Evaluation of the School District of Philadelphia's Renaissance Initiative and Turnaround Network

Findings from the study's third year

August 10, 2020

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Overview: Year 1

Year	Key study activities
1 (2017-2018)	• Literature review • Implementation analysis to understand context and supports for Renaissance Initiative schools during 2016-2017 and 2017-2018, and the extent to which the efforts align with literature

Literature review identified five areas of focus for school improvement.

The implementation study found that:

- Administrators in some–but not all–schools regularly communicated a vision of collaboration and shared responsibility for the whole school's success.
- Some turnaround supports could be more effective with increased collaboration or differentiation.
- Addressing behavior and trauma remains paramount to improving student academic achievement.
- Programming and resources that demonstrate a school's mission to support students and families have largely resolved initial community resistance.

We presented these findings to Dr. Hite and the leadership team in July 2018.

Overview: Year 2

Year	Key study activity
2 (2018-2019)	• Examine impact of entering the Renaissance Initiative in 2016-2017 (two Renaissance Charters and five district-run turnaround schools) on school- and student-level outcomes after two years

For the seven schools that entered the Renaissance Initiative in 2016-2017, we found:

- Improved overall SPR scores, improved climate scores, and improved progress scores over two years.
- Suggestive evidence that the Renaissance Charter model was more effective at improving climate than the district-run turnaround model.

For students in the five district-run turnaround schools that entered the Renaissance Initiative in 2016-2017, impact estimates on behavior and academic outcomes were generally imprecise, and we can't rule out positive or negative impacts.

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We presented these findings to Dr. Hite and the leadership team in July 2019.

Final presentation: Year 3

Year	Key study activities
3 (2019-2020)	• Update Year 2 analysis • Broaden impact analysis to include schools becoming Promise Academies or Renaissance Charters in 2013-2014 or that joined the Acceleration Network in 2017-2018 • Conduct cost study

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A date for a presentation of these findings for Dr. Hite and for the Board is pending.

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School-level impact analysis: 3 cohorts of schools, for a total of 17 schools

Research question 1: Was there an impact on SPR scores among all schools, relative to the comparison group?

School year of transition	Renaissance Charter schools	District-run turnaround schools
2013-2014	3 schools become Renaissance Charters James Alcorn School (Universal) Kenderton School (Young Scholars; Renaissance Charter status ended in 2016-2017) **Francis P. Pastorius School (Mastery)	4 schools become district-run Promise Academies John Barry School *William C. Bryant School Morton McMichael School Cayuga School (Promise Academy status ended in 2016-2017)
2016-2017	2 schools become Renaissance Charters Samuel B. Huey School (GLA) **John Wister School (Mastery)	5 schools become district-run Turnaround Network schools *S. Weir Mitchell School E. Washington Rhodes School *Honorable Luis Munoz-Marin School Theodore Roosevelt School *Jay Cooke School
2017-2018	No schools become Renaissance Charters	3 schools become district-run Acceleration Network schools Rudolph Blankenburg School Edward Heston School John Marshall School

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* These schools are also included in the cost analysis case study.
** Mastery responded to questions about these schools for the cost study.

Methods

Evidence indicates that transitioning to a district-run turnaround school or Renaissance Charter school caused the SPR measure of climate to improve

SPR outcome measure	Was there an impact on SPR scores among all schools, relative to the comparison group?
Overall SPR score	No evidence of impact
Climate score	Evidence of an impact
Progress score	No evidence of impact
Achievement score	No evidence of impact

Treatment schools: 3 cohorts of schools that transitioned to a district-run turnaround school or a Renaissance Charter school between 2013-2014 and 2017-2018 (17 schools)

An impact is the causal effect of becoming a Renaissance Charter or district-run turnaround school relative to the comparison group.

See here for a list of comparison schools.

Impact is statistically significant at the 5 percent level.

Research question 2: Is there evidence that Renaissance Charters were more effective than district-run turnaround schools?

School year of transition	Renaissance Charter schools	District-run turnaround schools
2013-2014	3 schools become Renaissance Charters James Alcorn School (Universal) Kenderton School (Young Scholars; Renaissance Charter status ended in 2016-2017) **Francis P. Pastorius School (Mastery)	4 schools become district-run Promise Academies John Barry School *William C. Bryant School Morton McMichael School Cayuga School (Promise Academy status ended in 2016-2017)
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Methods

Evidence indicates that Renaissance Charters were more effective at improving climate than district-run turnaround schools

SPR outcome measure	Is there evidence that Renaissance Charters were more effective than district-run turnaround schools?
Overall SPR score	No evidence of difference in impacts
Climate score	Evidence that Renaissance Charter schools had more favorable impact than district-run turnaround schools
Progress score	No evidence of difference in impacts
Achievement score	No evidence of difference in impacts

Difference in impact across groups is statistically significant at the 5 percent level.

Treatment schools

1. Schools that transitioned to **Renaissance Charters** in 2013-2014 and 2016-2017 (5 schools)

2. Schools that transitioned to **district-run turnaround schools** in 2013-2014, 2016-2017, and 2017-2018 (12 schools)

For each group, we calculated the difference in outcome between the treatment and their comparison group. Then we compared the Renaissance Charter difference to the district-run turnaround school difference.

See here for a list of comparison schools.

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Research question 3: Is there evidence that any cohort was more effective than the others?

School year of transition	Renaissance Charter schools	District-run turnaround schools
2013-2014	3 schools become Renaissance Charters James Alcorn School (Universal) Kenderton School (Young Scholars; Renaissance Charter status ended in 2016-2017) **Francis P. Pastorius School (Mastery)	4 schools become district-run Promise Academies John Barry School *William C. Bryant School Morton McMichael School Cayuga School (Promise Academy status ended in 2016-2017)
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** Mastery responded to questions about these schools for the cost study.

Methods

Evidence indicates that schools in the 2013-2014 and 2016-2017 cohorts were more effective at improving climate compared with the 2017-2018 cohort, and that schools in the 2013-2014 cohort have been more effective at improving achievement than the two other cohorts

SPR outcome measure	Is there evidence that any cohort was more effective than the others?
Overall SPR score	No evidence of difference in impacts
Climate score	Evidence of differences, with 2013-2014 and 2016-2017 cohorts performing better than the 2017-2018 cohort
Progress score	No evidence of difference in impacts
Achieve-ment score	Evidence of differences, with the 2013-2014 cohort performing better than the 2016-2017 and 2017-2018 cohorts

Difference in impact across groups is statistically significant at the 5 percent level.

Treatment schools

1. Schools that transitioned to district-run turnaround or Renaissance Charters in **2013-2014 (7 schools)**
2. Schools that transitioned to district-run turnaround or Renaissance Charters in **2016-2017 (7 schools)**
3. Schools that transitioned to district-run turnaround or Renaissance Charters in **2017-2018 (3 schools)**

For each group, we calculated the difference between the treatment group and their comparison group. Then we compared the difference of each cohort to each other.

See here for a list of comparison schools.

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Student-level impact analysis: 5 district-run turnaround schools transitioning in 2016-2017

We used student-level data to examine effects on student achievement, suspensions, and absences for this cohort.

School year of transition	Renaissance Charter schools	District-run turnaround schools
2013-2014	3 schools become Renaissance Charters James Alcorn School (Universal) Kenderton School (Young Scholars; Renaissance Charter status ended in 2016-2017) **Francis P. Pastorius School (Mastery)	4 schools become district-run Promise Academies John Barry School *William C. Bryant School Morton McMichael School Cayuga School (Promise Academy status ended in 2016-2017)
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2017-2018	No schools become Renaissance Charters	3 schools become district-run Acceleration Network schools Rudolph Blankenburg School Edward Heston School John Marshall School

We found no overall effects, but evidence indicates that lower-achieving students benefited more than higher-achieving students in those schools.

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** Mastery responded to questions about these schools for the cost study.

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Cost study

The descriptive cost analysis examined expenditure data for 17 schools and case study data for 6 schools

Focus of analysis	Study sample (year of turnaround)	Data sources
• How schools changed how they allocated funds	17 schools across 3 cohorts (same as the impact analysis) • 12 district-run schools • 5 Renaissance Charter schools	SDP expenditure data PDE – publicly available charter school expenditure data
• Allocation of funds by schools with strong growth in school climate • Allocation of funds by schools with strong growth in academic achievement	Expenditure analysis N = 17 (above/below the median on school climate or achievement scores) Case studies of 6 schools: **District-run** • William C. Bryant (2013-14) • Honorable Luis Munoz-Marin School (2016-17) • Jay Cooke School (2016-17) • S. Weir Mitchell School (2016-17) **Renaissance Charter** (both Mastery) • Francis P. Pastorius School (2013-14) • John Wister School (2016-17)	Expenditure data and interviews • Principal interviews • Discussion with Eric BeCoats (SDP) • Discussion with Peng Chao (SDP) • Discussion with Mastery Charter leaders

We categorized detailed retrospective **school-specific** expenditure data

We sorted expenditures into three domains, which included spending to support improvements in:

- Academic achievement (general/special education)
- School climate and behavior (behavioral supports, school environment and safety)
- Improvements in both domains (administrative costs, professional development, out-of-school time)

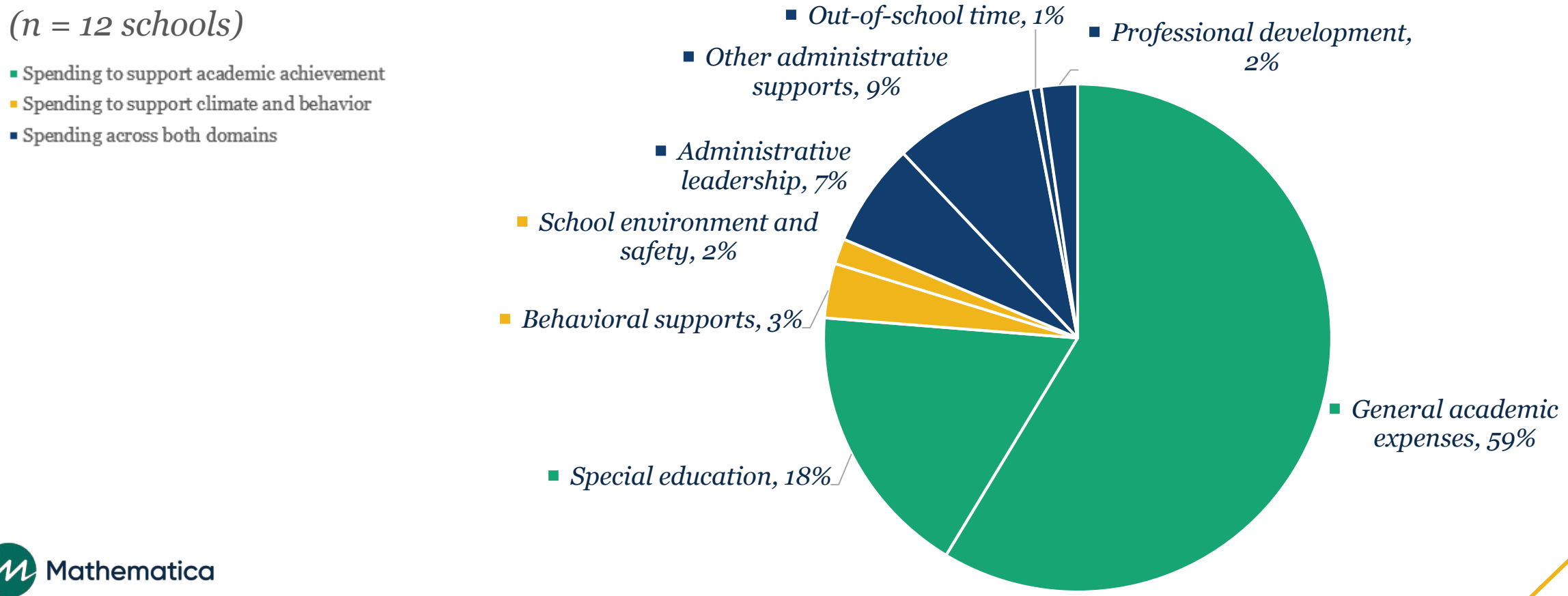
We also sorted each of these expenditures into personnel, equipment and materials, and other program expenses

Keep in mind:

- **These are primarily school-specific expenditures**. Excludes spending for schools that came out of the district's central budget (for example, certain capital expenses, districtwide professional development). Also excludes in-kind donations and possibly some grants.
- **This analysis focuses on a short time window**. The expenditure analysis focuses on the first few years following transition to turnaround (as opposed to the impact analysis previously discussed which examines longer trends, particularly for 2013-2014 Cohort).

Spending drivers were general academic programs, special education services, and administrative costs

Spending in Year 1 of Turnaround across all included district-run turnaround schools (n = 12 schools)



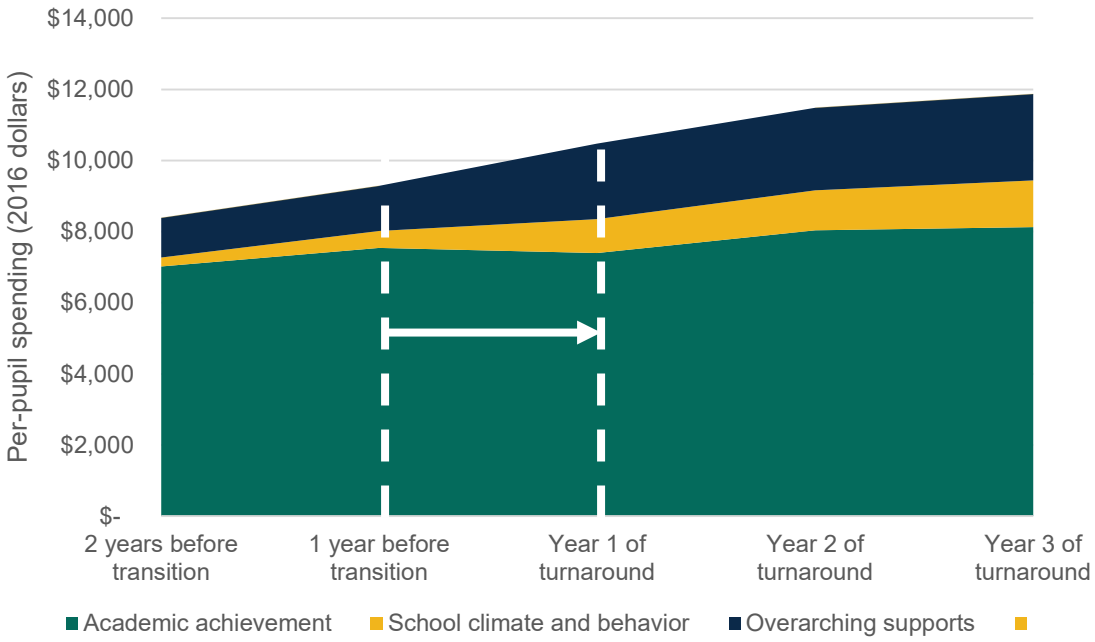
Example: Jay Cooke Elementary School per-pupil school-level spending

Snapshot in Year 1 of Turnaround

	Personnel	Equipment and materials	Other program costs	Total spending (per pupil)	Total spending	Percent of total
Spending to support improvements in academic achievement						
General academic programs	$5,723	$355	–	**$6,078**	**$2,887,214**	**58%**
Special programs	$1,323	–	–	**$1,323**	**$628,260**	**13%**
Spending to support improvements in school climate and behavior						
Behavioral supports	$584	–	–	**$584**	**$277,452**	**6%**
School environment and safety	$369	$1	–	**$370**	**$175,839**	**4%**
Spending to support improvements across both domains						
Administrative leadership	$795	–	–	**$795**	**$377,854**	**8%**
Other administrative supports	$934	$49	–	**$983**	**$466,698**	**9%**
Professional development	$78	–	$167	**$245**	**$116,376**	**2%**
Out-of-school time	$99	–	–	**$99**	**$46,985**	**1%**
Total spending (per pupil)	**$9,905**	**$404**	**$167**	$10,477		
Total spending	**$4,704,991**	**$192,443**	**$79,245**		**$4,976,680**	
Percent of total	**95%**	**4%**	**2%**			**100%**

Per-pupil school spending breakdown in the first year that Jay Cooke Elementary School became a district-run turnaround school (2016 dollars)

Spending over time



Per-pupil spending by category for Jay Cooke Elementary School over time

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Example: Jay Cooke Elementary School per-pupil school-level spending

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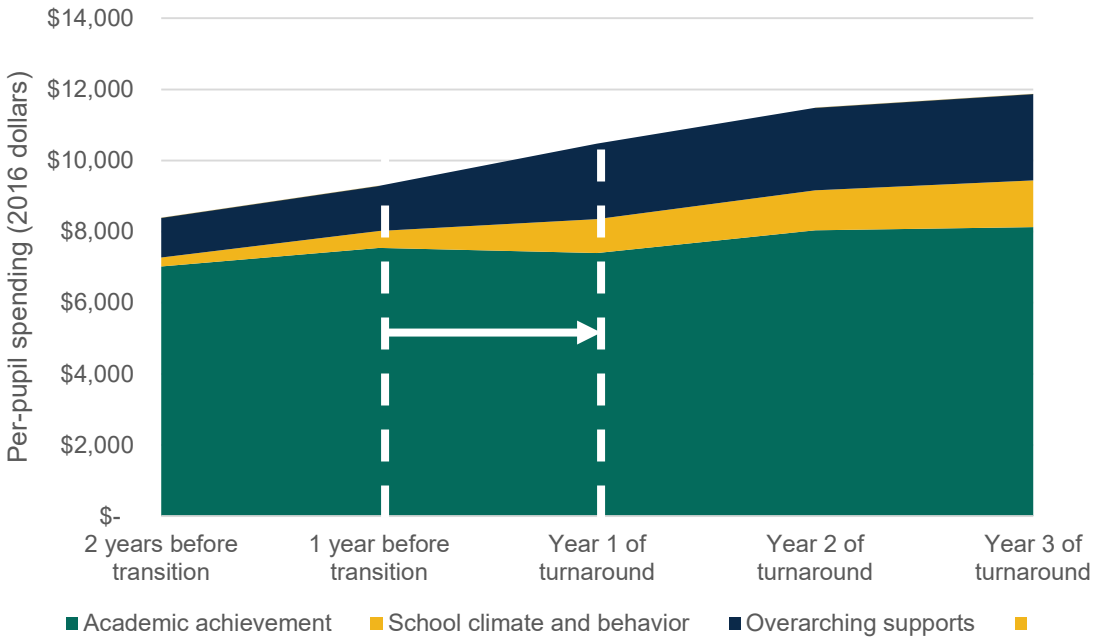
Per-pupil school spending breakdown in the first year that Jay Cooke Elementary School became a district-run turnaround school (2016 dollars)



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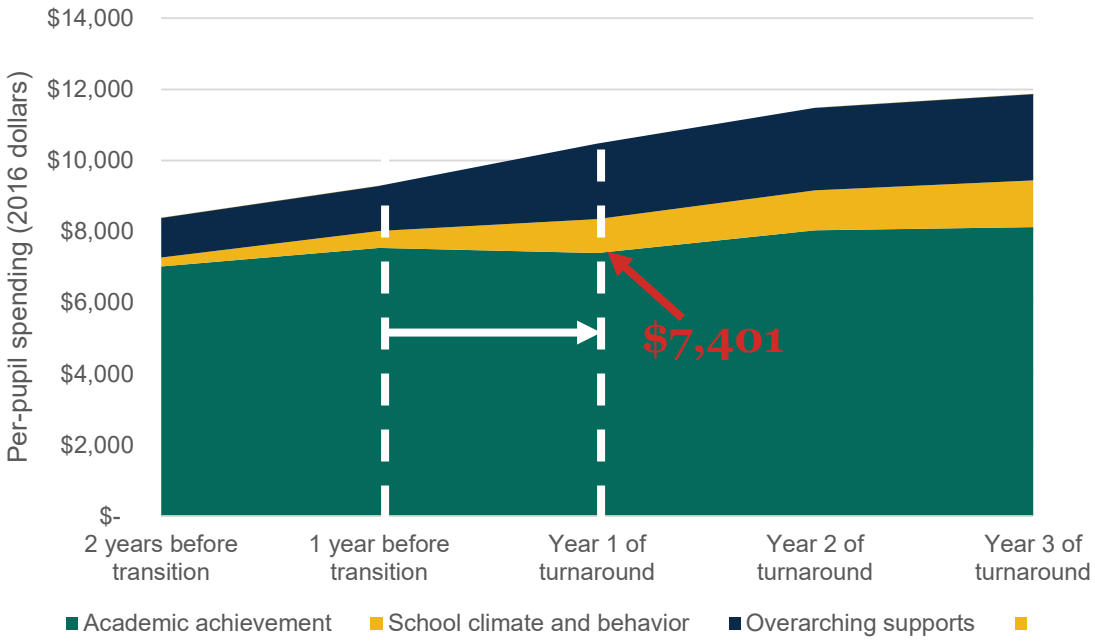
Percent of total	**95%**	**4%**	**2%**			**100%**

Per-pupil school spending breakdown in the first year that Jay Cooke Elementary School became a district-run turnaround school (2016 dollars)

After transition, Jay Cooke school invested a larger share of funds toward improvements in school climate and behavior and other administrative expenses.



Per-pupil spending by category for Jay Cooke Elementary School over time

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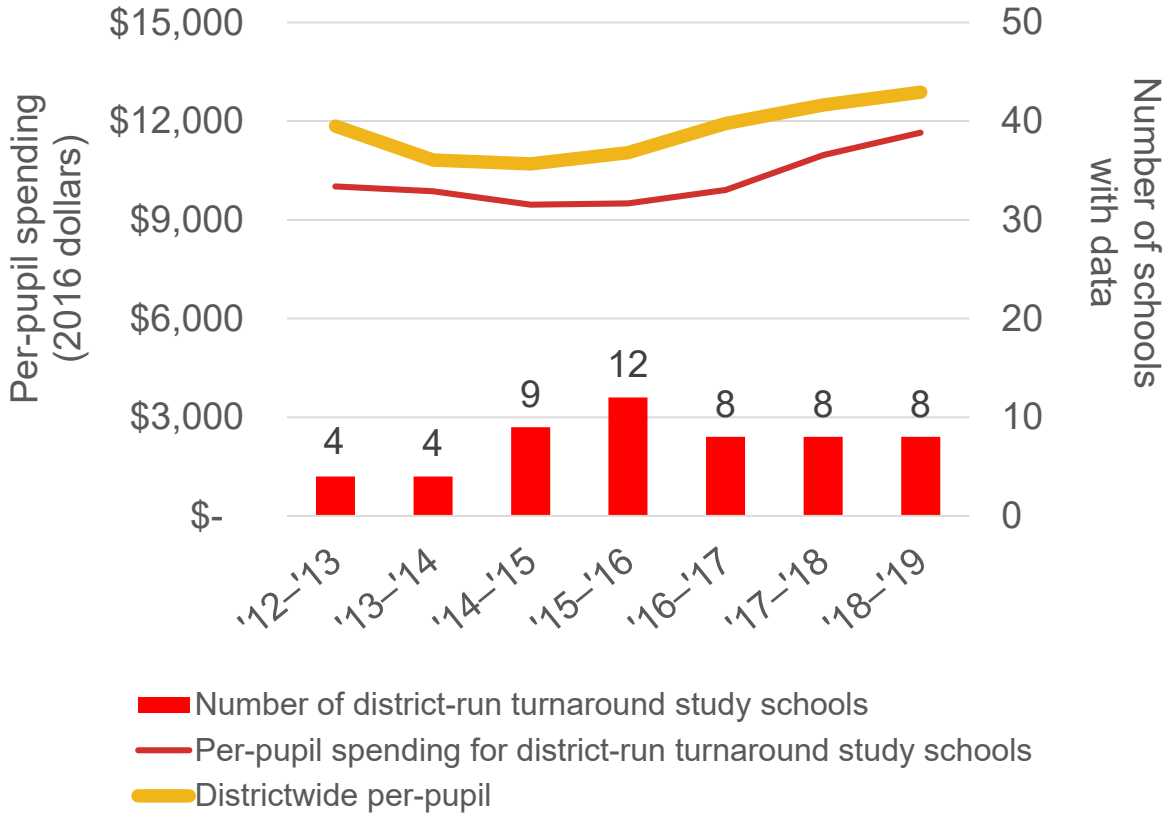
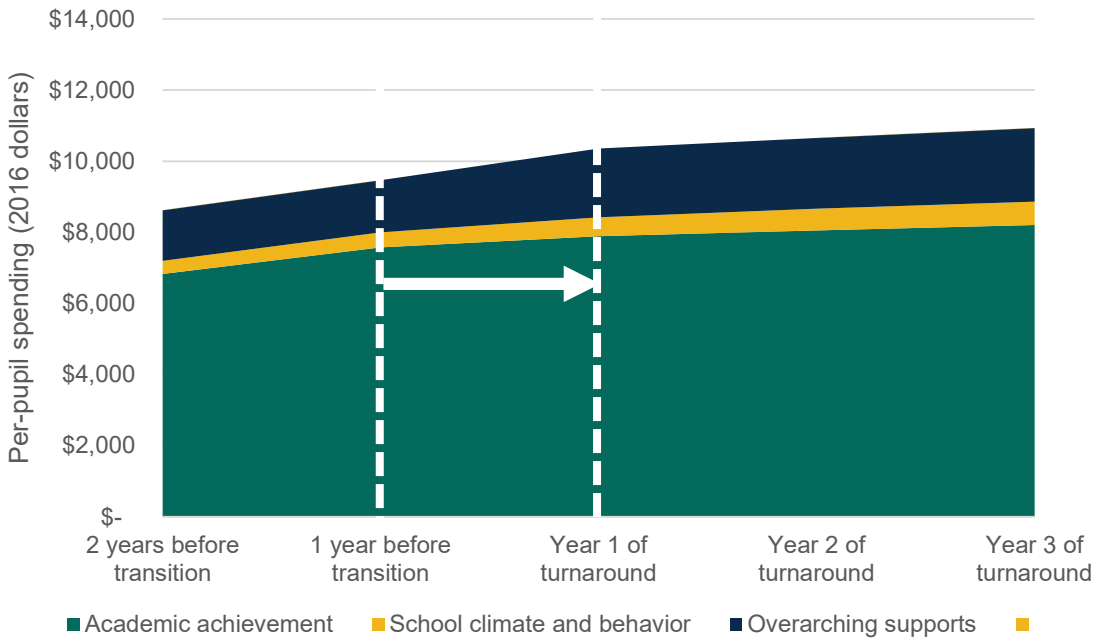
District-run turnaround school-specific spending increases were relatively steady across domains

The district contributed at least $1-2K more per pupil above the school expenditures for these schools.



