



City Connects: Intervention & Impact

Progress Report 2020



cityconnects



INTRODUCTION FROM THE EXECUTIVE DIRECTOR

We are pleased to present the 2020 Progress Report for the City Connects intervention. The studies described in this report reveal the many and varied positive outcomes resulting from the intervention. Across a wide age span, and on varied outcomes, findings confirm the power of integrated and systemic student support – specifically, the City Connects intervention – to enhance opportunity and life chances for schoolchildren living in poverty.

We release this report amidst a time of unprecedented challenge. A pandemic shuttered schools in late winter on almost a moment's notice. As this massive shutdown of schools and society happened, the value of a systemic approach to student support was revealed in clear lines. As students departed to shelter at home, each student already had a customized plan for support developed earlier in the school year as part of the City Connects intervention. This plan, documented in a secure online platform, provided administrators, teachers and support staff with deep knowledge about the strengths and needs of each student. It detailed the various services, resources and enrichment opportunities that each student was receiving from both the school and community agencies. This tailored plan allowed these supports to be easily identified and, if possible, maintained or accommodated. For community agencies, which were also shuttered, the child's plan was redesigned in an alternative and appropriate manner. City Connects Coordinators were positioned to continue their work of supporting students, families, and colleagues in a seamless fashion. In addition to helping children with obvious needs for food, technology and internet access, Coordinators were able to respond to the "hidden needs" of children in families stressed by job loss, homelessness, overcrowding, sickness, and grief.

Now, as our communities seek justice and meaningful change following the deaths of George Floyd, Ahmaud Arbery, Breonna Taylor, and so many others, our work in schools continues. City Connects was developed to lift children over barriers to success, particularly in low-income urban communities. Our work with children and families is anchored in a deep commitment to promoting justice, supporting one another, and tackling oppression.

We are grateful to our City Connects Coordinators and Program Managers, who have demonstrated resilience, creativity, and dedication to our values as they have translated our school-based practice into a system of supports and services delivered exclusively outside of school, during a time for which there has been no playbook and in a context that cries out for justice.

We are thankful for the support and collaboration of the public and private schools in which we work. We thank our partners in Boston, Springfield, and Salem, Massachusetts; Dayton and Springfield, Ohio; Minneapolis, Minnesota; Indianapolis, Indiana; Chattanooga, Tennessee; and Jamestown, New York. Across each of these districts, we are grateful to the superintendents, administrators, principals, teachers, student support professionals, data liaisons, and other school and district staff who have helped to introduce and implement City Connects in their communities and enabled it to work effectively in their schools. We also thank our community partners, who are tireless in finding ways to reach out, collaborate, and deliver services to children and families.

We gratefully acknowledge each of our funders as well as the Lynch School of Education and Human Development, Boston College. Their generous support of City Connects over many years has allowed us to serve students in our hometown of Boston and beyond. Their commitment to this work has allowed us to continue our operations during this time that both challenges our society's health and well-being as well as renews our commitment to support children and families who have suffered disproportionately from the pandemic and societal injustices.

City Connects makes a difference for children, improving educational success and life chances. We are grateful to all who make this work possible, especially those responding "on the front lines" of this crisis. Although the circumstances are difficult and the methods are new, we are extremely proud of and inspired by all that is happening in our school communities. We are glad to have the opportunity to continue this work together.

With gratitude,

Mary Walsh

CURRENT AND PAST FOUNDATION SUPPORT

Barr Foundation

The Better Way Foundation

Catholic Schools Foundation

Children's Aid Society

Fireman Charitable Foundation

GHR Foundation

Joy in Blue Foundation

The Charles Hayden Foundation

The Lookout Foundation

The Richard K. Lubin Family Foundation

The Ludcke Foundation

The Mathile Family Foundation

The Herman and Frieda L. Miller Foundation

The New Balance Foundation

New Profit

I. A. O'Shaughnessy Foundation

Amelia Peabody Foundation

The Philanthropic Initiative

The Sheehan Family Foundation

Strategic Grant Partners

GOVERNMENT AND DISTRICT SUPPORT

Department of Education, Institute of Education Sciences

Massachusetts Department of Elementary and Secondary Education

Boston, MA Public Schools

Hamilton County, TN Public Schools

Jamestown, NY Public Schools

Salem, MA Public Schools

Springfield, MA Public Schools

Table of contents

Introduction	1
The story of our growth	4
Why City Connects?	6
Model and implementation	9
Model	9
Context of implementation	12
Reviews and services	14
Outcomes for students	19
City Connects leads to higher elementary school test scores	21
Sustaining the positive effects of preschool during elementary school	24
Improving enrollment in and completion of postsecondary education	27
Impact on schools	31
Principal satisfaction	31
Teacher satisfaction and impact on teaching	33
Impact on community agencies	36
Conclusions	38
The role of teachers	39

