** We combine clear and transparent data with what we know about what works, to put our dollars towards the highest impact investments for children



Boston is seeking to increase transparency into spending and assess impact of central functions



For transparency, this includes breaking down departments into discrete activities/services they provide schools

Activities- and the specific dollars amounts budgeted for each activity- were defined by each central office department.

From those activities, the finance team distilled ~60 broad initiatives for further analysis

10,000 Budget Lines

The operating budget is comprised of 8,000 budget lines, including school budgets

200-300 Activities

Organized 3,000+ central budget lines into Activities

60 Initiatives

Created broader categories more easily comparable across districts (e.g. rolling up the activities within IT)

Varying Metrics

- ~50 activities have cost benchmarking
- ~50 activities have principal feedback
- ~30 initiatives have research

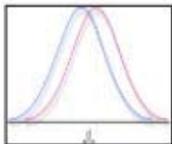
They are using national research as part of the effort to assess impact...



The research process involved **identifying testable interventions** within the list of activities and search the **Harvard Library System** for studies; additionally, we scanned 1,500 recent articles from top education journals



All studies selected were **causal, internally valid**, and met the standards of evidence laid by the **US Department of Education**



For each study, we tracked the intervention's **significance** and the **direction** and **magnitude of impact**; effect sizes were normed on a **1-5 scale**



For a given activity, we determined if there were **multiple studies** in a different locations, populations, or time periods showing **similar results**

...And asking principals to assess ~50 central activities/programs for performance and satisfaction