For district-run turnaround schools, spending increased over time, but the proportion of spending remained relatively steady



Share of spending by domain for selected district-run turnaround schools

(n = 12 schools; excluding Year 3 of turnaround, where n = 9 schools)

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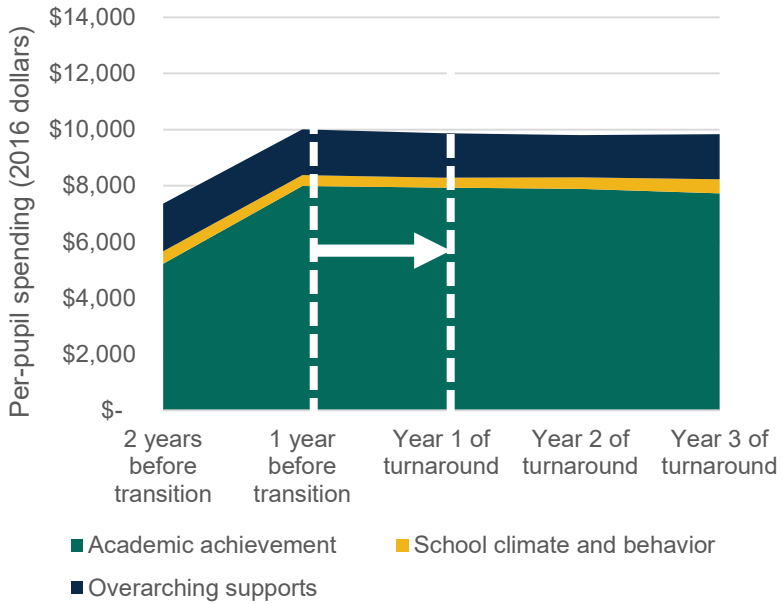
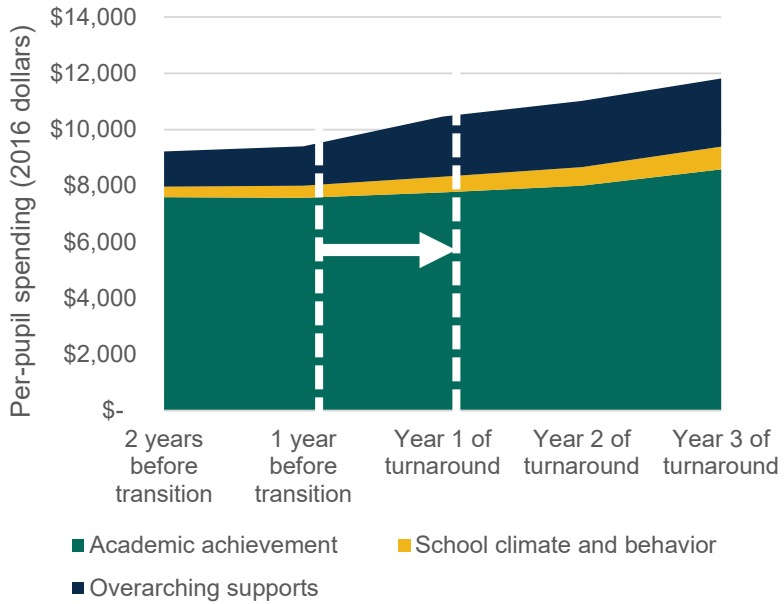
For district-run turnaround schools, spending patterns varied by cohort year of transition

Cohort 1 patterns remained flat at transition and the distribution steady over time



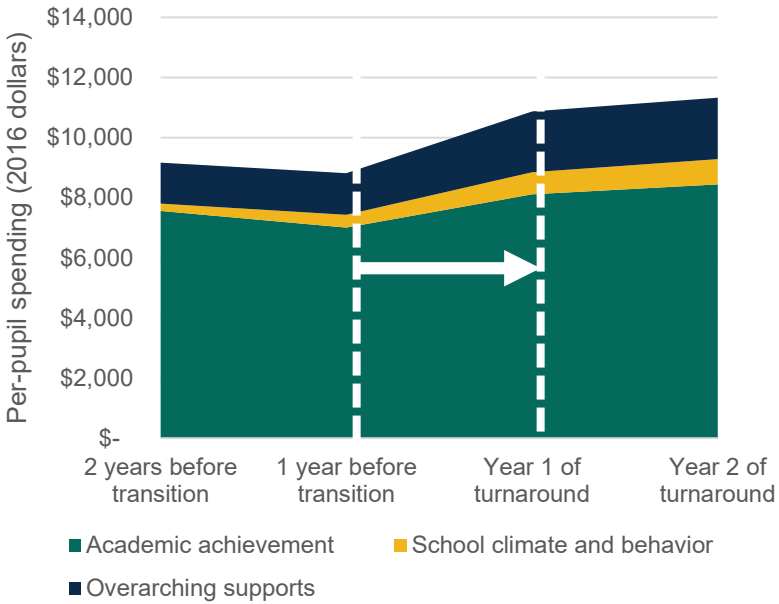
Share of spending by domain for 2013-14 cohort, Promise Academies
(n = 4 schools)

Cohort 2 increased spending, particularly increased administrative supports in Year 1, with flat spending focused on supporting academic achievement



Share of spending by domain for 2016-17 cohort, Turnaround Network schools
(n = 5 schools)

Cohort 3 had a big bump in spending in the first year of transition, with a slight increase in share of spending related to administrative supports.



Share of spending by domain for 2017-18 cohort, Acceleration Network schools
(n = 3 schools)

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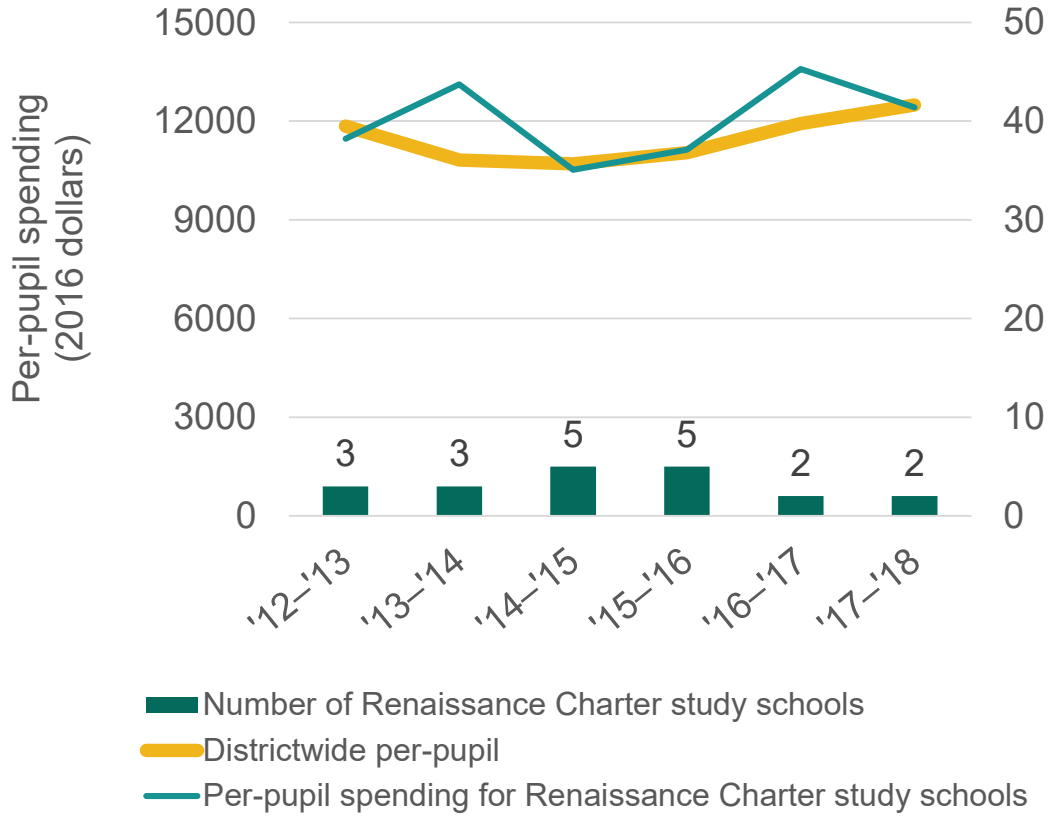
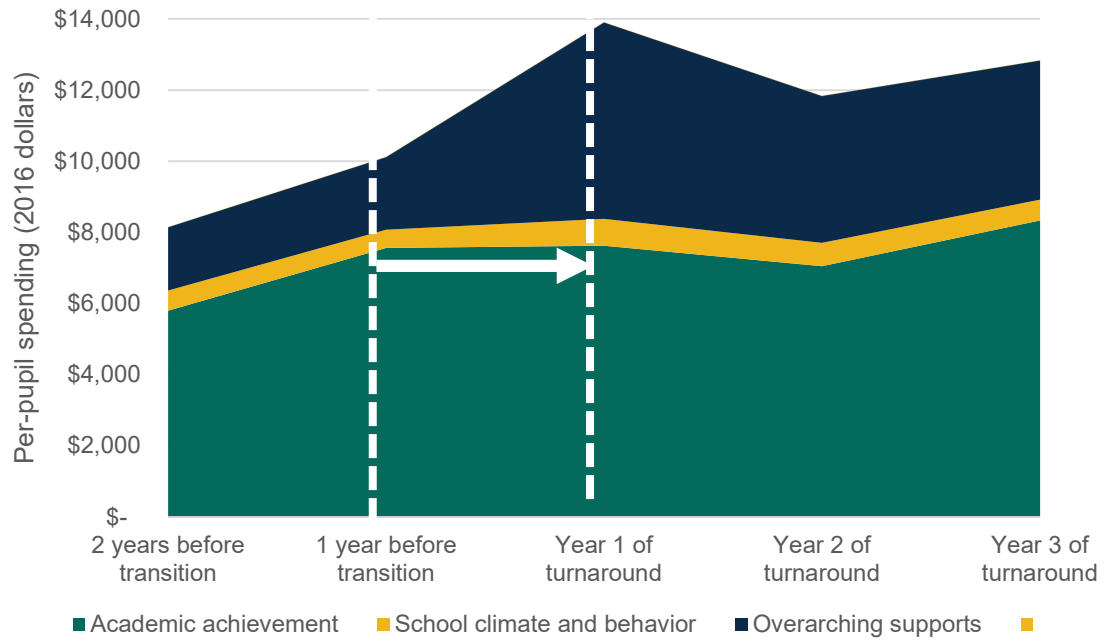
Renaissance Charters invested more in administrative costs, particularly when they first transitioned



The bulk of the increase in spending for the Renaissance Charters at transition went toward administrative supports



Share of spending by domain for selected Renaissance Charter schools
(n = 5 schools; excluding Year 3 of turnaround, where n = 3 schools)

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Allocation of funds by schools with strong growth in school climate

Did the Renaissance Charters or district-run turnaround schools that had the strongest growth in school climate allocate funds or make specific investments that are aligned with suggested best practices in improving climate? Did they allocate in different ways than other Renaissance Charters or district-run turnaround schools?

Schools above the median:

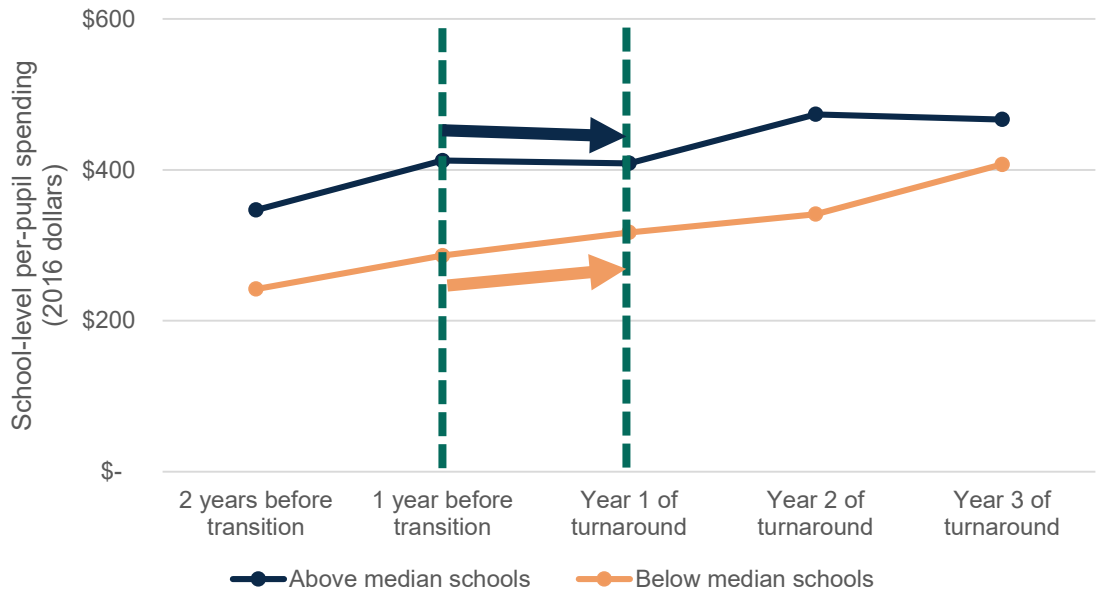
- **Bryant**
- **Cooke**
- **Marshall**
- **McMichael**
- **Munoz-Marin**
- **Roosevelt**

Schools below the median:

- **Barry**
- **Blankenburg**
- **Cayuga**
- **Heston**
- **Mitchell**
- **Rhodes**

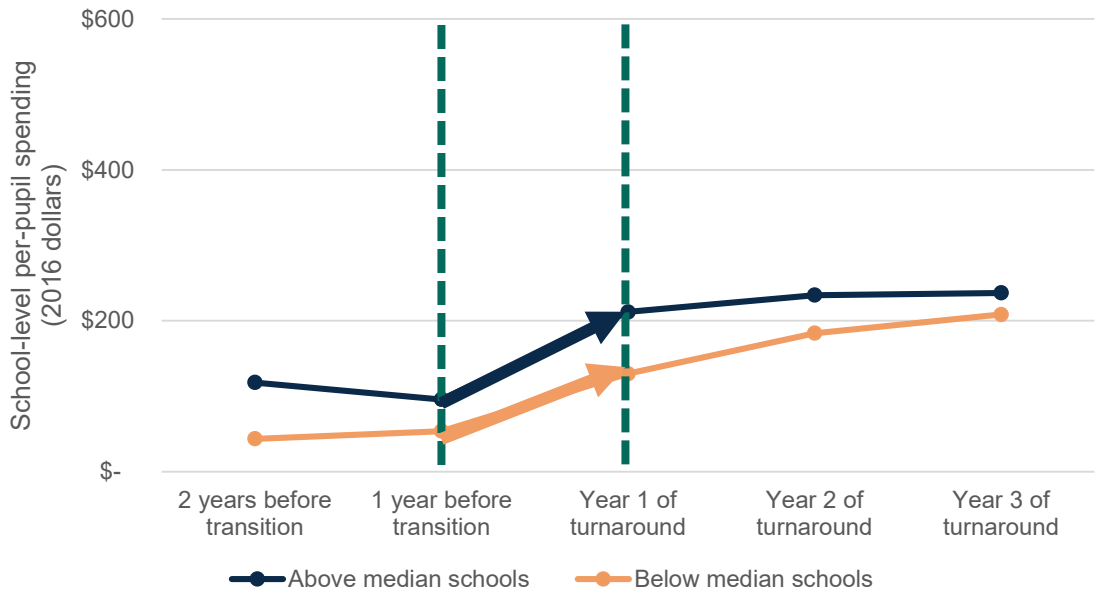
Schools with stronger improvements in school climate outcomes invested more in behavioral supports and school environment and safety

Schools above the median on climate scores consistently invested more on behavioral supports than those that were below the median.



Behavioral supports spending over time, by groupings based on improvements in school climate scores

Spending patterns on school environment and safety were more pronounced for those above the median (particularly in Year 1), but spending differences leveled over time.

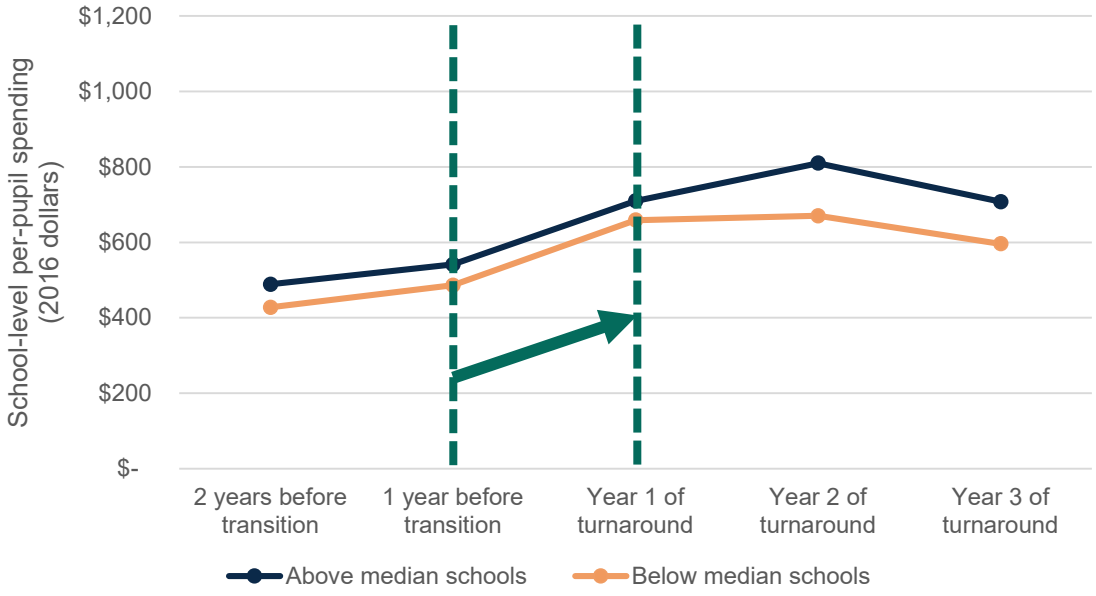


School environment and safety spending over time, by groupings based on improvements in school climate scores

Above median schools: Bryant, Cooke, Marshall, McMichael, Munoz-Marin, Roosevelt
Below median schools: Barry, Blankenburg, Cayuga, Heston, Mitchell, Rhodes

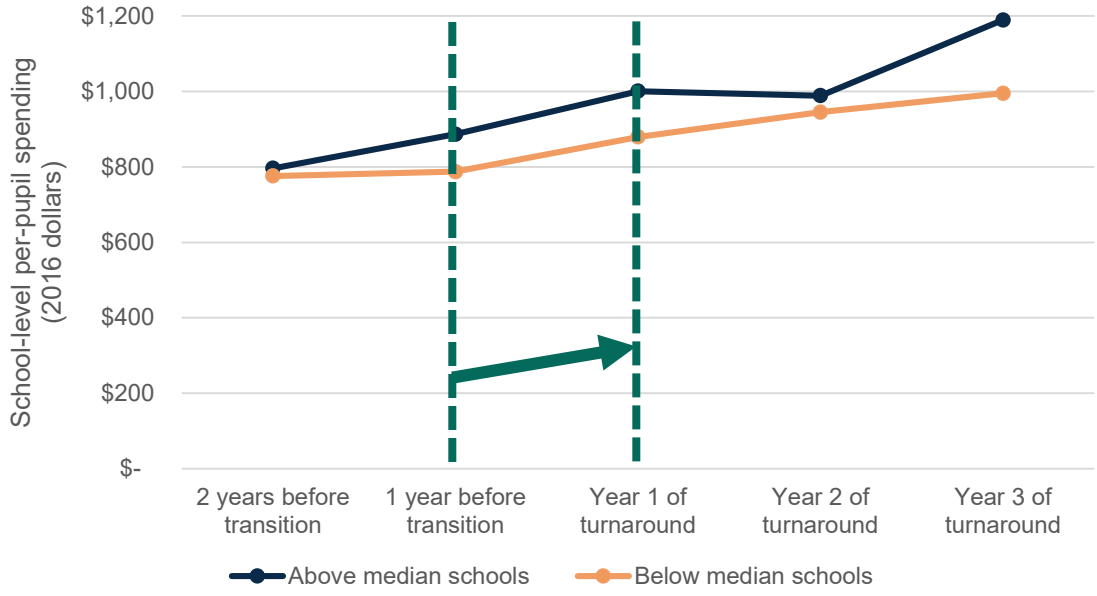
Schools with stronger improvements in school climate outcomes invested more in administrative leadership

Schools above the median on climate scores invested more on administrative leadership than those that were at or below the median, but differences were not large.



Administrative leadership spending over time, by groupings based on improvements in school climate scores

Investments in other administrative supports were similar for schools above and below the median.

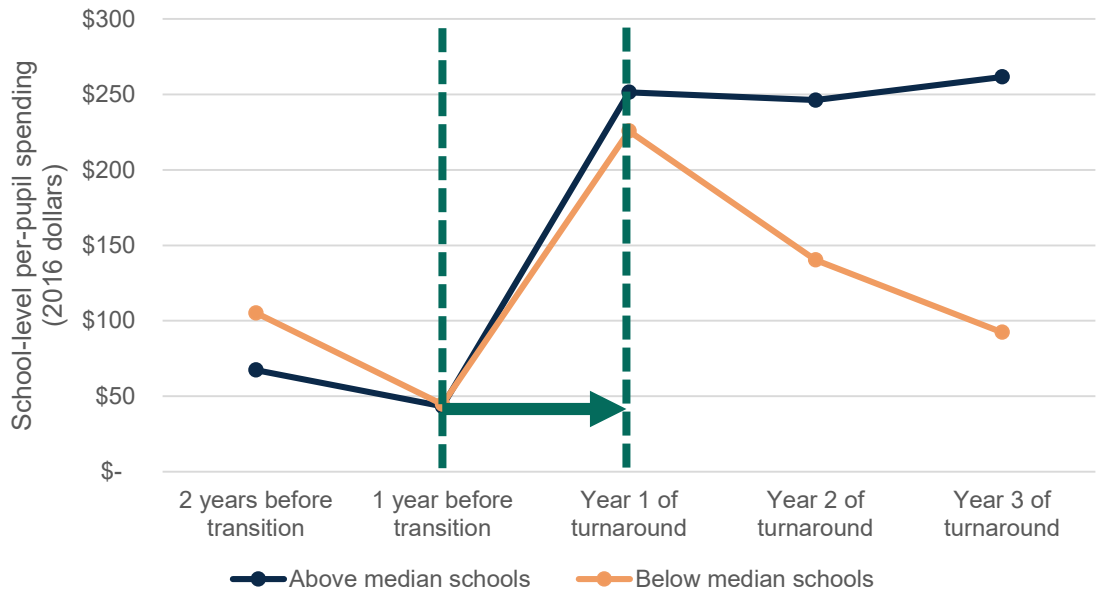


Other administrative supports spending over time, by groupings based on improvements in school climate scores

Above median schools: Bryant, Cooke, Marshall, McMichael, Munoz-Marin, Roosevelt
Below median schools: Barry, Blankenburg, Cayuga, Heston, Mitchell, Rhodes

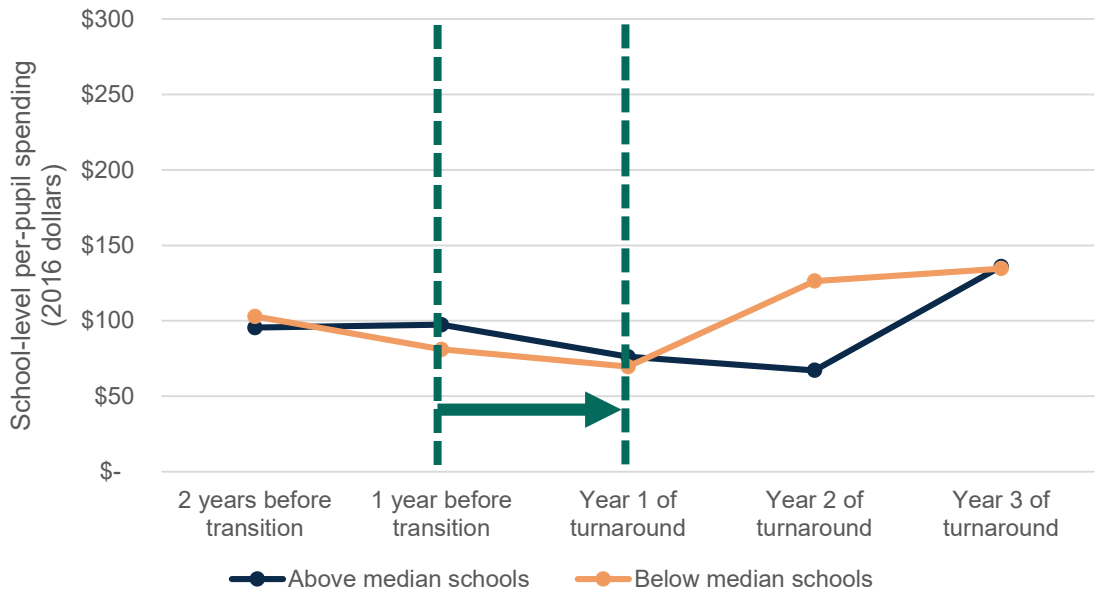
Schools with stronger improvements in school climate outcomes maintained their initial investment in professional development

Although all schools in both groups invested in professional development in Year 1, those above the median maintained that investment over time.



Professional development spending over time, by groupings based on improvements in school climate scores

Spending on out-of-school time was similar across both groups.



Out-of-school time spending over time, by groupings based on improvements in school climate scores

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Above median schools: Bryant, Cooke, Marshall, McMichael, Munoz-Marin, Roosevelt
Below median schools: Barry, Blankenburg, Cayuga, Heston, Mitchell, Rhodes

Principals reported prioritizing climate during Year 1 through hiring and reallocating staff to support climate teams, instituting new cultural and safety norms, and investing in building repairs and upgrades

Essential dimension (Thapa et al. 2013)	School leader's example
Safety	Climate managers and counselors are "the first line of defense around bullying issues, contacting parents, and problem-solving around climate issues."
Relationships	Safety is "everyone's responsibility. It's more a growth mindset than any type of financial cost."
Teaching and learning	Staff learned how to talk to students, "how to be trauma-informed."
Institutional environment	Multiple school leaders reported working with SDP to improve facilities, some reduced class sizes.
School improvement process	Increased the frequency and focus of grade level meetings. "*We put mental health at the forefront of everything we do.*"

Allocation of funds by schools with strong growth in academic achievement

Did the Renaissance Charters or district-run turnaround schools that had the strongest growth in academic achievement allocate funds or make specific investments that are aligned with suggested best practices in improving academic achievement ? Did they allocate in different ways than other Renaissance Charters or district-run turnaround schools?

Schools above the median:

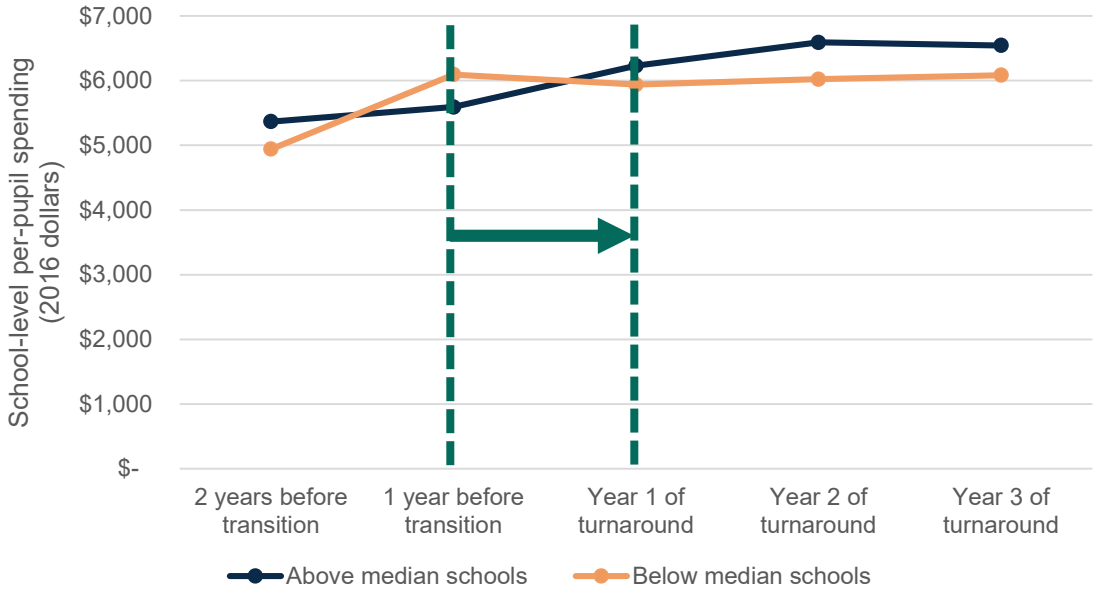
- Cayuga
- Heston
- Marshall
- McMichael
- Mitchell
- Rhodes

Schools below the median:

- Barry
- Blankenburg
- Bryant
- Cooke
- Munoz-Marin
- Roosevelt

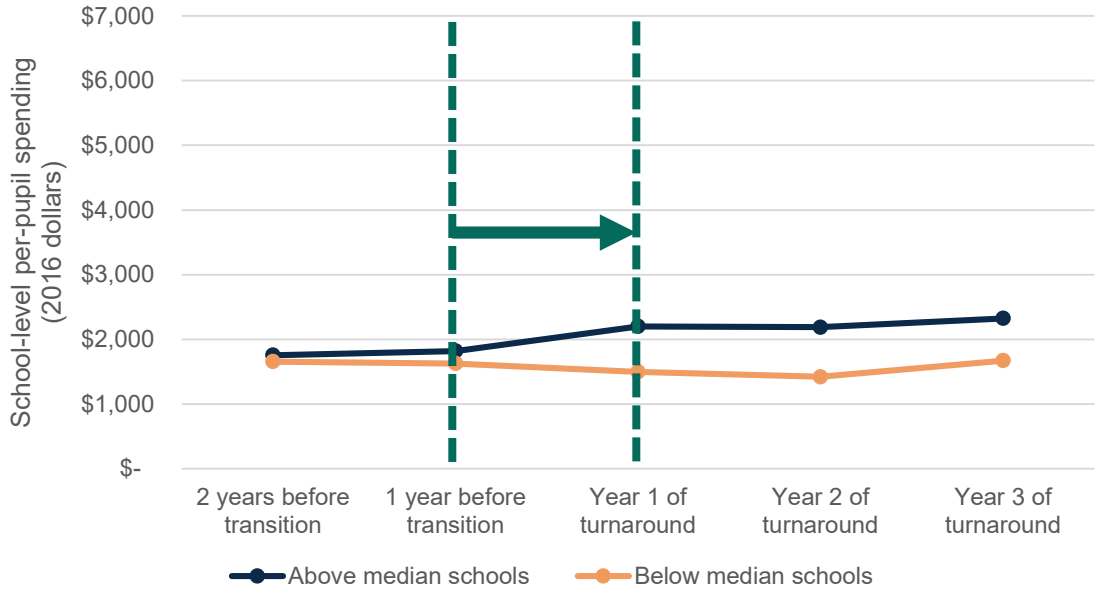
Schools with stronger improvements in academic achievement invested more on general academic and special education expenses than those below the median

In Year 1 of Turnaround, per-pupil spending for general academic expenses increased by $637 per pupil for schools above the median, with declines for those below.



General academic spending over time, by groupings based on improvements in achievement scores

In Year 1 of Turnaround, per-pupil spending for special education expenses increased by $380 per pupil for schools above the median, with declines for those below.



Special education spending over time, by groupings based on improvements in achievement scores

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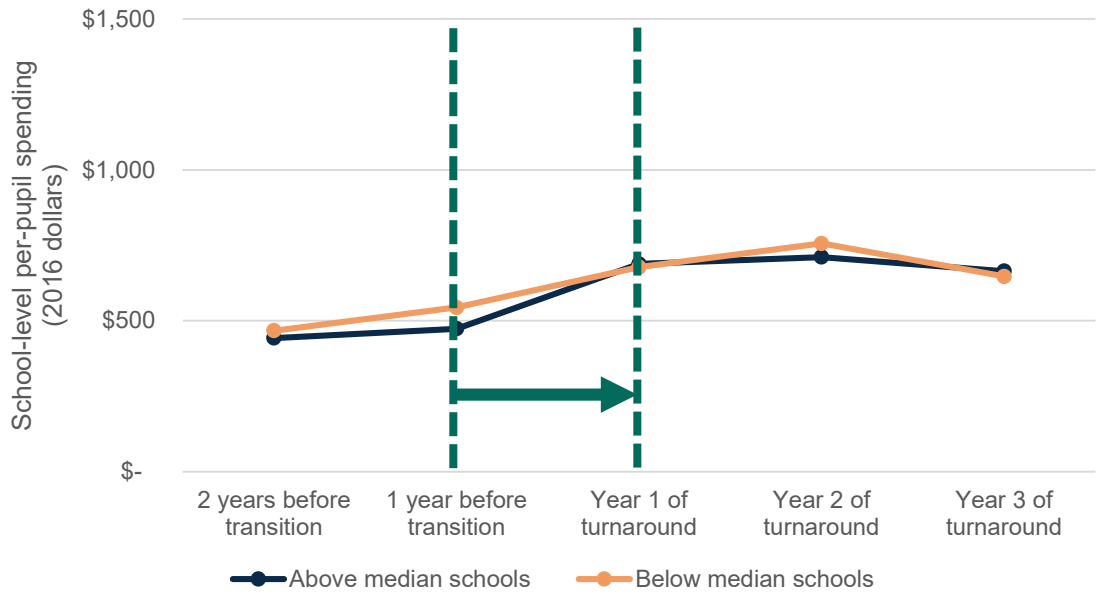
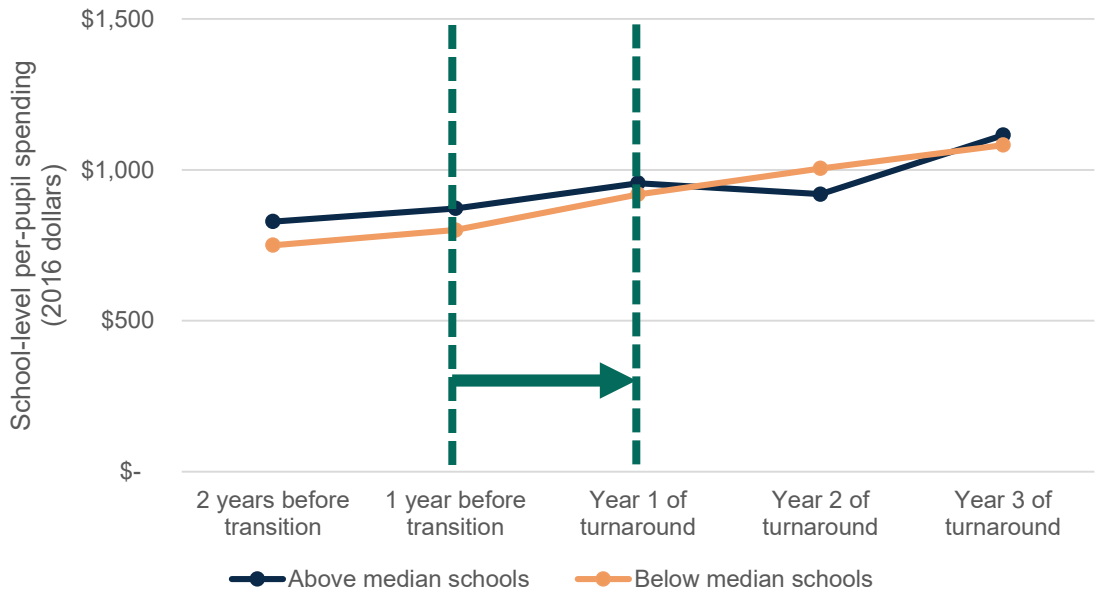
Above median schools: Cayuga, Heston, Marshall, McMichael, Mitchell, Rhodes
Below median schools: Barry, Blankenburg, Bryant, Cooke, Munoz-Marin, Roosevelt

Administrative spending patterns were nearly identical across groups



Administrative leadership spending over time, by groupings based on improvements in achievement scores



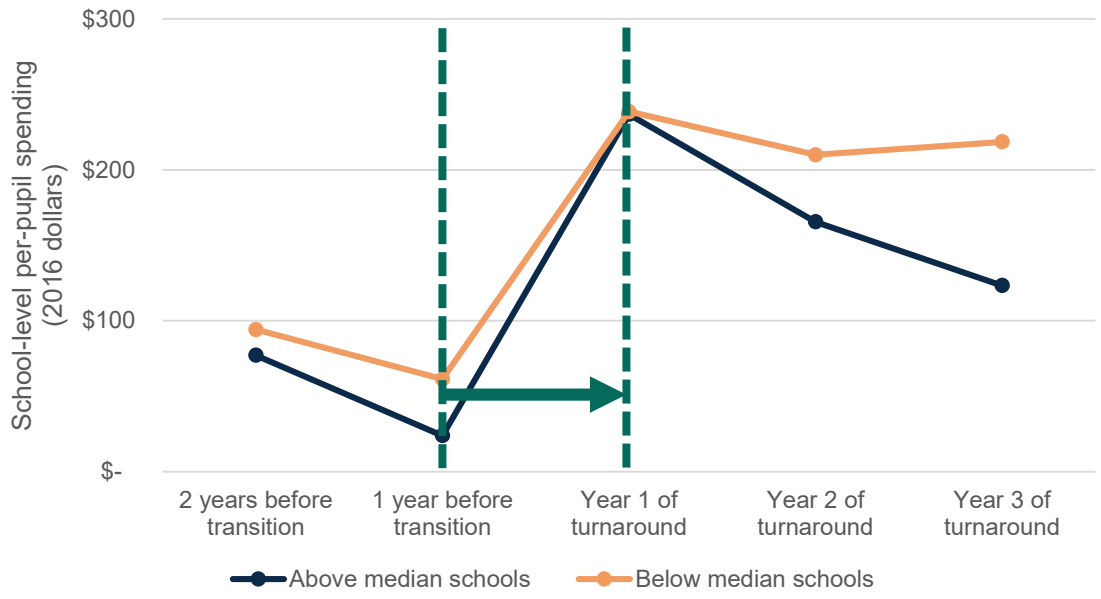
Other administrative supports spending over time, by groupings based on improvements in achievement scores

Mathematica

Above median schools: Cayuga, Heston, Marshall, McMichael, Mitchell, Rhodes
Below median schools: Barry, Blankenburg, Bryant, Cooke, Munoz-Marin, Roosevelt

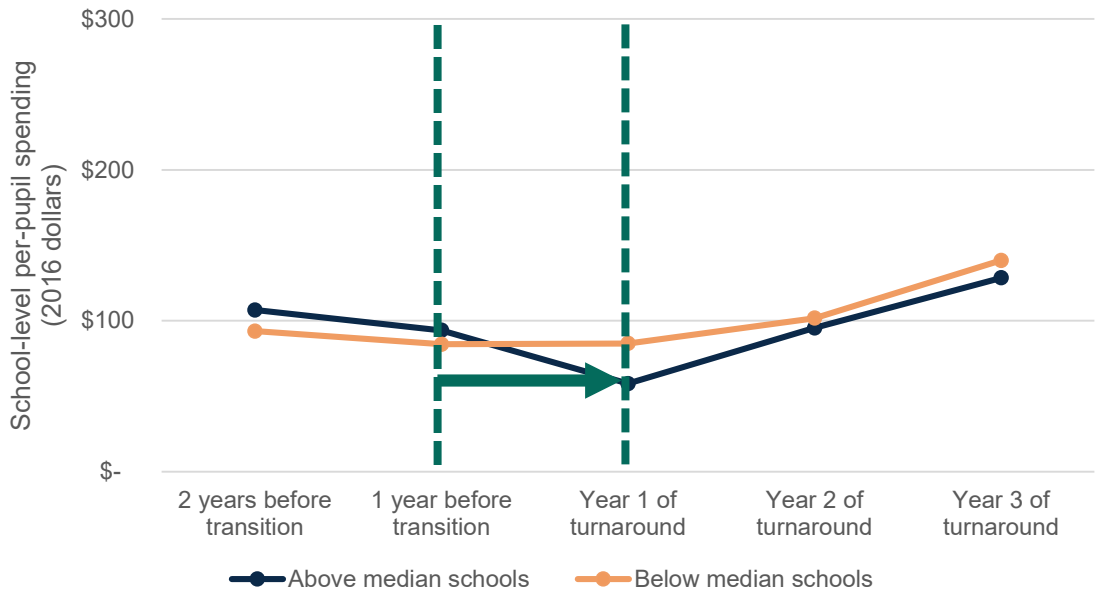
Schools below the median made more sustained investments in professional development; out-of-school time spending was similar

Both sets of schools invested in professional development in Year 1, and schools below the median maintained that investment.



Professional development spending over time, by groupings based on improvements in achievement scores

Spending on out-of-school time was similar across groups. Those above the median reduced spending in Year 1, but both groups increased spending following Year 1.

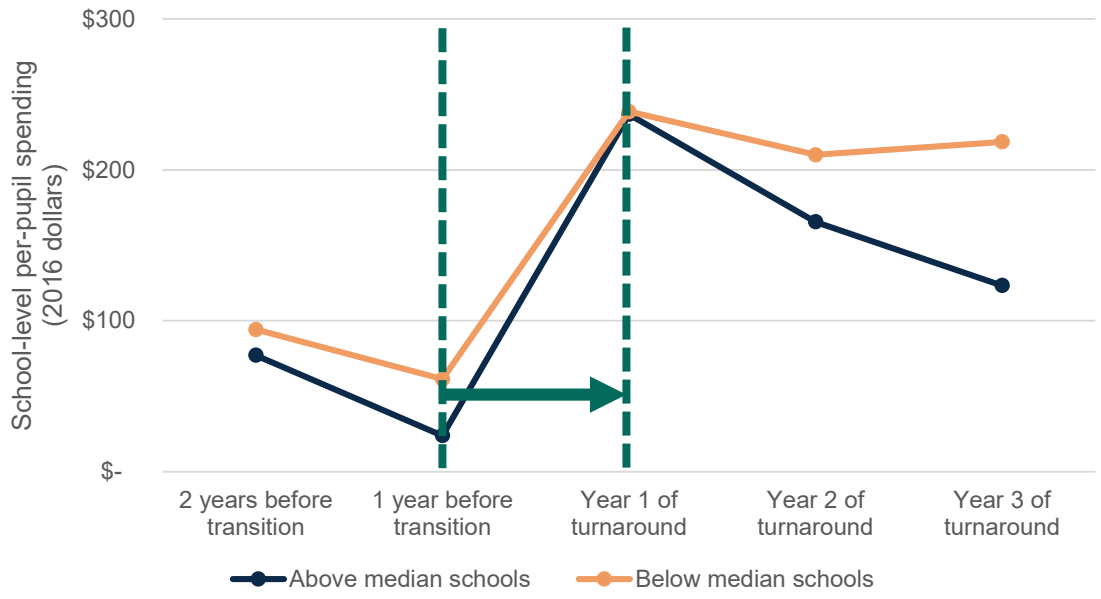


Out-of-school time spending over time, by groupings based on improvements in achievement scores

Mathematica

Above median schools: Cayuga, Heston, Marshall, McMichael, Mitchell, Rhodes
Below median schools: Barry, Blankenburg, Bryant, Cooke, Munoz-Marin, Roosevelt

Traditional professional development may not have been a priority for all schools



Professional development spending over time, by groupings based on improvements in achievement scores

"We rarely reach out beyond the building. If we need something coached, it's a whole coach model. Someone coaches me on something. I coach someone on something."

-- School principal

Above median schools: Cayuga, Heston, Marshall, McMichael, Mitchell, Rhodes
Below median schools: Barry, Blankenburg, Bryant, Cooke, Munoz-Marin, Roosevelt

Principals discussed leveraging additional resources that may not be included in expenditure data

- **District funds** to support
  - *Infrastructure* upgrades (such as science labs) or
  - *Professional development* (for example, Pearson and iReady training)
  - New *textbooks*
- **Grants, fundraisers, or in-kind donations** to support
  - *Technology* upgrades (such as SmartBoards, upgraded computer labs, laptops, iPads)
  - *Book* donations
  - Additional *facilities* upgrades (for example, building a mindfulness space, funding for a playground upgrade, community volunteers)
- **Restructuring** to support common planning time
- **Partnerships and community volunteers** (for example, Women Organized Against Rape, the Goldenberg Group, Bethany)

"We did not pay for partnerships… You begin to use your resources that are free and you make them conducive to what you need in your building."

-- School principal

Turnaround over time – what have we learned?

- The timing of turnaround may have influenced spending decisions.
- Discretionary spending was limited by model specifications, but there was room for tailoring and opportunities for additional sources of funding.
- Early investments in school climate and administrative spending may be helping to drive positive impacts.
- The impact analysis suggests improving academic achievement takes time. However, even in the early years, those with strongest improvements invested more in general and special education expenses.
- Deeper learning about Renaissance Charters' impact and spending could occur with more fine-grained data from those schools.

Questions?

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Supplemental impact analysis slides

For each SPR measure, we calculated an estimated impact

Causal analysis:
Shows difference in SPR scores that is due to transitioning to a Renaissance Charter or district-run turnaround school

- **This estimates the difference between the SPR scores that would be observed if the schools did or did not transition to a district-run turnaround school or a Renaissance Charter school**
- **We also look for evidence of differences in impacts between:**
  - Renaissance Charter schools and district-run turnaround schools
  - Schools becoming Renaissance Charters or district-run turnaround schools in 2013-2014, 2016-2017, and 2017-2018

Methods for school-level impact analysis

For each cohort of schools, we identified comparison schools that had similar SPR measures before entering an intervention model

- We selected schools not participating in any intervention model.
- For schools transitioning in 2013-2014, we identified comparison schools that had similar SPR scores in 2012-2013. For schools transitioning in late years, we identified comparison schools that had similar trends in SPR scores.

We used a statistical method that adjusted for potentially important differences between schools over time

- Any year-to-year changes in outcomes that were common to all schools
- Any fixed differences between schools (e.g., constant differences in student populations)
- Changes in student demographics where available (although these are unavailable for Renaissance Charter schools)

We estimated impacts on schools' overall SPR score, climate score, progress score, and achievement score

- These are the primary outcomes that are available for both charter and district-run turnaround schools.

Summary of findings from school-level analysis

SPR outcome measure	Evidence of an impact in all treatment schools?	Evidence of different impacts between charter and district-run turnaround schools?	Evidence of different impacts between schools transitioning in different years?
Overall SPR score	No evidence of impact	No evidence of difference in impacts	No evidence of difference in impacts
Climate score	Evidence of an impact	Evidence that Renaissance Charter schools had more favorable impact than district-run turnaround schools	Evidence of differences, with 2013-2014 and 2016-2017 cohorts performing better than the 2017-2018 cohort
Progress score	No evidence of impact	No evidence of difference in impacts	No evidence of difference in impacts
Achievement score	No evidence of impact	No evidence of difference in impacts	Evidence of differences, with the 2013-2014 cohort performing better than the 2016-2017 and 2017-2018 cohorts

Impact is statistically significant at the 5 percent level.

Difference in impact across groups is statistically significant at the 5 percent level.

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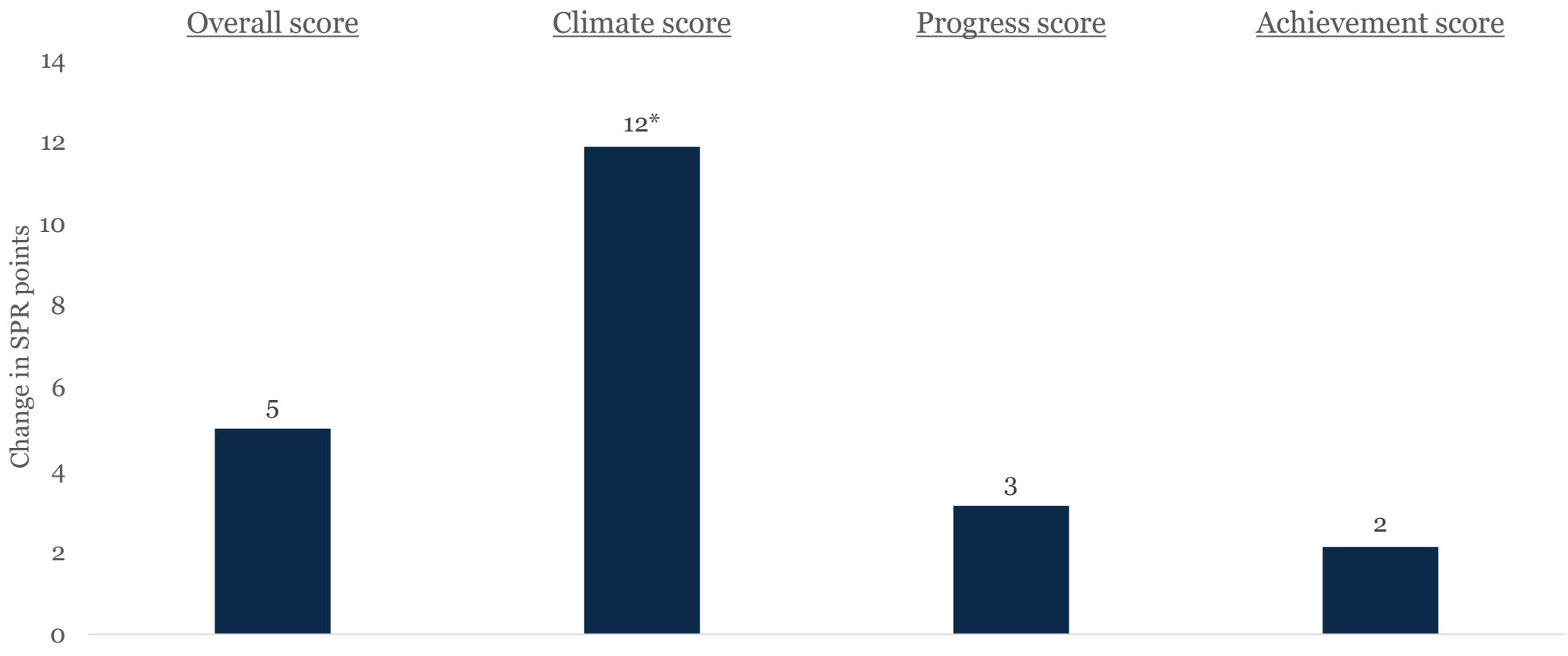
How we checked the results

- **We used alternative methods to identify the comparison group and got similar results.**
- **We examined impacts on measures that contribute to the climate score.**
  - We found positive impacts on parent survey participation and responses, and some evidence of positive impacts on the retention score.
  - The impacts on the share of students attending 95 percent of days or more, and on student retention, were greater in charter schools.
- **Impacts are consistent with the logic that improvement in climate may eventually improve achievement.**

Comparison schools included in school-level analysis

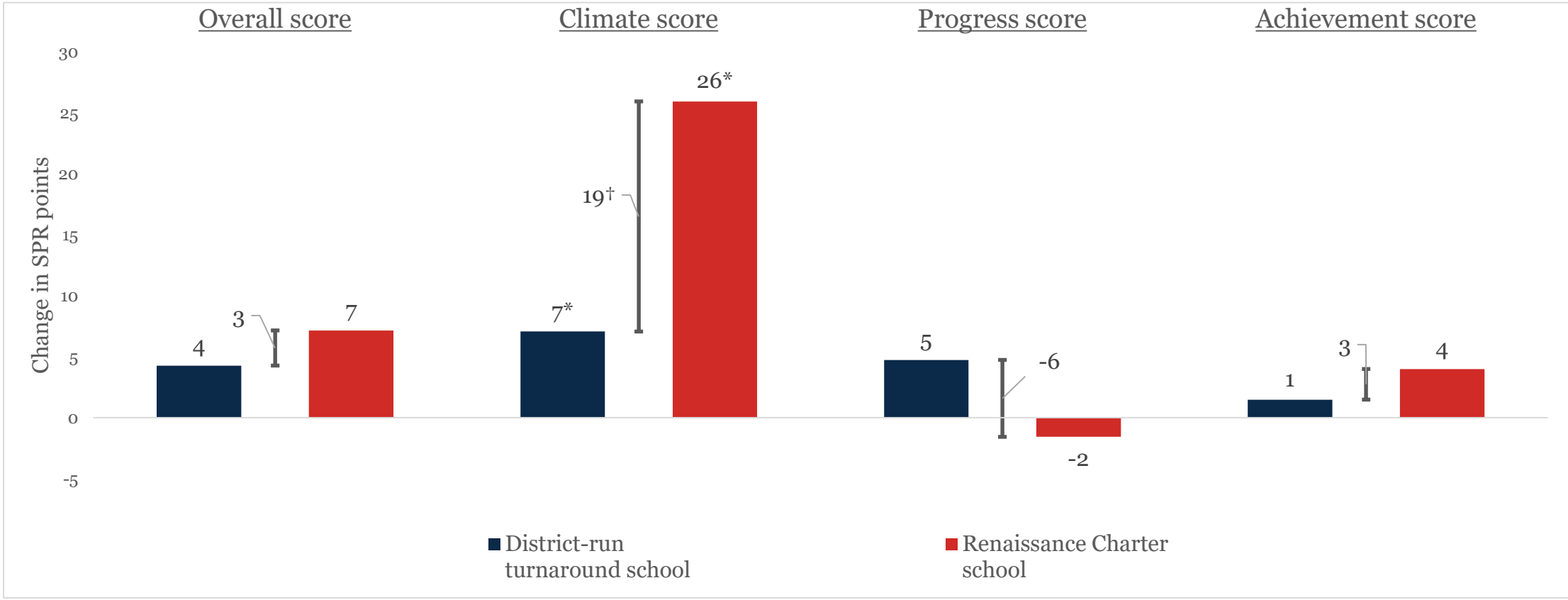
Alain Locke
Alexander K. McClure
Allen M. Stearne
Andrew J. Morrison
Bayard Taylor
Benjamin B. Comegys
Benjamin Franklin
Delaplaine McDaniel
Edward Gideon
Eleanor C. Emlen
Ellwood
Franklin S. Edmonds
General George G. Meade
Henry W. Lawton
Horatio B. Hackett
James J. Sullivan
James Rhoads
John B. Kelly
John F. Hartranft
Joseph Pennell
Julia W. Howe
Lewis C. Cassidy Academics Plus
Mary M. Bethune
Penrose
Prince Hall
Richard R. Wright
Richmond
Robert E. Lamberton
Samuel Gompers
Samuel Pennypacker
Thomas G. Morton
Thomas M. Peirce
Thurgood Marshall
Vare-Washington
William C. Longstreth
William D. Kelley
William Dick
William H. Hunter

Becoming a Renaissance Charter school or district-run turnaround school between 2013-2014 and 2017-2018 caused improvements in SPR measure of climate



* Effect is statistically significant at the 5 percent level.

The SPR measure of climate improved for both Renaissance Charter school and district-run turnaround schools transitioning between 2013-2014 and 2017-2018, but the improvement was larger for Renaissance Charter schools



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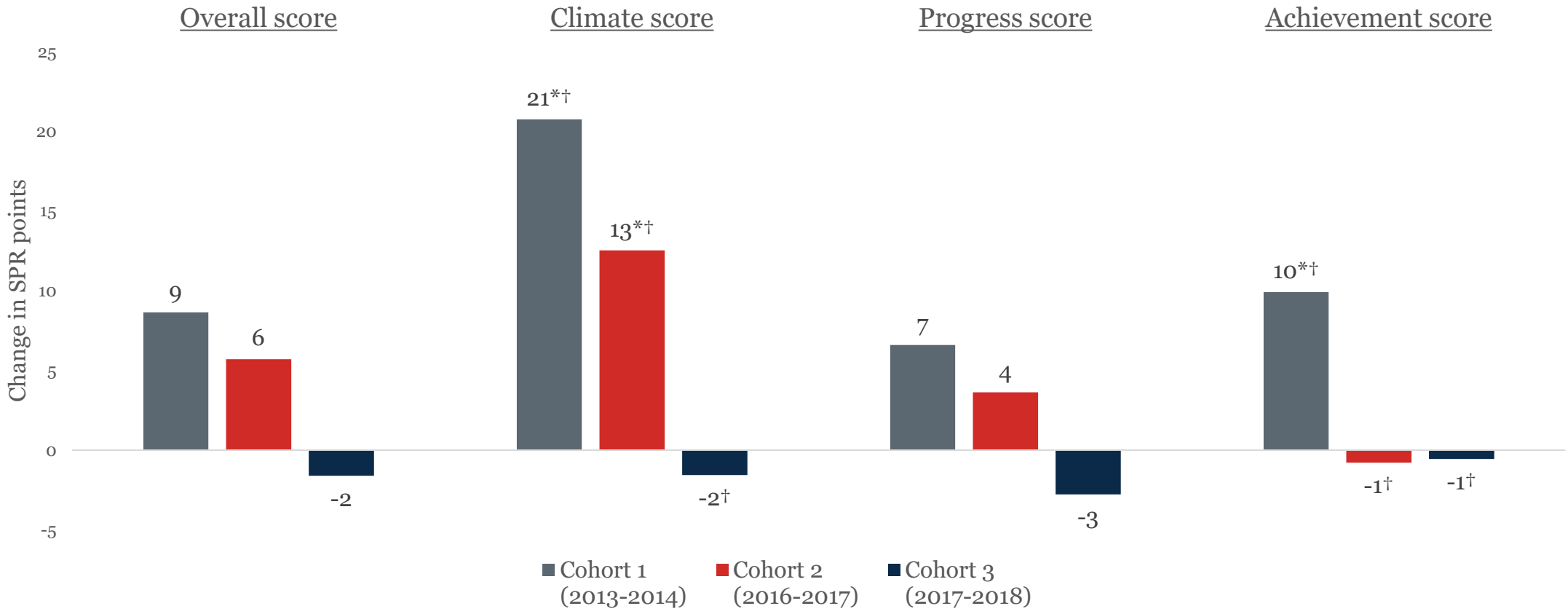
* Effect is statistically significant at the 5 percent level.
† Difference in effects is significant at the 5 percent level.

The cohort becoming Renaissance Charter schools or district-run turnaround schools in 2013-2014 had larger impacts on the SPR measure of achievement than the 2016-2017 or 2017-2018 cohorts.

Schools becoming Renaissance Charters or district-run turnaround schools in 2013-2014 or 2016-2017 had larger impacts on the SPR measure of climate than schools entering in 2017-2018.



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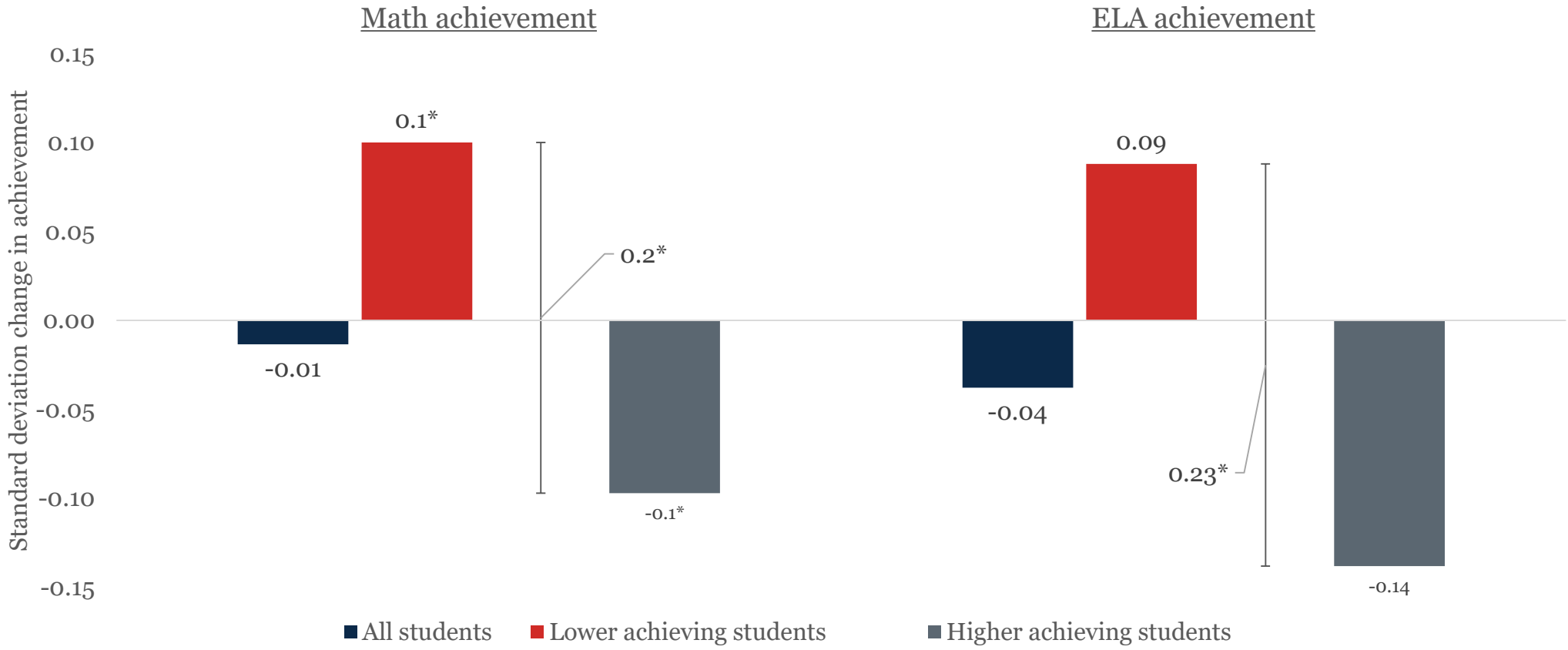
* Effect is statistically significant at the 5 percent level.
† Difference in effects is significant at the 5 percent level.

Among students in the 5 schools that became district-run turnaround schools in 2016-2017, there were no overall effects on student achievement, but the effects on lower-achieving students were larger than among higher-achieving students



Student-level impact analysis methods

We identified comparison schools that had similar growth in the two years before 2016-2017 implementation.

- We selected schools not participating in the Acceleration Network or receiving turnaround supports before 2018-2019.

We then selected comparison students from within those schools.

- Selected comparison students had to be similar in terms of race, ethnicity, gender, disability status, gifted status, and baseline measures of each outcome.
- Students were considered "treated" in 2016-2017 and 2017-2018 if they were in one of the five district-run turnaround schools in 2016-2017, even if they changed schools by 2017-2018.
- We controlled for student characteristics, free and reduced-price lunch status, special education status, and disability.

We examined behavior and academic outcomes.

We did not include the two Renaissance Charters because we did not have student-level data from those schools.

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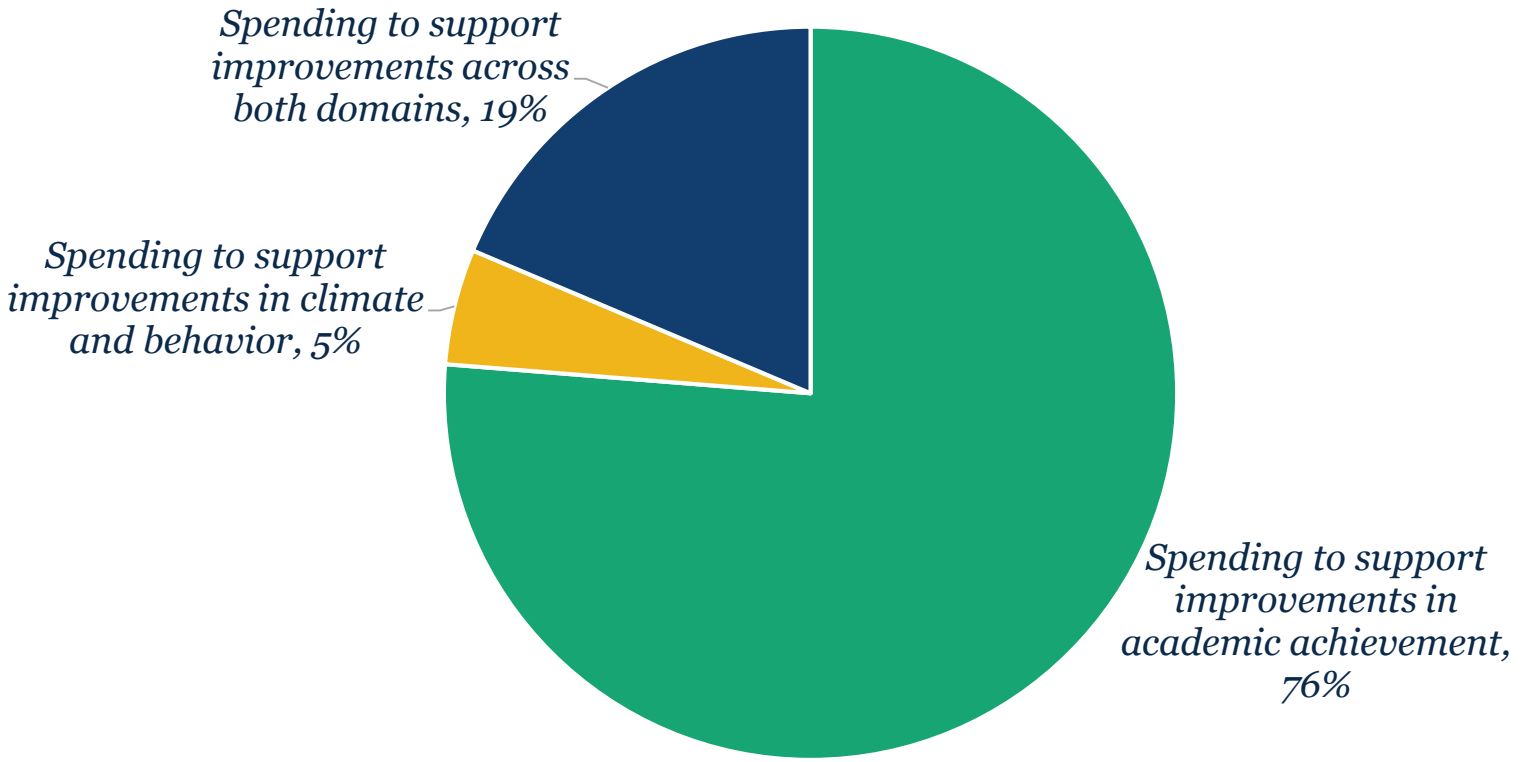
Supplemental cost analysis slides

School expenditures focused primarily on a spending to support academic achievement

Spending in Year 1 of Turnaround
across all included district-run turnaround schools
(n = 12 schools)



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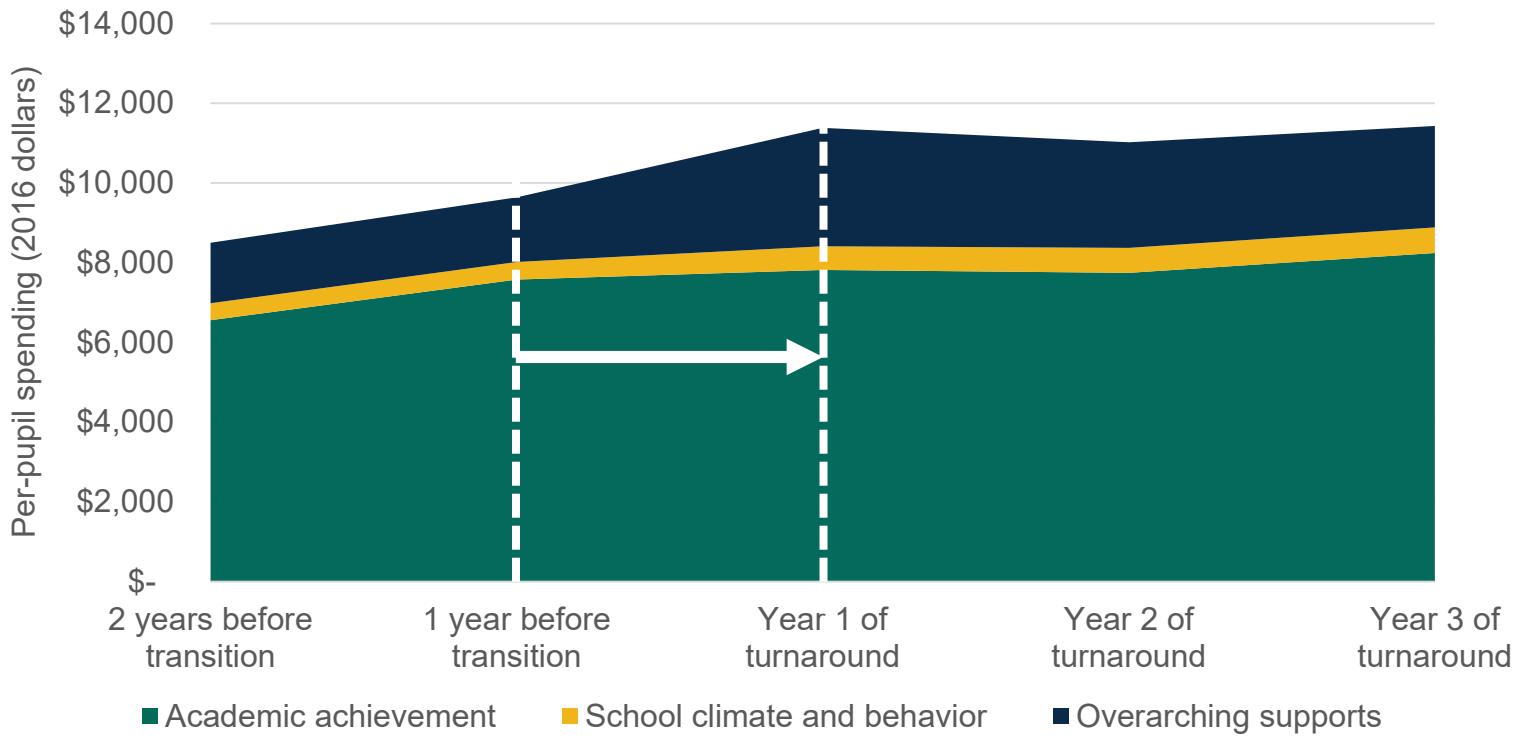
Spending over time across all 17 expenditure analysis schools



Share of spending by domain for selected district-run turnaround schools and Renaissance Charter schools

(n = 17 schools; excluding Year 3 of turnaround, where n = 12 schools)

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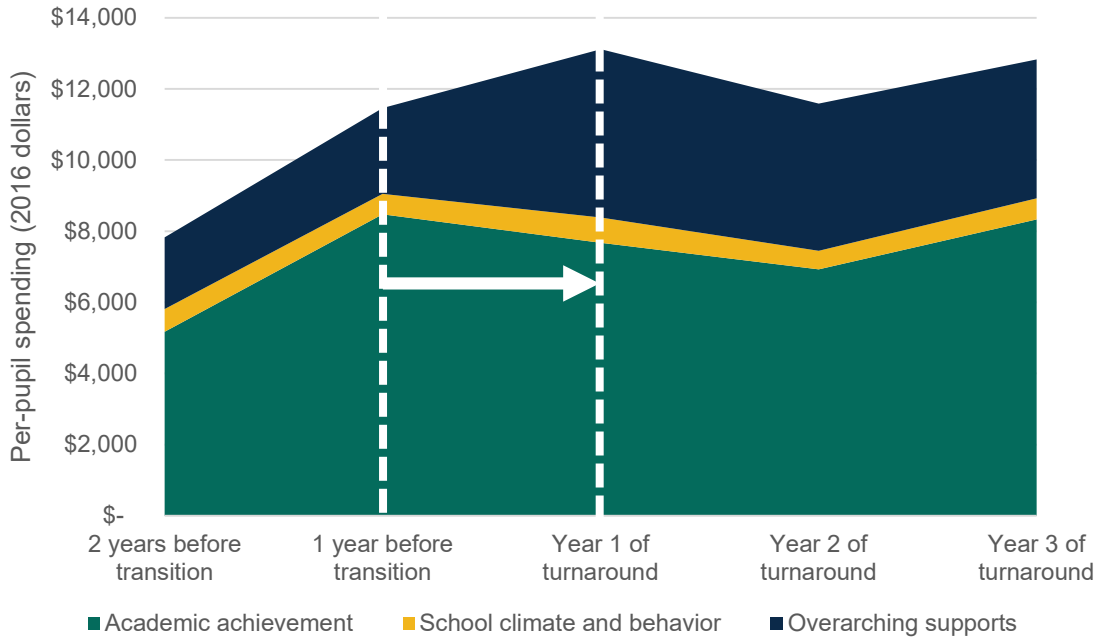
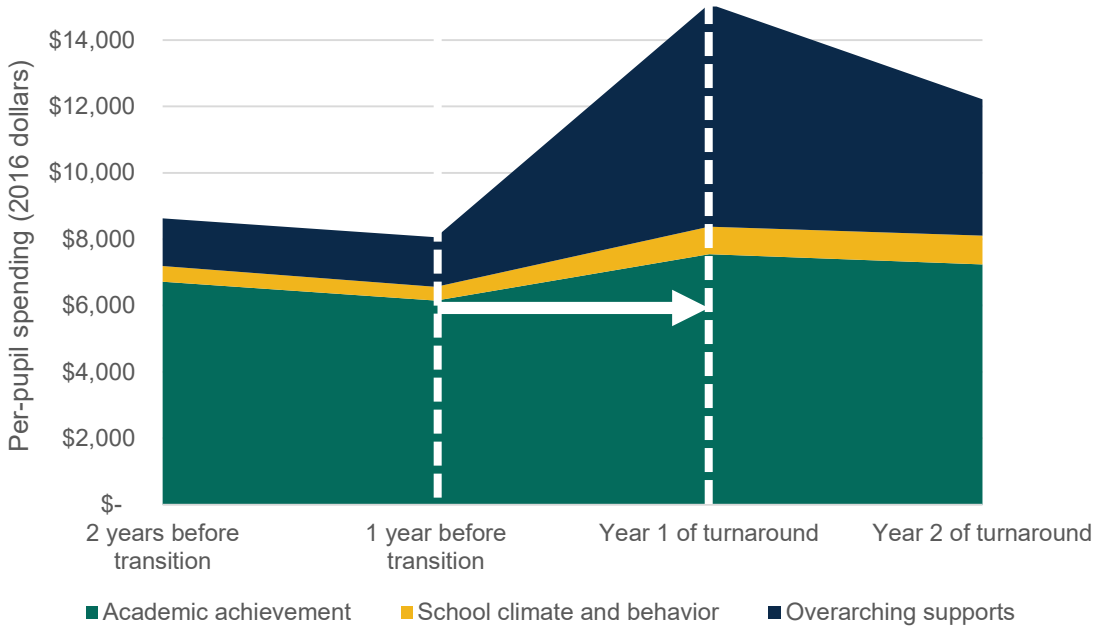
For both Renaissance Charter cohorts, the first year following transition showed an increase in spending on administrative and other supports, followed by a decline in the subsequent year



Share of spending by domain for 2013-2014 cohort, Renaissance Charter schools
(n = 3 schools)



Share of spending by domain for 2016-2017 cohort, Renaissance Charter schools
(n = 2 schools)

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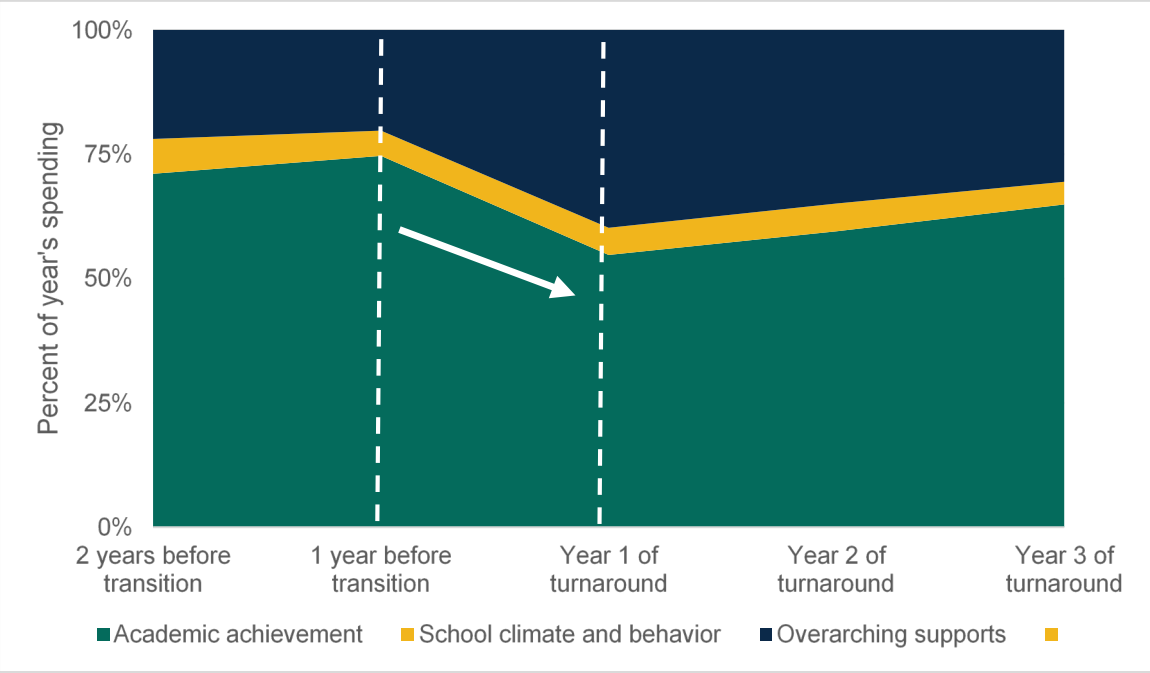
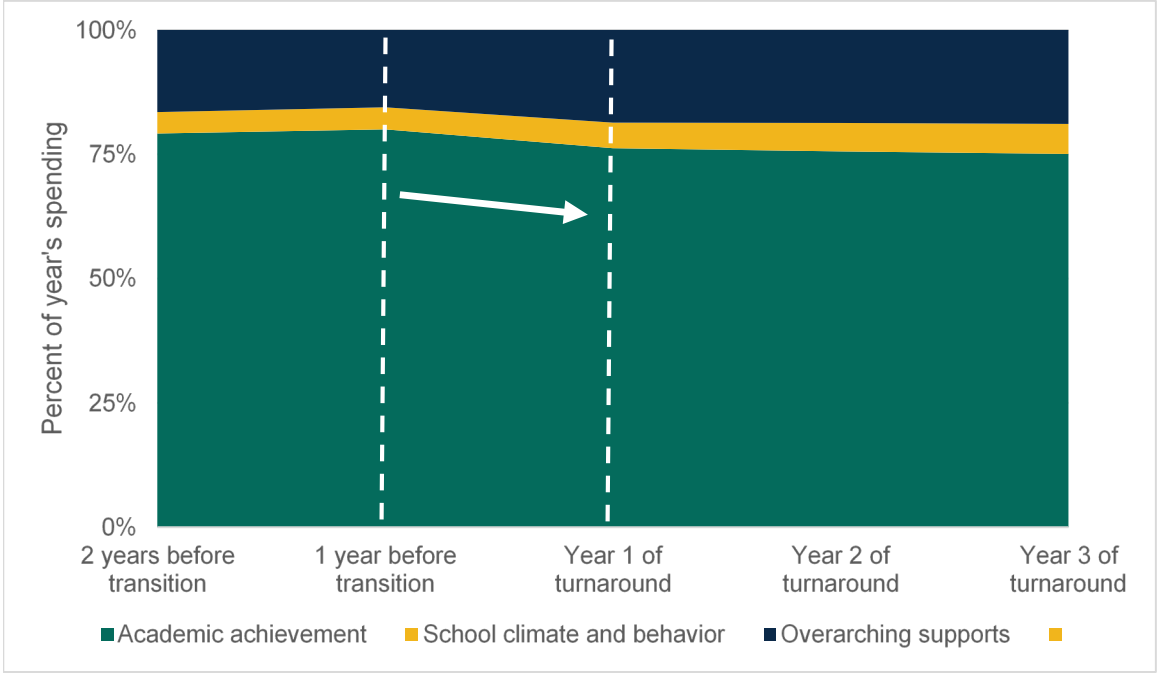
Renaissance Charters and district-run turnaround schools had different changes in spending patterns over time

After transition, Renaissance Charters increased the share of spending dedicated to overarching supports, and reduced the share focused on academic achievement.



Share of spending by domain for all Renaissance Charter schools
(n = 5 schools; excluding Year 3 of Turnaround, where n = 3 schools)

District-run turnaround schools maintained similar proportional allotments across domains after they transitioned.



Share of spending by domain for all district-run turnaround schools
(n = 12 schools; excluding Year 3 of Turnaround, where n = 9 schools)

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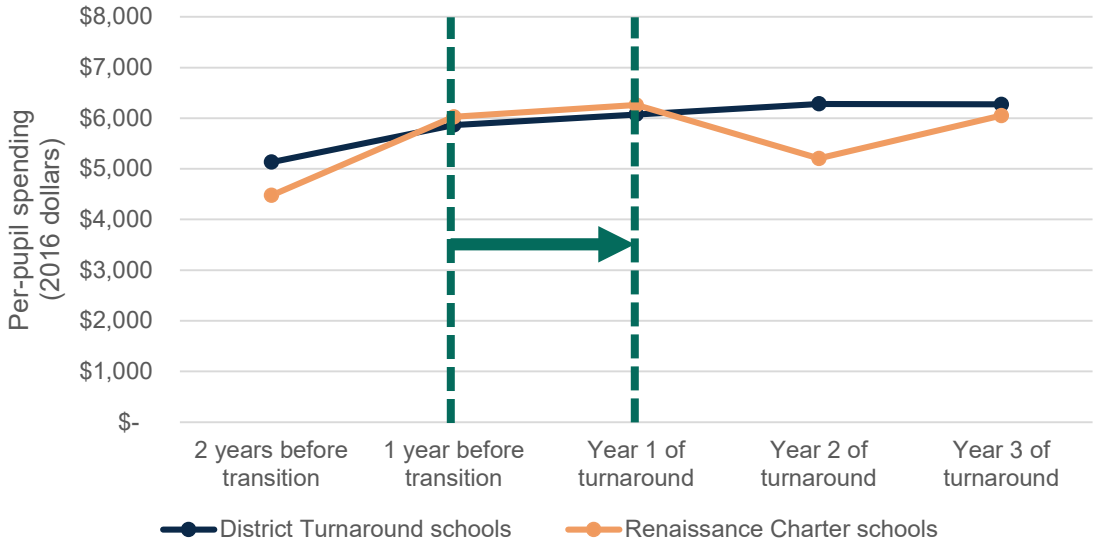
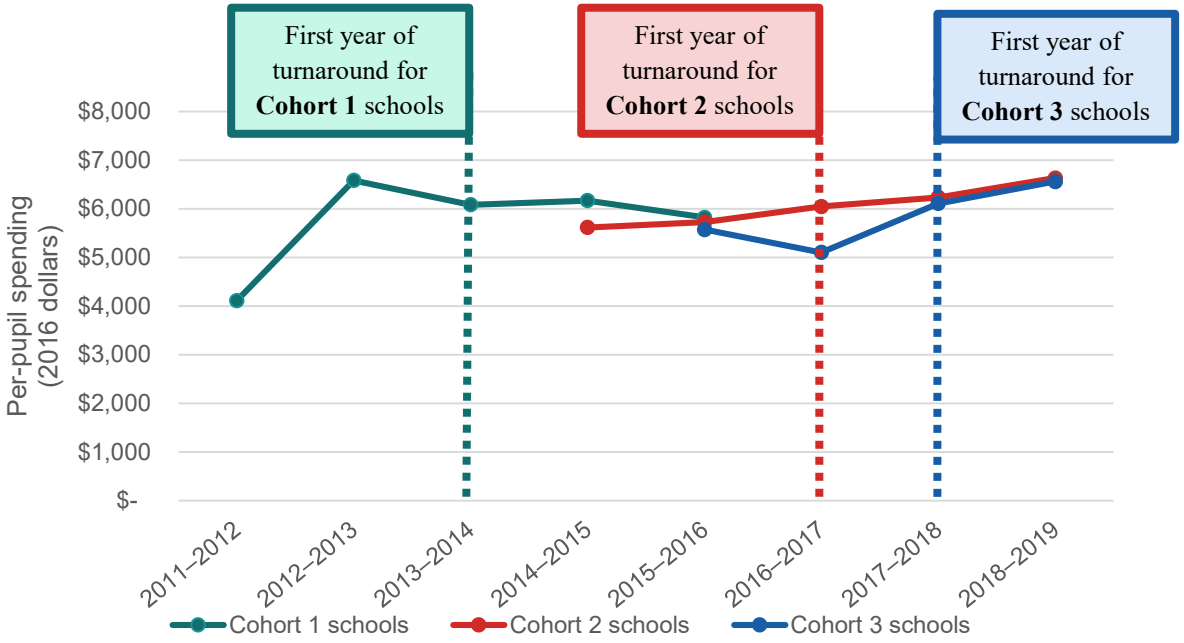
General academic expenses

Renaissance Charters and district-run turnaround schools had similar patterns on general academic expenses, with the exception being Year 2 of Turnaround, when charters spent about $1,300 less per pupil than district-run turnaround schools.



Renaissance Charter and district-run turnaround schools
(n = 5 schools for Renaissance Charters and n = 12 schools for district-run turnaround, except for Year 3 of turnaround where n = 3 schools and n = 9 schools, respectively)

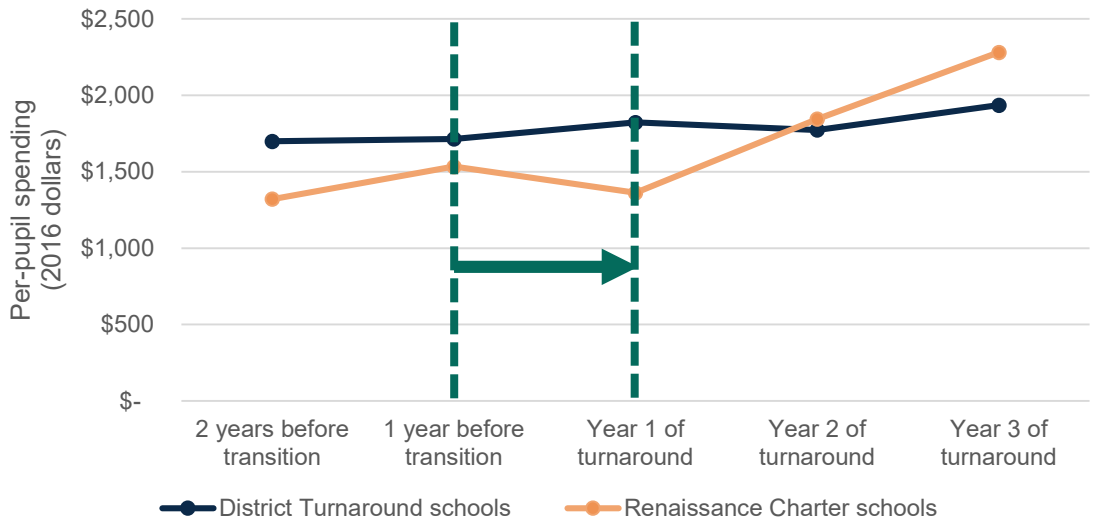
Across district-run turnaround cohorts, general academic spending remained relatively flat after transition.



District-run turnaround schools, by cohort
(n = 4 schools for Cohort 1; n = 5 schools for Cohort 2; and n = 3 schools for Cohort 3)

Special education expenses

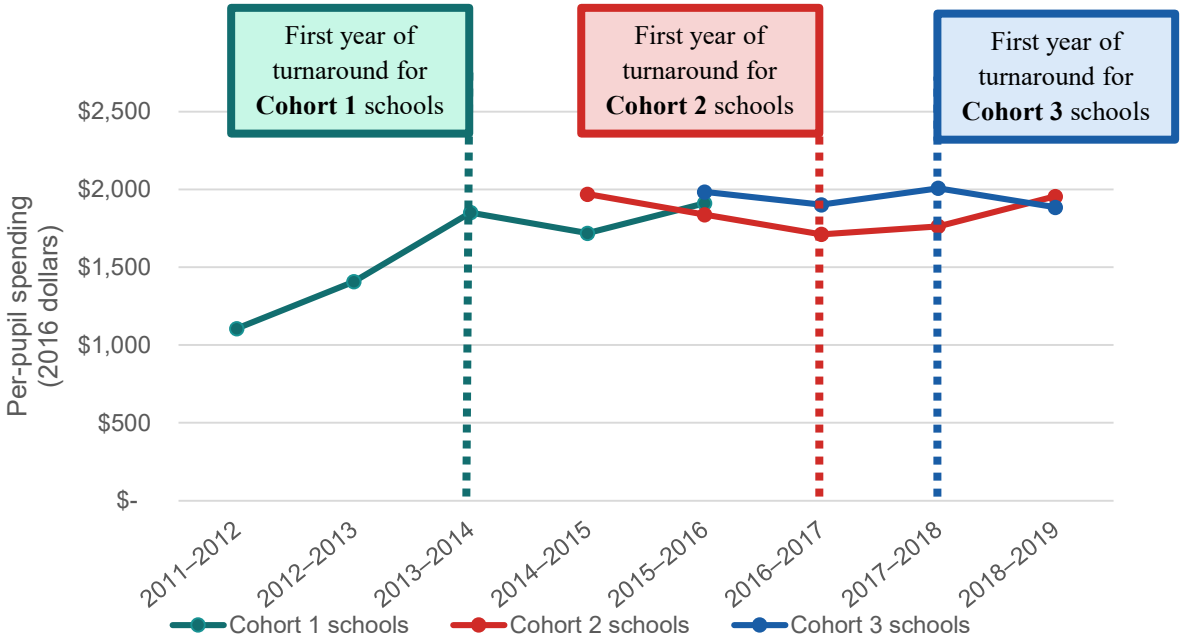
Renaissance Charters began increasing spending on special education programs in Year 2 of Turnaround.



Renaissance Charter and district-run turnaround schools

(n = 5 schools for Renaissance Charters and n = 12 schools for district-run turnaround schools, except for Year 3 of Turnaround where n = 3 schools and n = 9 schools, respectively)

Cohort 1 of district-run turnaround schools increased special education expenses in the year prior to transitioning, but then spending on special education remained flat across all three district-run turnaround cohorts.



District-run turnaround schools, by cohort

(n = 4 schools for Cohort 1; n = 5 schools for Cohort 2; and n = 3 schools for Cohort 3)

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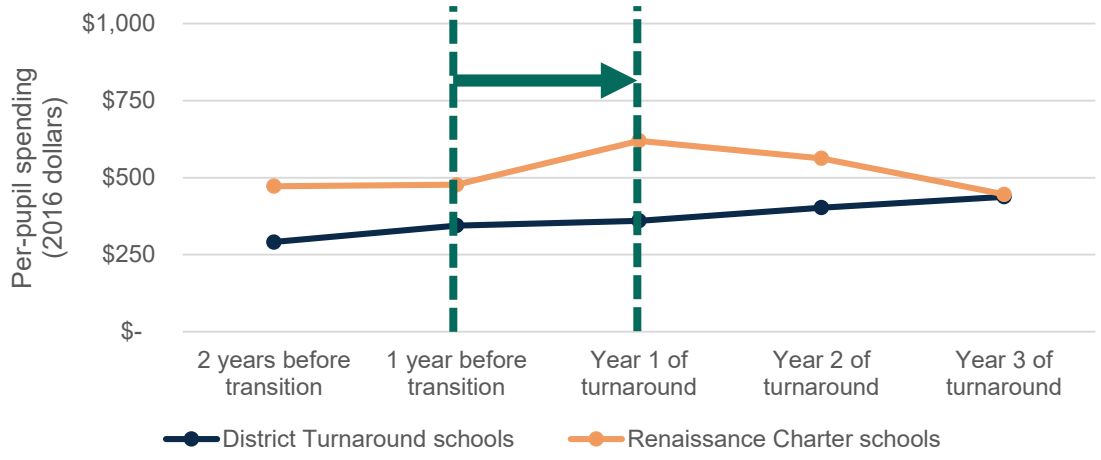
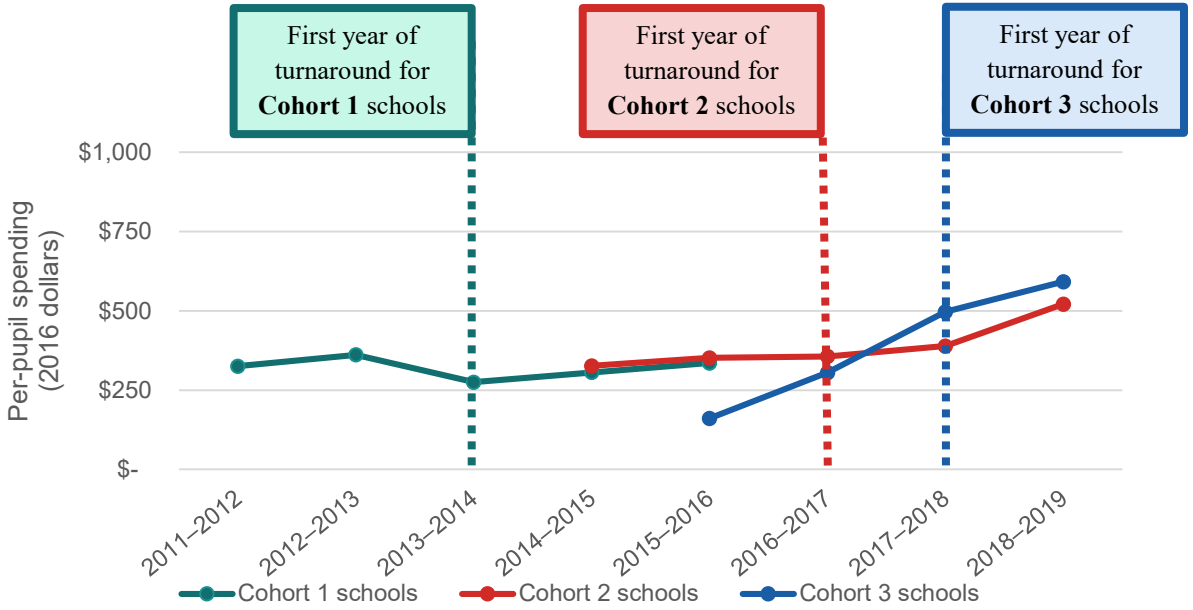
Behavioral supports

Average investments in behavioral supports were higher for Renaissance Charters but decreased to similar levels by Year 3.



Renaissance Charter and district-run turnaround schools
(n = 5 schools for Renaissance Charters and n = 12 schools for district-run turnaround schools, except for Year 3 of turnaround where n = 3 schools and n = 9 schools, respectively)

Cohort 3 experienced the largest growth in behavioral support expenses over time among the district-run turnaround schools, with spending increasing by almost 3.5 times from two years before transition to Year 2 of Turnaround (from $161 to $592 per pupil).



District-run turnaround schools, by cohort
(n = 4 schools for Cohort 1; n = 5 schools for Cohort 2; and n = 3 schools for Cohort 3)

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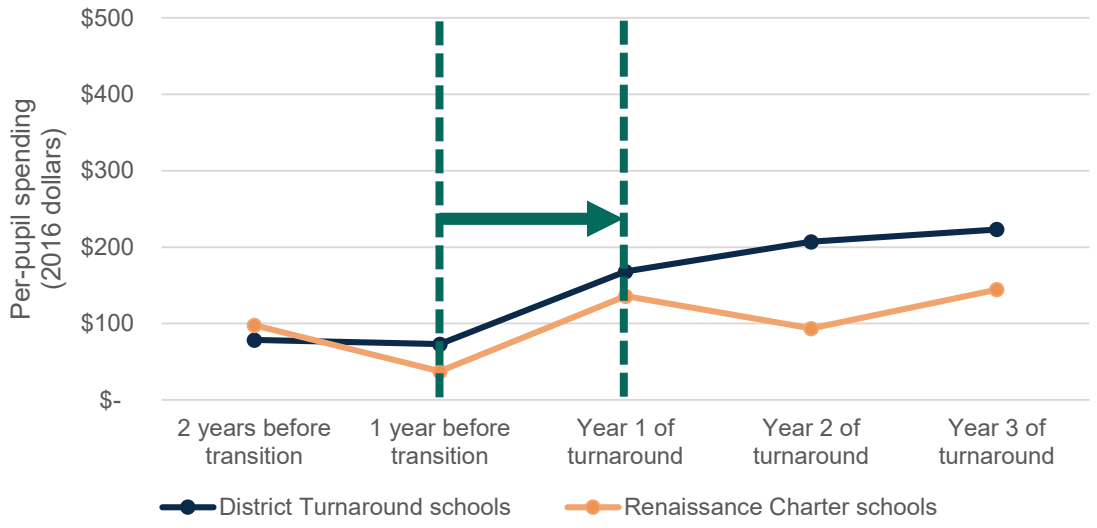
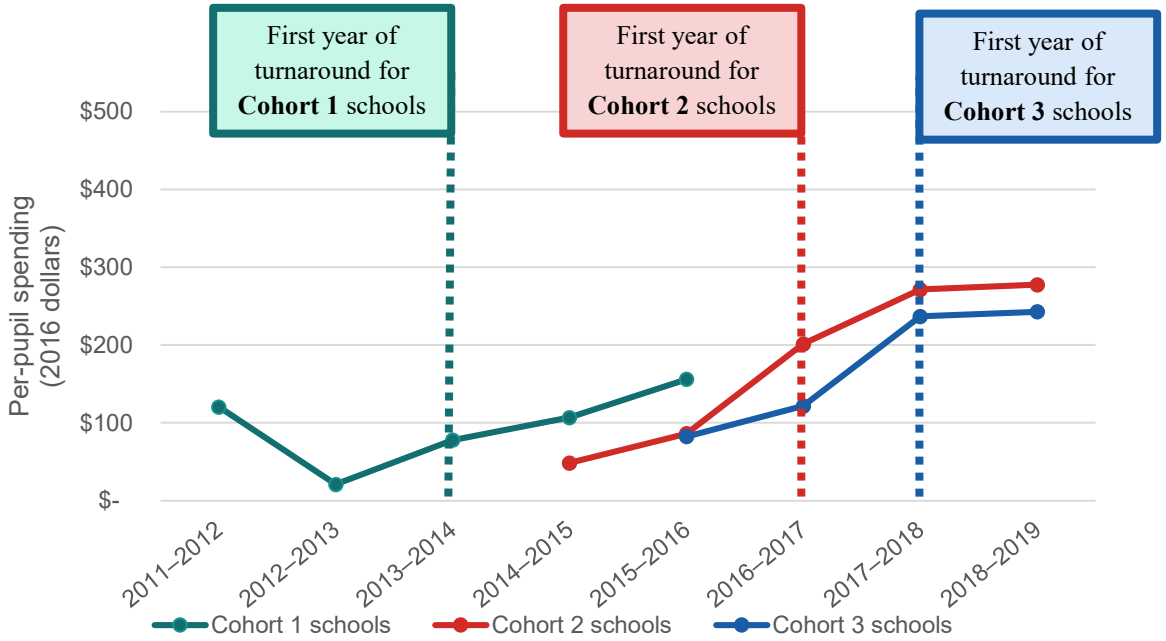
School environment and safety

Over time, district-run turnaround schools steadily increased their spending on school environment and safety expenses, while Renaissance Charter spending remained flat.



Renaissance Charter and district-run turnaround schools
(n = 5 schools for Renaissance Charters and n = 12 schools for district-run turnaround schools, except for Year 3 of turnaround where n = 3 schools and n = 9 schools, respectively)

Cohort 2 invested in the largest growth in school environment and safety spending among district-run turnaround schools, going from $49 per pupil two years before transition to $277 in Year 2 of Turnaround.



District-run turnaround schools, by cohort
(n = 4 schools for Cohort 1; n = 5 schools for Cohort 2; and n = 3 schools for Cohort 3)

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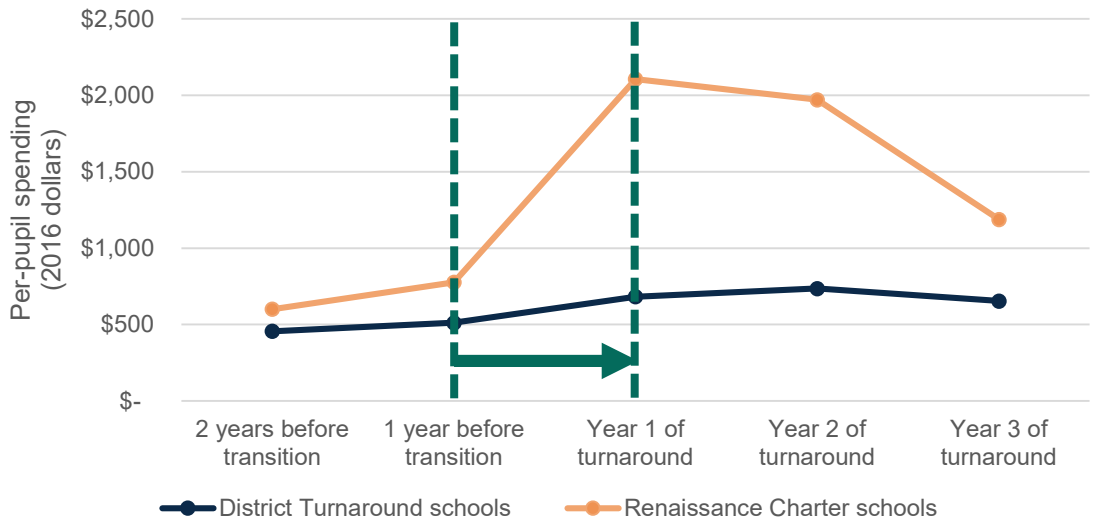
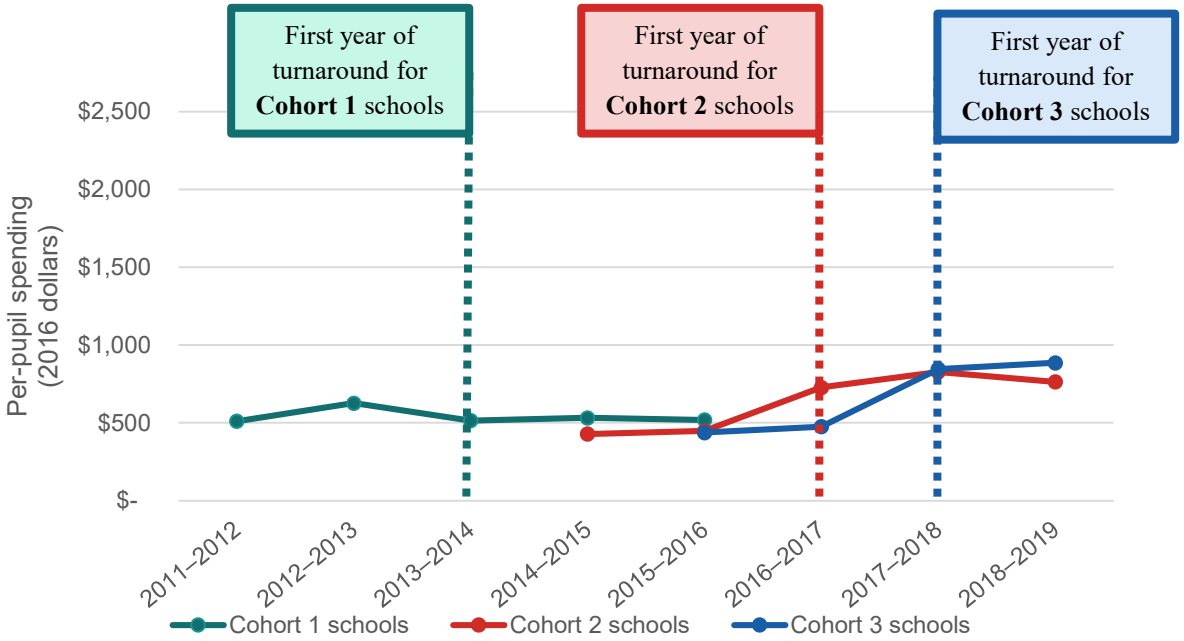
Administrative leadership

Renaissance Charters invested substantially in administrative leadership expenses, more than doubling their per-pupil expenses between the year before a turnaround school and Year 1 of turnaround (an increase of over $1,100 per pupil).



Renaissance Charter and district-run turnaround schools
(n = 5 schools for Renaissance Charters and n = 12 schools for district-run turnaround schools, except for Year 3 of turnaround where n = 3 schools and n = 9 schools, respectively)

In general, administrative leadership expenses remained relatively flat across all three district-run turnaround school cohorts, with some increases for Cohorts 2 and 3 (about $200 per pupil) in Year 1 of Turnaround.

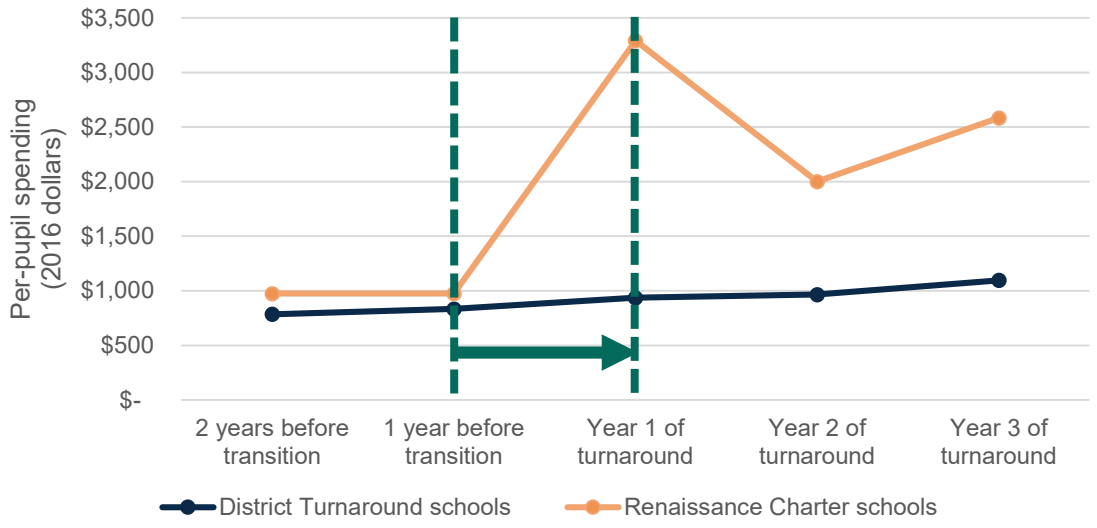


District-run turnaround schools, by cohort
(n = 4 schools for Cohort 1; n = 5 schools for Cohort 2; and n = 3 schools for Cohort 3)

Mathematica

Other administrative support

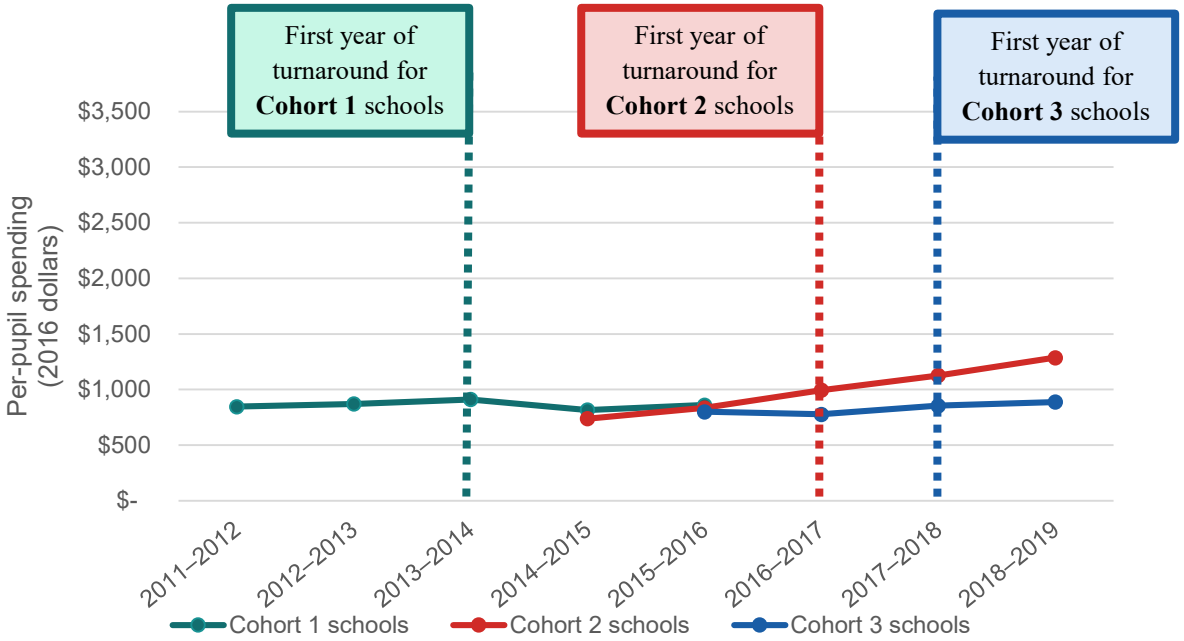
While district-run turnaround schools only gradually increased in other administrative spending over time, Renaissance Charters boosted their investment in other administrative expenses during Year 1 of turnaround (an increase of almost $2,000 per pupil).



Renaissance Charter and district-run turnaround schools

(n = 5 schools for Renaissance Charters and n = 12 schools for district-run turnaround schools, except for Year 3 of Turnaround where n = 3 schools and n = 9 schools, respectively)

Cohort 2 of the district-run turnaround schools invested increasingly over time in other administrative expenses (nearly doubling the amount they spent per pupil from two years before turnaround to the third year of turnaround), while the other two cohorts' spending in this category remained flat.



District-run turnaround schools, by cohort

(n = 4 schools for Cohort 1; n = 5 schools for Cohort 2; and n = 3 schools for Cohort 3)

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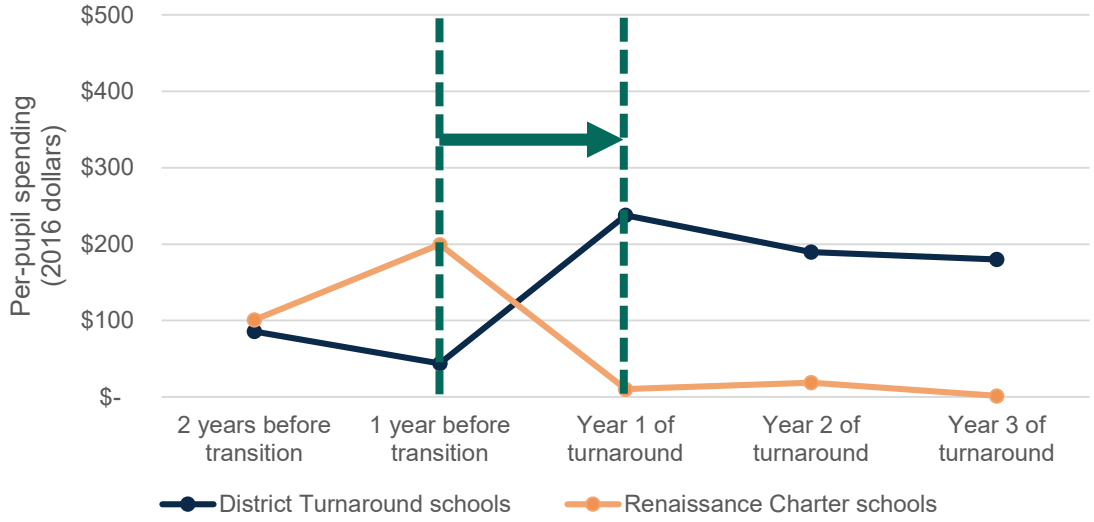
Professional development

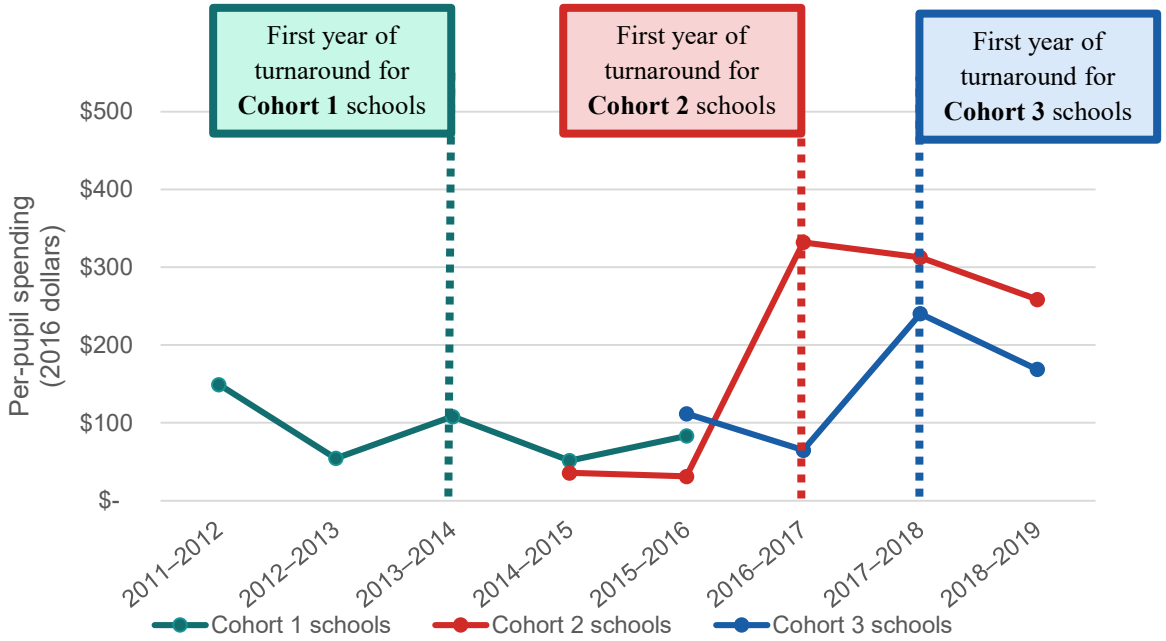
Between the year before turnaround and Year 1 of turnaround, district-run turnaround schools increased their budget for professional development, and Renaissance Charters effectively removed this spending from their school-specific budget (perhaps by centralizing training and folding training expenses into administrative costs).



Renaissance Charter and district-run turnaround schools

(n = 5 schools for Renaissance Charters and n = 12 schools for district-run turnaround schools, except for Year 3 of turnaround where n = 3 schools and n = 9 schools, respectively)

Cohort 2 experienced the biggest bump in professional development spending during the first year following transition (from $31 to $332 per pupil). Cohort 3 also increased spending, while Cohort 1's spending remained relatively flat.



District-run turnaround schools, by cohort

(n = 4 schools for Cohort 1; n = 5 schools for Cohort 2; and n = 3 schools for Cohort 3)

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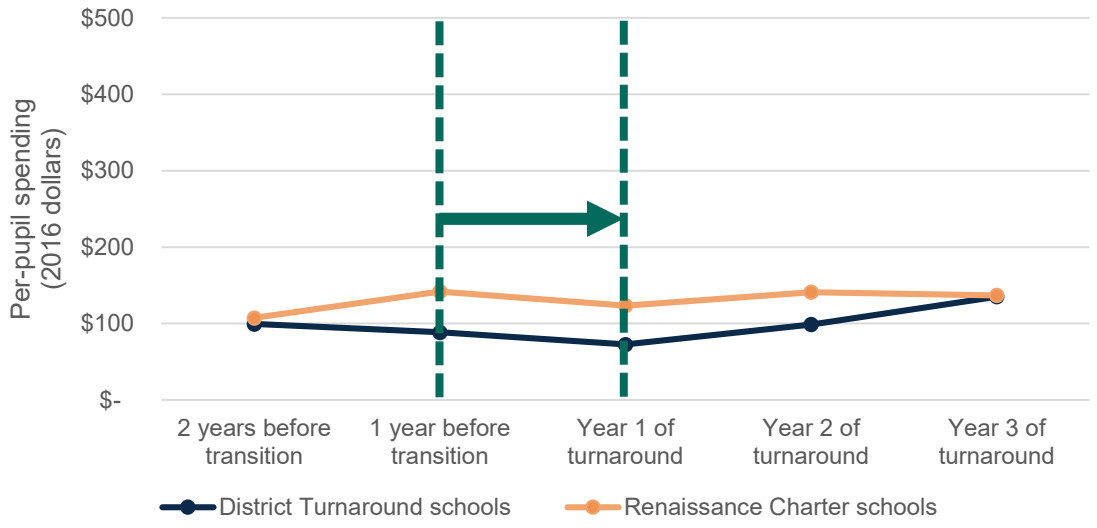
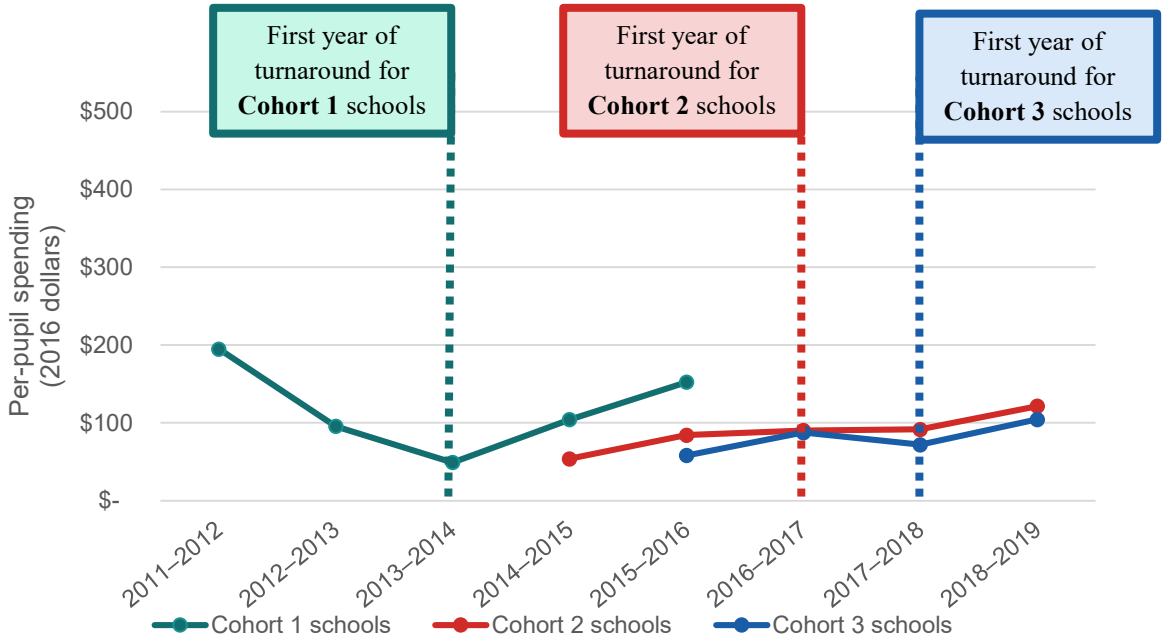
Out-of-school time

Spending on out-of-school time was fairly minimal and did not vary substantially for Renaissance Charters and district-run turnaround schools.



Renaissance Charter and district-run turnaround schools
(n = 5 schools for Renaissance Charters and n = 12 schools for district-run turnaround schools, except for Year 3 of Turnaround where n = 3 schools and n = 9 schools, respectively)

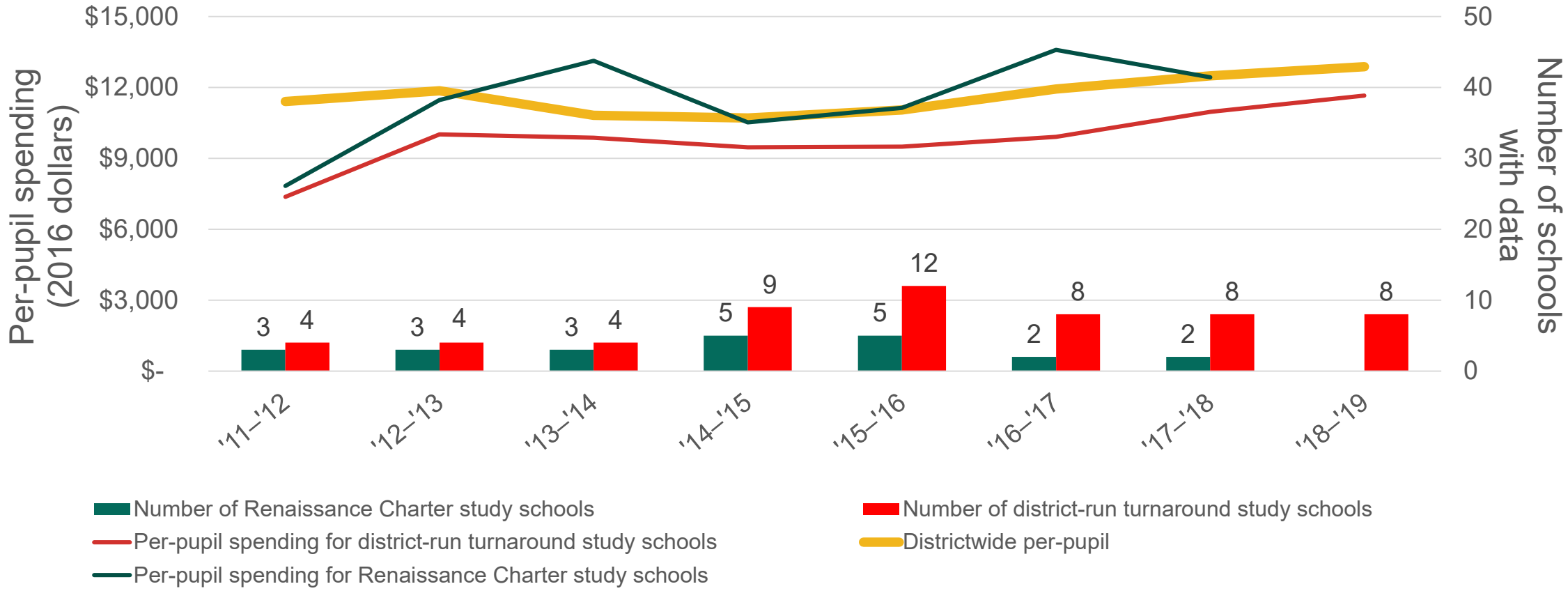
Cohort 1 experienced a decline in spending in the two years before transition and the first year of turnaround, and then steadily increased its investment over time. Spending for Cohorts 2 and 3 remained relatively flat.



District-run turnaround schools, by cohort
(n = 4 schools for Cohort 1; n = 5 schools for Cohort 2; and n = 3 schools for Cohort 3)

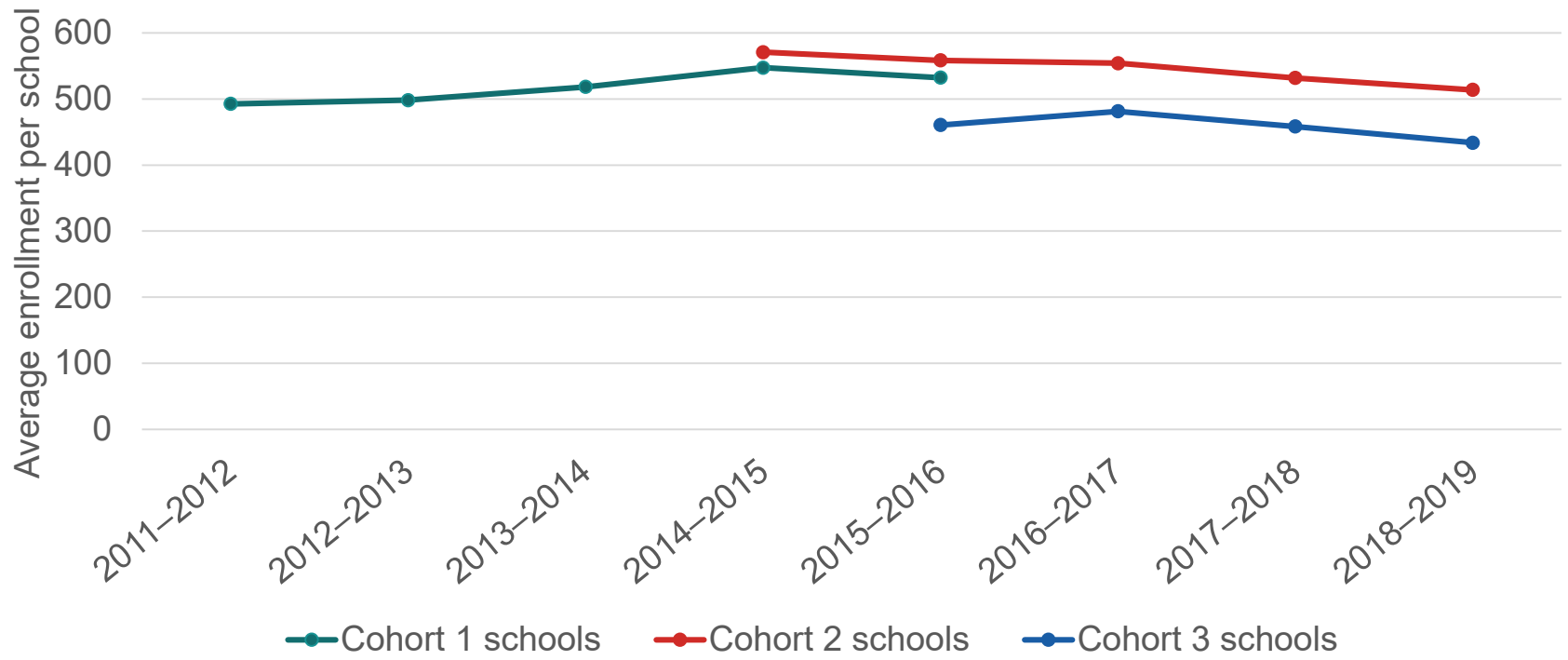
Mathematica

Districtwide expenditures included about $1–2K more per pupil above the school expenditures for district-run turnaround study schools; Renaissance Charter expenditures were nearly identical to districtwide in all years other than the initial years of turnaround



Mathematica

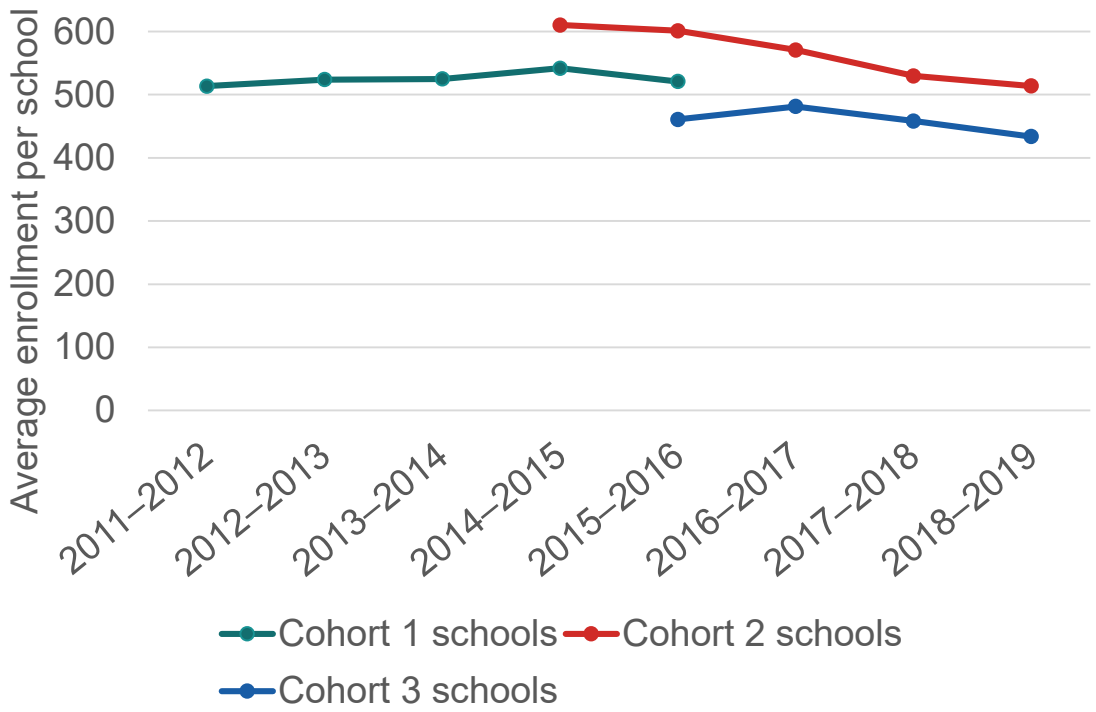
Average enrollment per school over time



Average school enrollment for selected district-run turnaround school and Renaissance Charter schools

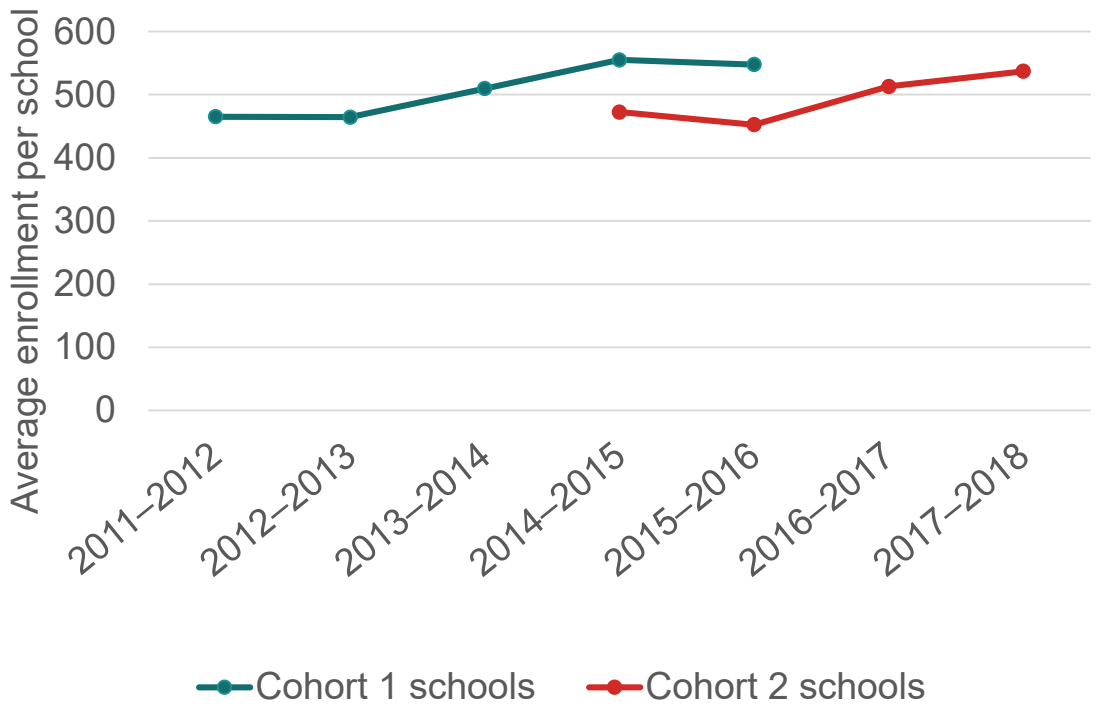
(n = 7 schools for Cohort 1; n = 7 for Cohort 2; n = 3 for Cohort 3)

Average enrollment per school over time, by type



Average school enrollment for selected district-run turnaround schools

(n = 4 schools for Cohort 1; n = 5 schools for Cohort 2; n = 3 schools for Cohort 3)



Average school enrollment for selected Renaissance Charter schools

(n = 3 schools for Cohort 1; n = 2 schools for Cohort 2)

Mathematica

School climate improvement groups

Schools above the median:

- Bryant
- Cooke
- Marshall
- McMichael
- Munoz-Marin
- Roosevelt

Schools below the median:

- Barry
- Blankenburg
- Cayuga
- Heston
- Mitchell
- Rhodes

Achievement improvement groups

Schools above the median:

- Cayuga
- Heston
- Marshall
- McMichael
- Mitchell
- Rhodes

Schools below the median:

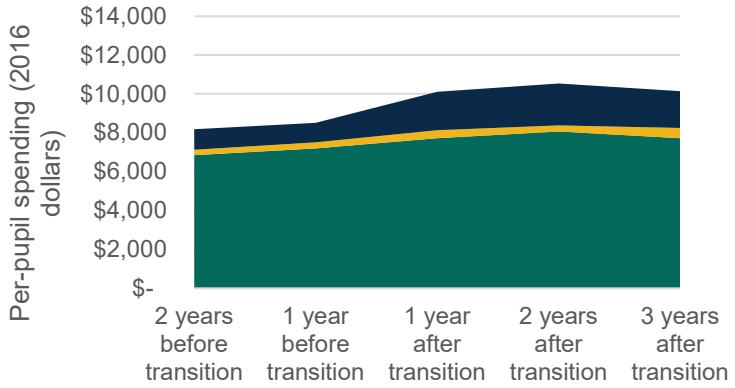
- Barry
- Blankenburg
- Bryant
- Cooke
- Munoz-Marin
- Roosevelt

Mathematica

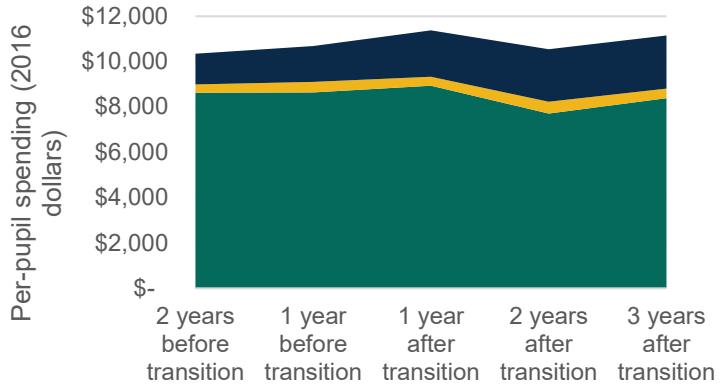
Case study slides

Spending patterns varied over time for case study schools

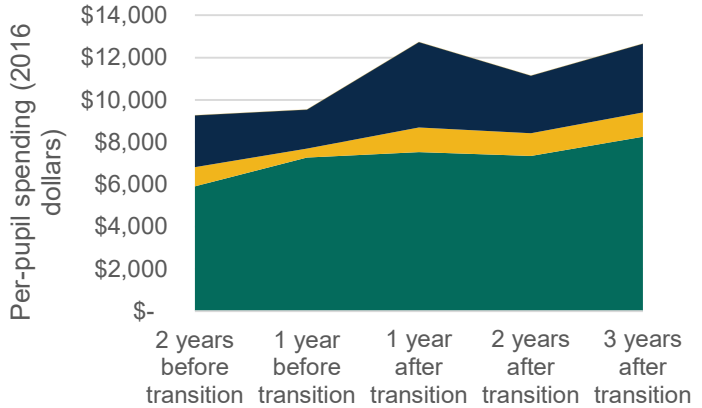
S. Weir Mitchell (2016-2017 cohort)



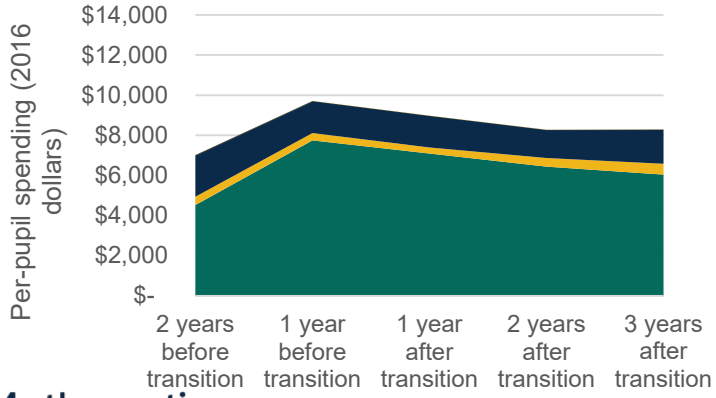
Luis Muñoz-Marin (2016-2017 cohort)



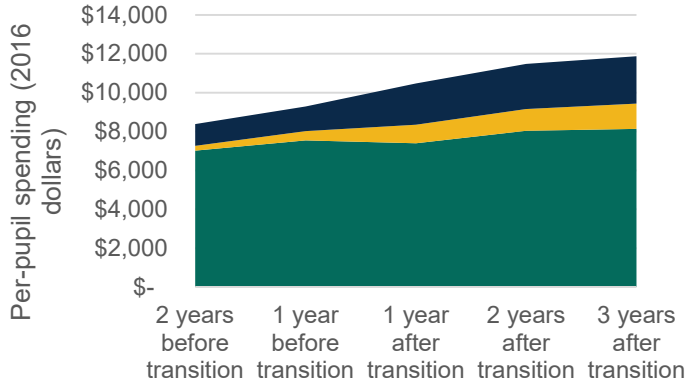
Mastery Charter: Francis P. Pastorius (2013-2014 cohort)



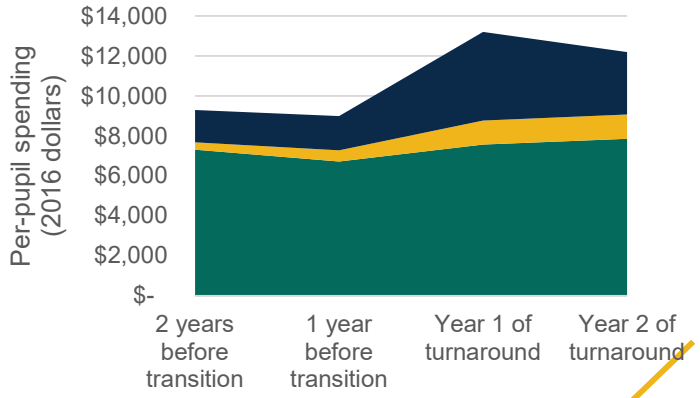
William C. Bryant (2013-2014 cohort)



Jay Cooke (2016-2017 cohort)



Mastery Charter: John Wister (2016-2017 cohort)



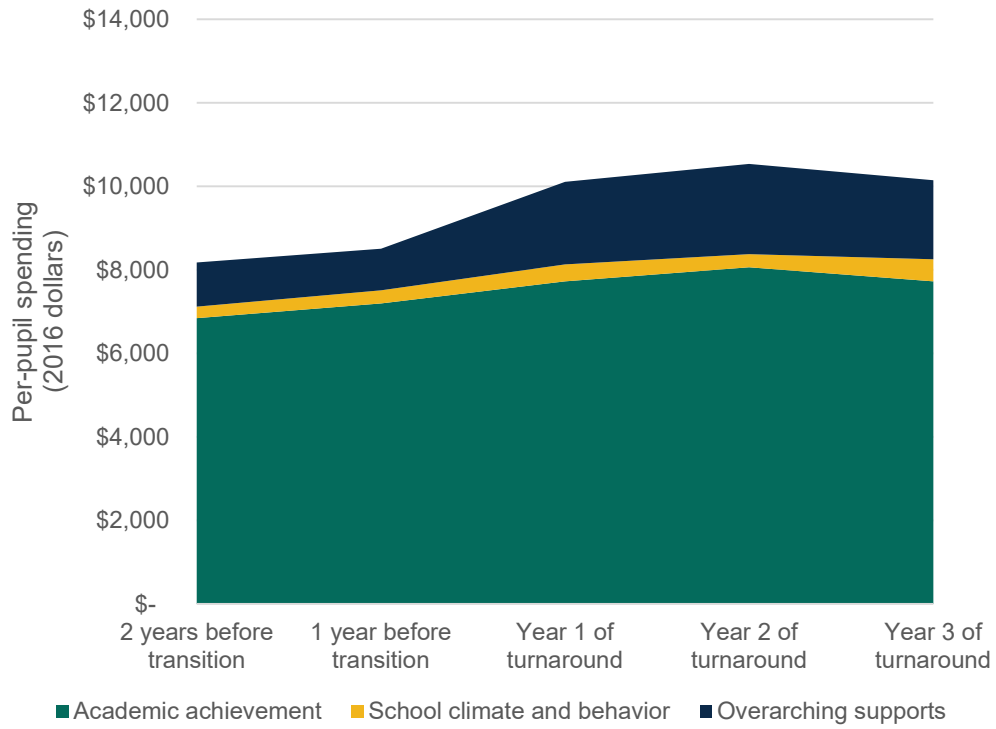
Mathematica

S. Weir Mitchell Elementary School (2016-2017 cohort) per-pupil spending

Per-pupil school spending breakdown in the first year that S. Weir Mitchell Elementary School became a district-run turnaround school (2016 dollars)

	Personnel	Equipment and materials	Other PD costs	Total spending (per pupil)	Total spending	Percent of total
Spending to support improvements in academic achievement						
General academic expenses	$6,812	$327	–	**$7,138**	**$4,018,891**	**71%**
Special programs	$583	–	–	**$583**	**$328,263**	**6%**
Spending to support improvements in school climate and behavior						
Behavioral supports	$205	–	–	**$205**	**$115,580**	**2%**
School environment and safety	$202	$0	–	**$202**	**$113,835**	**2%**
Spending to support improvements across both domains						
Administrative leadership	$710	–	–	**$710**	**$399,595**	**7%**
Other administrative supports	$742	$40	–	**$782**	**$440,203**	**8%**
Professional development	$99	–	$255	**$354**	**$199,199**	**3%**
Out-of-school time	$135	–	–	**$135**	**$76,255**	**1%**
Total spending (per pupil)	**$9,488**	**$367**	**$255**	**$10,110**		
Total spending	**$5,341,659**	**$68,815**	**$143,717**		**$ 5,691,820**	
Percent of total	**94%**	**4%**	**3%**			**100%**

Per-pupil spending by category over time (2016 dollars)



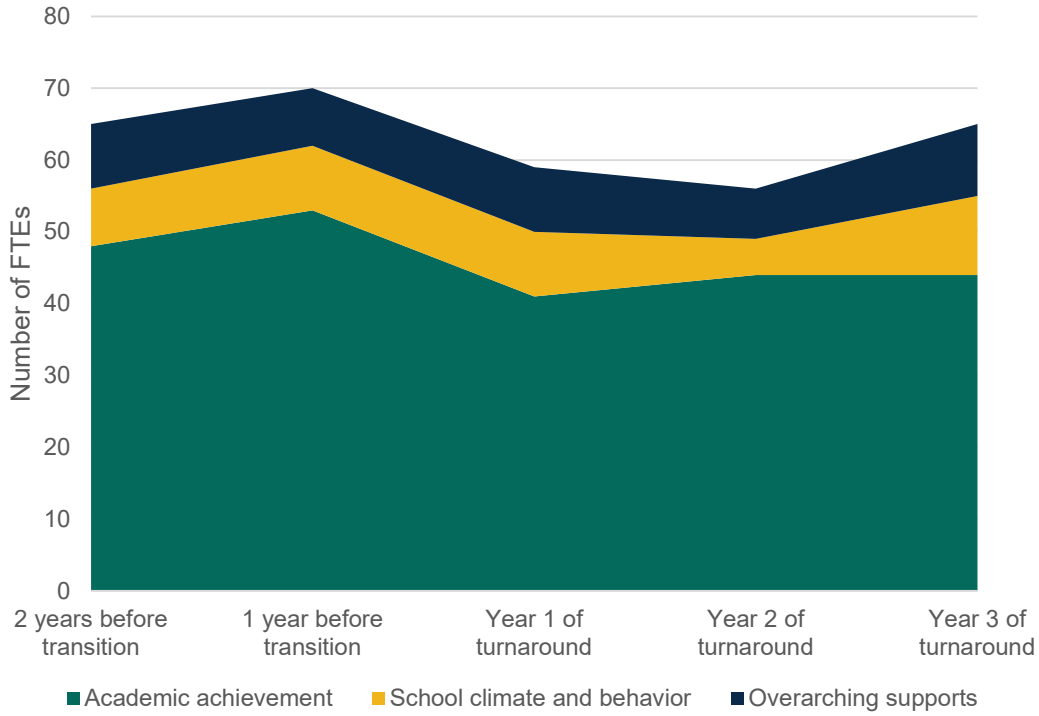
Mathematica

S. Weir Mitchell Elementary School (2016-2017 cohort) personnel

Personnel breakdown in the first year that S. Weir Mitchell Elementary School became a district-run turnaround school

	Number of staff	Number of FTEs	Pupils per FTE
Personnel to support improvements in academic achievement			
Teachers	35	35	16
Special education staff	6	6	94
Personnel to support improvements in school climate and behavior			
Counseling and behavioral support staff	2	2	282
Behavioral aides	8	4	141
Environment and safety staff	2	2	282
Nurses	1	1	563
Personnel to support improvements across both domains			
Administrators	2	2	282
Administrative support staff	1	1	563
Bus attendants	0	0	–
Facilities staff	9	5	113
Food services staff	4	1	409
Professional development staff	0	0	–
Out-of-school time staff	0	0	–
All staff:	**70**	**59**	**9**

Total FTEs by category over time



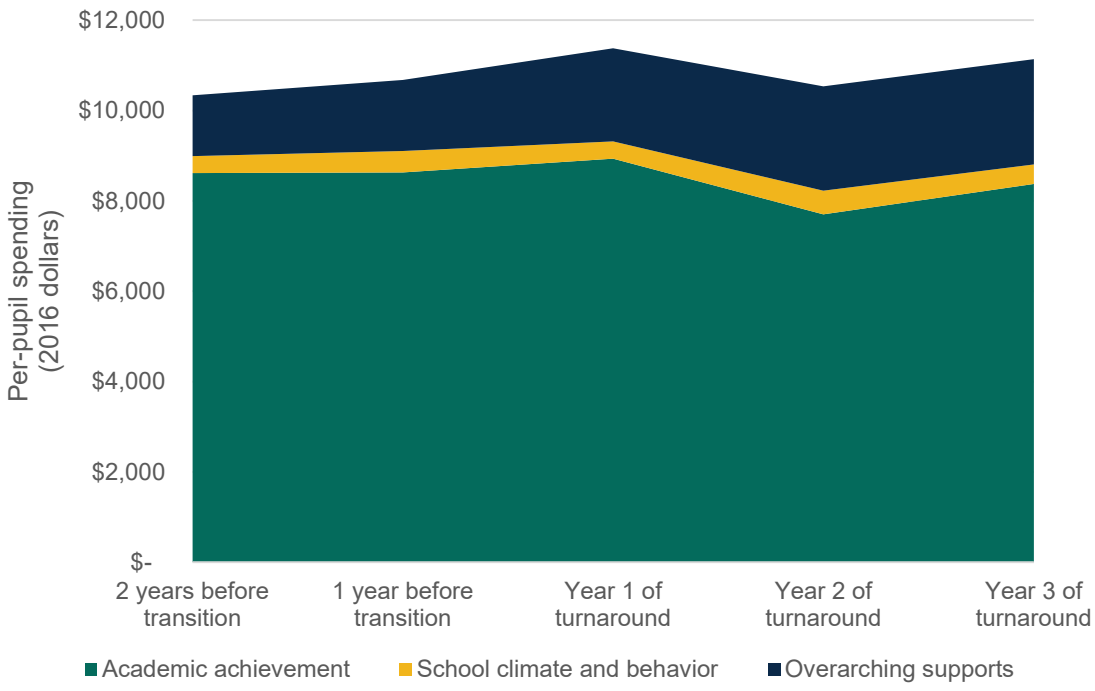
Mathematica

Luis Muñoz-Marín Elementary School (2016-2017 cohort) per-pupil spending

Per-pupil school spending breakdown in the first year that Luis Muñoz-Marín Elementary School became a district-run turnaround school (2016 dollars)

	Personnel	Equipment and materials	Other PD costs	Total spending (per pupil)	Total spending	Percent of total
Spending to support improvements in academic achievement						
General academic expenses	$5,360	$407	–	**$5,766**	**$3,713,367**	**51%**
Special programs	$3,168	–	–	**$3,168**	**$2,040,399**	**28%**
Spending to support improvements in school climate and behavior						
Behavioral supports	$272	–	–	**$272**	**$175,325**	**2%**
School environment and safety	$105	$8	–	**$113**	**$72,788**	**1%**
Spending to support improvements across both domains						
Administrative leadership	$572	–	–	**$572**	**$368,403**	**5%**
Other administrative supports	$1,048	$41	–	**$1,090**	**$701,641**	**10%**
Professional development	$94	–	$176	**$270**	**$173,742**	**2%**
Out-of-school time	$126	–	–	**$126**	**$81,318**	**1%**
Total spending (per pupil)	**$10,745**	**$456**	**$176**	**$11,377**		
Total spending	**$6,920,021**	**$293,813**	**$113,149**		**$7,326,983**	
Percent of total	**94%**	**4%**	**2%**			**100%**

Per-pupil spending by category over time (2016 dollars)



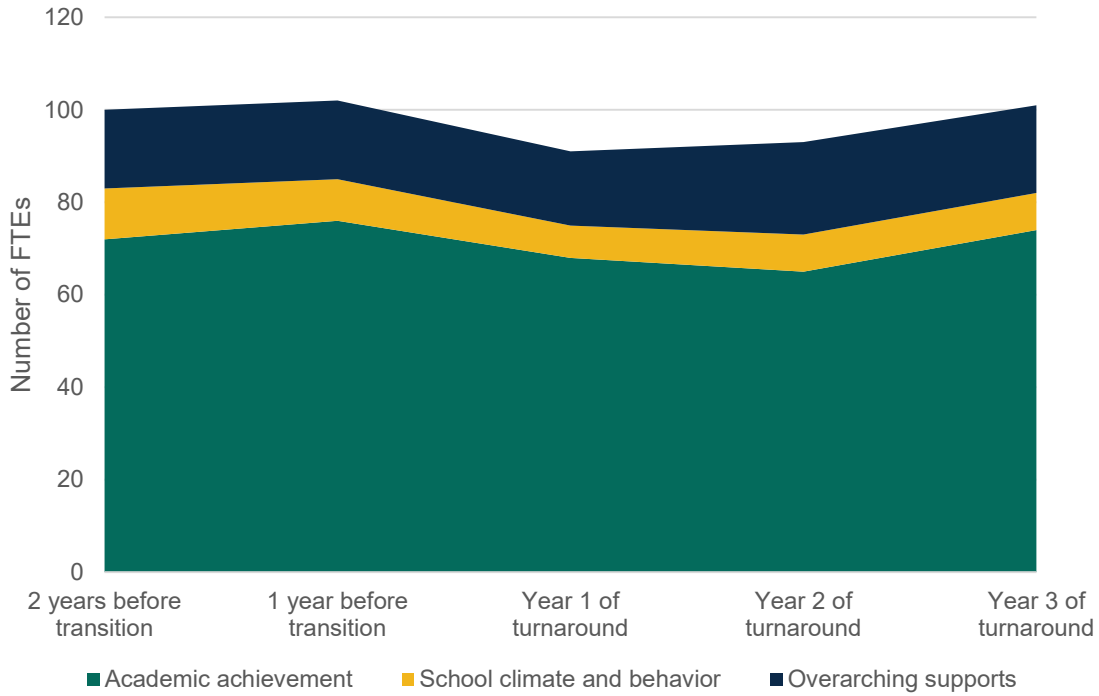
Mathematica

Luis Muñoz-Marín Elementary School (2016-2017 cohort) personnel

Personnel breakdown in the first year that Luis Muñoz-Marín Elementary School became a district-run turnaround school

	Number of staff	Number of FTEs	Pupils per FTE
Personnel to support improvements in academic achievement			
Teachers	34	34	19
Special education staff	36	34	19
Personnel to support improvements in school climate and behavior			
Counseling and behavioral support staff	2	2	322
Behavioral aides	2	2	322
Environment and safety staff	2	2	322
Nurses	1	1	644
Personnel to support improvements across both domains			
Administrators	2	2	322
Administrative support staff	1	1	644
Bus attendants	1	1	644
Facilities staff	9	5	129
Food services staff	22	6	102
Professional development staff	0	0	–
Out-of-school time staff	1	1	644
All staff:	**113**	**91**	**7**

Total FTEs by category over time



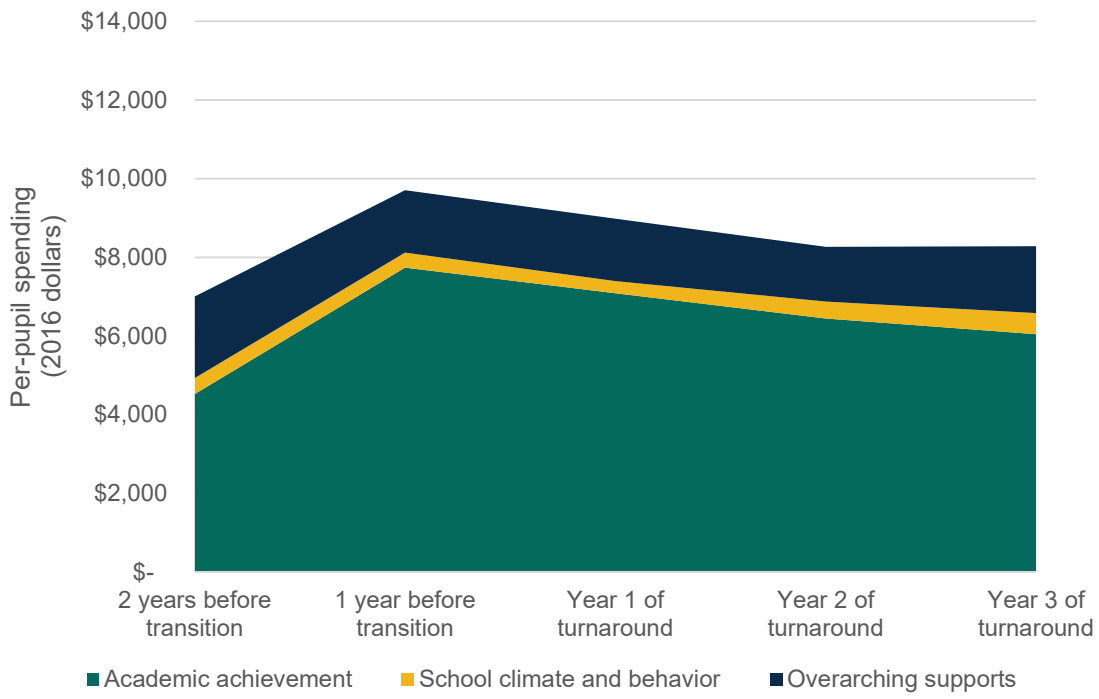
Mathematica

William C. Bryant School (2013-2014 cohort) per-pupil spending

Per-pupil school spending breakdown in the first year that William C. Bryant School became a district-run turnaround school (2016 dollars)

	Personnel	Equipment and materials	Other PD costs	Total spending (per pupil)	Total spending	Percent of total
Spending to support improvements in academic achievement						
General academic expenses	$5,861	$304	–	**$6,165**	**$2,774,358**	**69%**
Special programs	$919	–	–	**$919**	**$413,430**	**10%**
Spending to support improvements in school climate and behavior						
Behavioral supports	$250	–	–	**$250**	**$112,715**	**3%**
School environment and safety	$59	$1	–	**$60**	**$26,847**	**1%**
Spending to support improvements across both domains						
Administrative leadership	$468	–	–	**$468**	**$210,471**	**5%**
Other administrative supports	$879	$50	–	**$929**	**$417,947**	**10%**
Professional development	$96	–	$71	**$1167**	**$75,326**	**2%**
Out-of-school time	$22	–	–	**$22**	**$9,924**	**0%**
Total spending (per pupil)	**$8,554**	**$355**	**$71**	**$8,980**		
Total spending	**$3,849,170**	**$159,719**	**$32,128**		**$4,041,017**	
Percent of total	**95%**	**4%**	**1%**			**100%**

Per-pupil spending by category over time (2016 dollars)



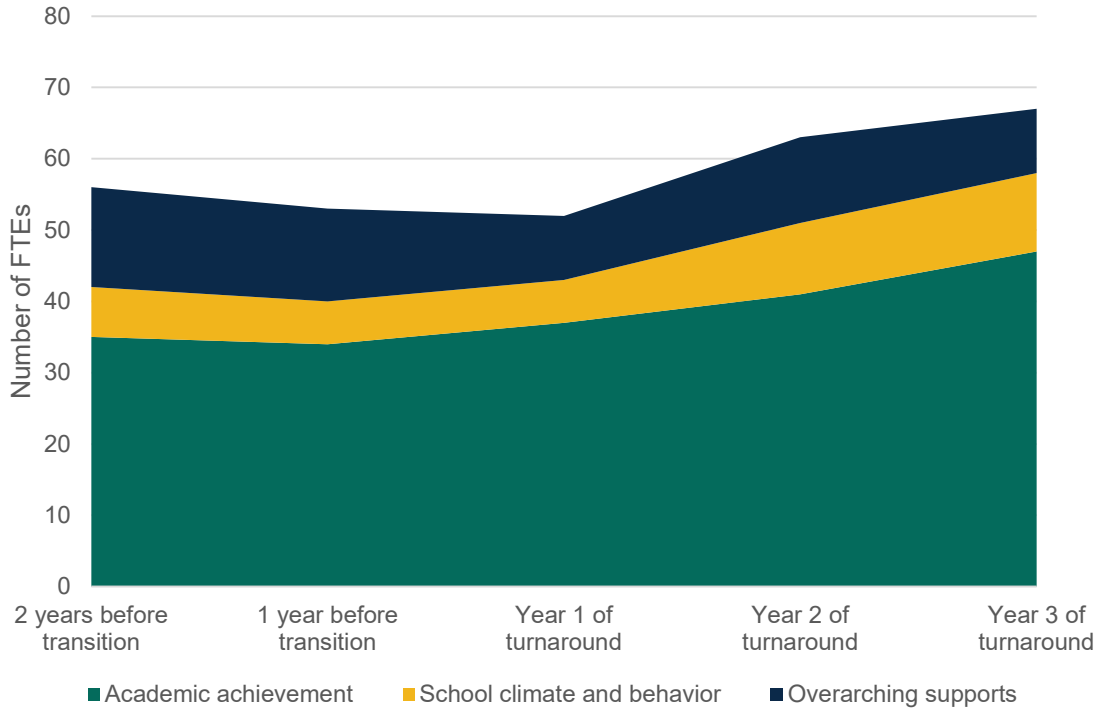
Mathematica

William C. Bryant School (2013-2014 cohort) personnel

Personnel breakdown in the first year that William C. Bryant School became a district-run turnaround school

	Number of staff	Number of FTEs	Pupils per FTE
Personnel to support improvements in academic achievement			
Teachers	27	27	17
Special education staff	10	10	45
Personnel to support improvements in school climate and behavior			
Counseling and behavioral support staff	1	1	450
Behavioral aides	4	4	113
Environment and safety staff	1	1	450
Nurses	0	0	–
Personnel to support improvements across both domains			
Administrators	1	1	450
Administrative support staff	1	1	450
Bus attendants	0	0	–
Facilities staff	7	4	113
Food services staff	4	2	288
Professional development staff	1	1	450
Out-of-school time staff	0	0	–
All staff:	**57**	**52**	**9**

Total FTEs by category over time

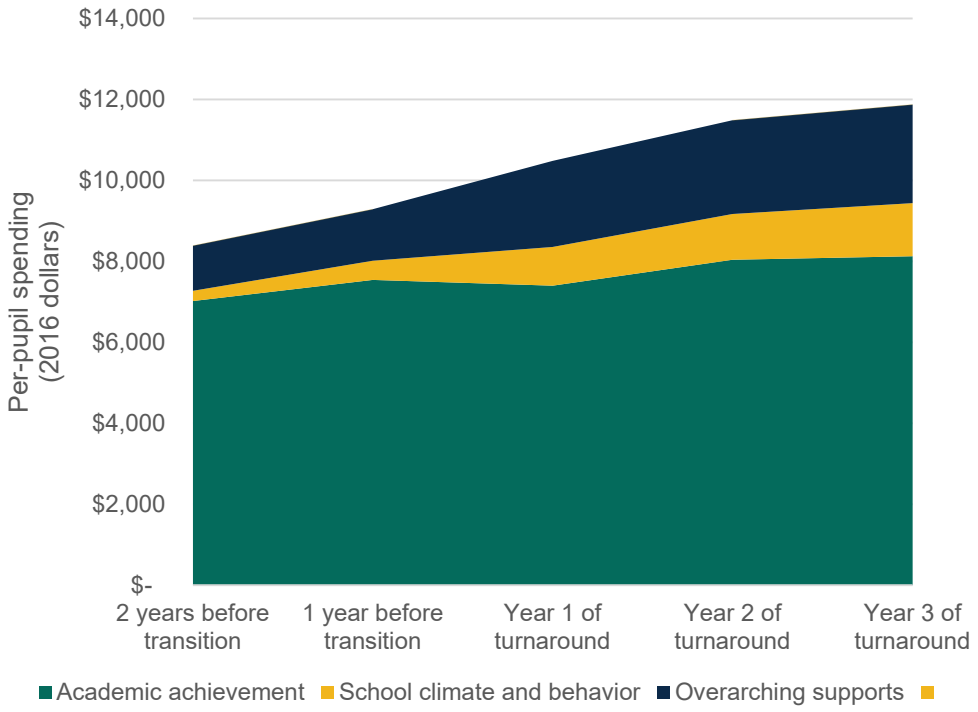


Jay Cooke Elementary School (2016-2017 cohort) per-pupil spending

Per-pupil school spending breakdown in the first year that Jay Cooke Elementary School became a district-run turnaround school (2016 dollars)

	Personnel	Equipment and materials	Other PD costs	Total spending (per pupil)	Total spending	Percent of total
Spending to support improvements in academic achievement						
General academic expenses	$5,723	$355	–	**$6,078**	**$2,887,214**	**58%**
Special programs	$1,323	–	–	**$1,323**	**$628,260**	**13%**
Spending to support improvements in school climate and behavior						
Behavioral supports	$584	–	–	**$584**	**$277,452**	**6%**
School environment and safety	$369	$1	–	**$370**	**$175,839**	**4%**
Spending to support improvements across both domains						
Administrative leadership	$795	–	–	**$795**	**$377,854**	**8%**
Other administrative supports	$934	$49	–	**$983**	**$466,698**	**9%**
Professional development	$78	–	$167	**$245**	**$116,376**	**2%**
Out-of-school time	$99	–	–	**$99**	**$46,985**	**1%**
Total spending (per pupil)	**$9,905**	**$405**	**$167**	**$10,477**		
Total spending	**$4,704,991**	**$192,443**	**$79,245**		**$4,976,680**	
Percent of total	**95%**	**4%**	**2%**			**100%**

Per-pupil spending by category over time (2016 dollars)



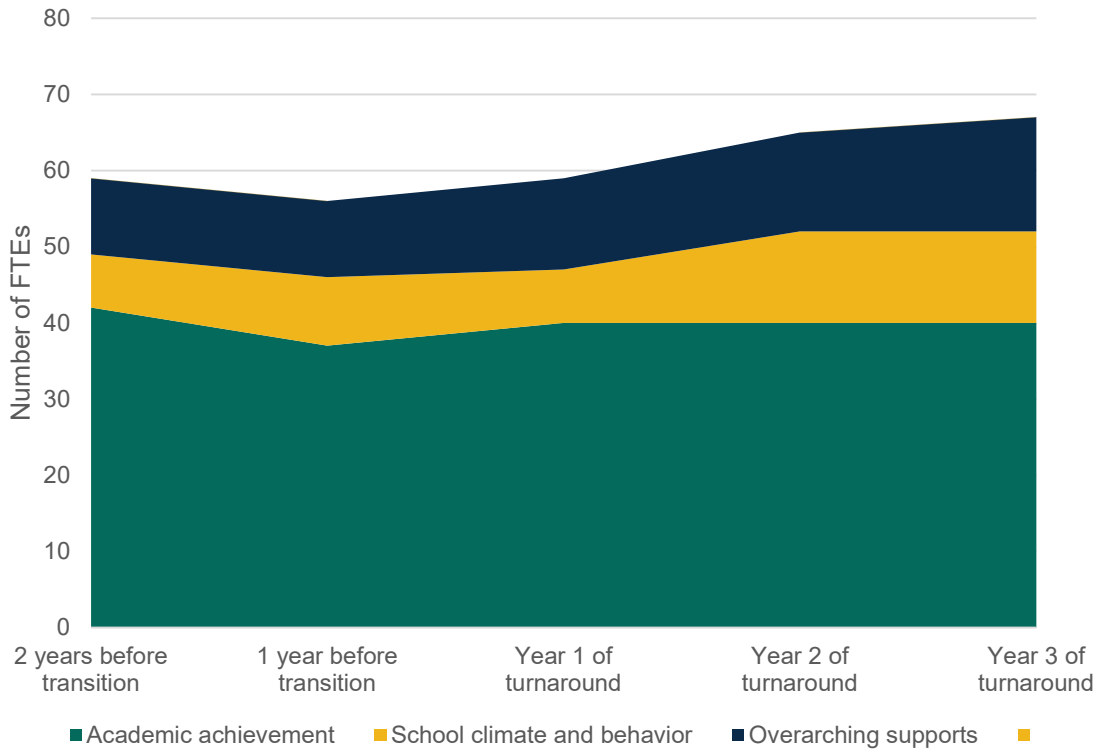
Mathematica

Jay Cooke Elementary School (2016-2017 cohort) personnel

Personnel breakdown in the first year that Jay Cooke Elementary School became a district-run turnaround school

	Number of staff	Number of FTEs	Pupils per FTE
Personnel to support improvements in academic achievement			
Teachers	30	30	16
Special education staff	12	10	48
Personnel to support improvements in school climate and behavior			
Counseling and behavioral support staff	3	3	158
Behavioral aides	0	0	–
Environment and safety staff	5	3	158
Nurses	1	1	475
Personnel to support improvements across both domains			
Administrators	2	2	238
Administrative support staff	1	1	475
Bus attendants	1	1	475
Facilities staff	4	4	119
Food services staff	24	4	110
Professional development staff	0	0	–
Out-of-school time staff	0	0	–
All staff:	**83**	**59**	**8**

Total FTEs by category over time



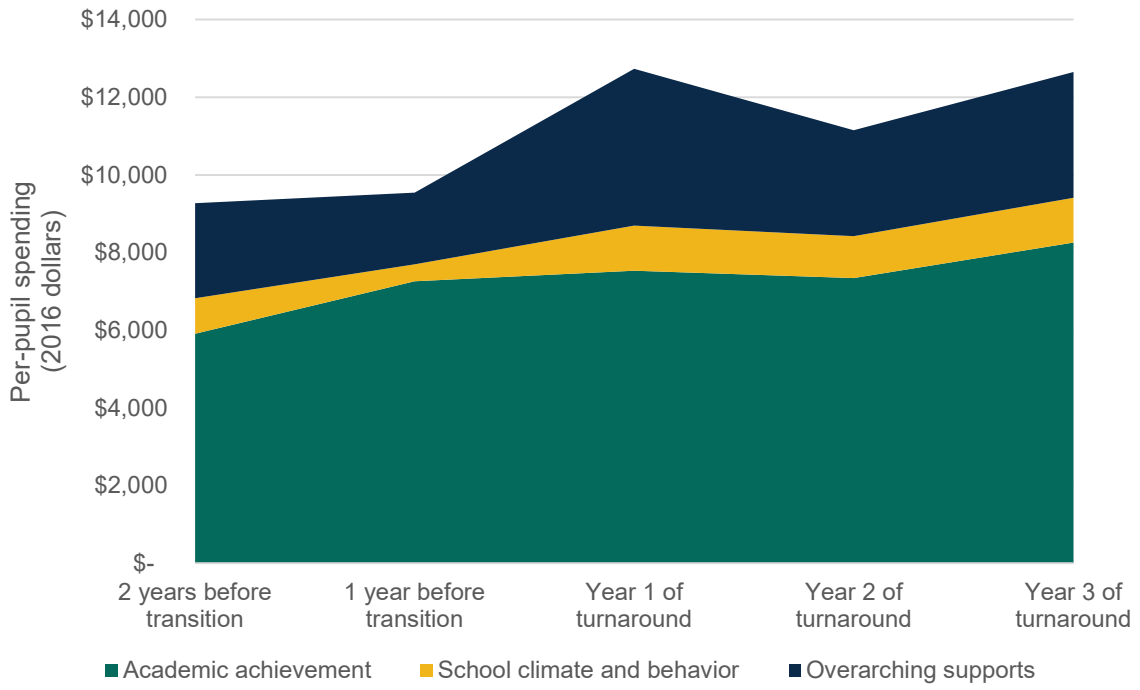
Mathematica

Francis P. Pastorius School (2013-2014 cohort) per-pupil spending

Per-pupil school spending breakdown in the first year that Francis P. Pastorius School became a Renaissance Charter school (2016 dollars)

	Total spending (per pupil)	Total spending	Percent of total
Spending to support improvements in academic achievement			
General academic expenses	**$5,834**	**$3,132,823**	**46%**
Special programs	**$1,698**	**$911,651**	**13%**
Spending to support improvements in school climate and behavior			
Behavioral supports	**$1,007**	**$541,024**	**8%**
School environment and safety	**$156**	**$83,566**	**1%**
Spending to support improvements across both domains			
Administrative leadership	**$1,989**	**$1,068,229**	**16%**
Other administrative supports	**$1,934**	**$1,038,322**	**15%**
Professional development	**$8**	**$4,072**	**0%**
Out-of-school time	**$112**	**$60,142**	**1%**
Total spending (per pupil)	**$12,737**		
Total spending		**$6,839,830**	
Percent of total			**100%**

Per-pupil spending by category over time (2016 dollars)

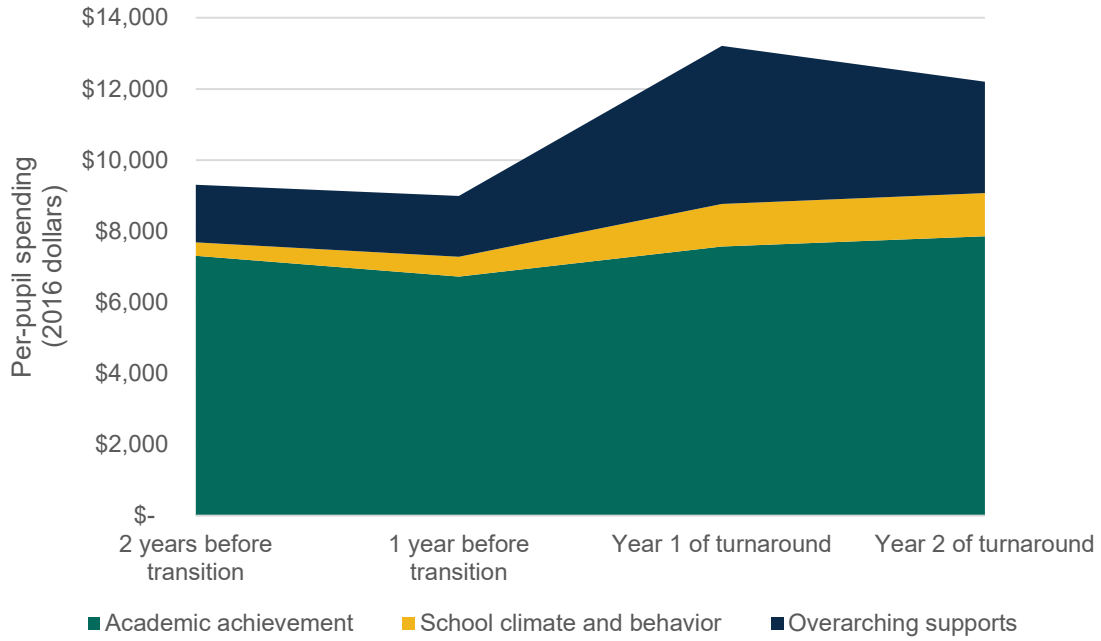


John Wister Elementary School (2016-2017 cohort) per-pupil spending

Per-pupil school spending breakdown in the first year that John Wister Elementary School became a Renaissance Charter school (2016 dollars)

	Total spending (per pupil)	Total spending	Percent of total
Spending to support improvements in academic achievement			
General academic expenses	**$6,138**	**$3,161,318**	**46%**
Special programs	**$1,430**	**$736,518**	**11%**
Spending to support improvements in school climate and behavior			
Behavioral supports	**$1,086**	**$559,265**	**8%**
School environment and safety	**$112**	**$57,668**	**1%**
Spending to support improvements across both domains			
Administrative leadership	**$1,635**	**$841,926**	**12%**
Other administrative supports	**$2,699**	**$1,390,184**	**20%**
Professional development	**$20**	**$10,402**	**0%**
Out-of-school time	**$85**	**$43,831**	**1%**
Total spending (per pupil)	**$13,206**		
Total spending		**$6,801,112**	
Percent of total			**100%**

Per-pupil spending by category over time



Mathematica