Introduction

Across America, children in high-poverty urban schools face out-of-school challenges that impede their success in the classroom and in life. In the 1960's, the Coleman Report and others concluded that socioeconomic background is a significant factor affecting students' academic achievement (Harrington, 1962; Coleman et al., 1966). Current research confirms that contexts beyond the school are critical, accounting for up to two-thirds of the variance in student achievement (Phillips et al., 1998; Rothstein, 2010).

The impact of poverty outside of school contributes to inequality in educational outcomes; in fact, Berliner (2013) identified poverty as the single most critical factor to address in education reform. The achievement gap related to income has grown as the divide between the income levels of rich and poor families has widened (Duncan & Murnane, 2011; Reardon, 2013).

Collectively, this work points to a straightforward conclusion: schools cannot close the achievement gap without a systemic approach to addressing out-of-school disadvantage (Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010; Walsh & Murphy, 2003). Yet, as noted by Carter and Reardon (2014), while much research has been dedicated to documenting the consequences of inequality, less has focused on what can be done to reduce inequality.

City Connects emerged in response to the need for a systemic approach to addressing the out-of-school factors that can impede a student's ability to succeed and thrive in school (Walsh & Brabeck, 2006). Its mission is to help students—academically, socially, emotionally, and physically—by connecting each and every child to a tailored set of prevention, intervention and enrichment services in the school and community. When a school implements City Connects, effective student support becomes central to its mission and day-to-day operations. The array of services and enrichments in the urban community also become central to the school's role in supporting students and evidence becomes available for evaluating effectiveness.

Starting twenty years ago in a single Boston Public school, the partnership among Boston College, school districts, and community agencies continues to grow. As the 2019-20 school year began, City Connects was in over 90 high-poverty urban public, Catholic, and charter schools across six states.

During this period of growth, and especially in the past five years, interest in the work of City Connects and related interventions has grown in the worlds of practice, research, and policy. Among practitioners, the work of addressing out-of-school factors that influence achievement and thriving in schools has come to be described as "Integrated Student Support" (ISS) (e.g., Moore et al. 2014, 2017). Research seeks to build on evidence for the effectiveness of these interventions. A national research conference sponsored by the American Educational Research Association and hosted by Boston College in 2017 further called for investigation of how ISS works, including the relative importance of different elements and features of specific interventions and the influence of, and impact on, the context of implementation (Center for Optimized Student Support, 2018). National education policy now not only encourages implementation of ISS but also allows the use of Title I funds for efforts that

include ISS (Every Student Succeeds Act). Many states are currently promoting evidence-based ISS for their districts, including five that have filed or passed legislation enshrining ISS in state education policy (America's Promise).

Evidence demonstrates that being in a City Connects school makes a difference for students. In elementary school, students in City Connects schools significantly outperform their peers on report card scores in reading, writing, and math (Walsh et al., 2014). After leaving City Connects and moving on to middle school, students scored higher on statewide math and English language arts tests than comparison peers who were never enrolled in a City Connects school (Walsh et al., 2014). Students previously enrolled in City Connects elementary schools later demonstrated lower rates of chronic absenteeism and dropped out of high school at about half the rate of comparison students (City Connects, 2014).

While the consistency of these findings across methods, samples, and sites argues that City Connects is not merely associated with, but causes, these benefits for students, a new study further supports the claim of causality. As described in this report, students randomly assigned to City Connects schools via a school choice lottery demonstrated significantly higher statewide test scores by grade 5 than peers who were not randomly assigned to City Connects. This study represents the first large-scale randomized controlled trial of an integrated student support intervention serving elementary schools.

New studies have expanded the range of evidence that City Connects matters for children and youth. Preschool students who later enrolled in City Connects schools significantly outperformed former preschool students who never received City Connects in academic achievement in elementary school. Further, new findings reported below demonstrate that after leaving high school, students previously enrolled in City Connects schools significantly surpassed comparison peers in both enrollment and degree completion at two- and four-year colleges. Together, these recent findings support the claim that rigorous integrated student support can sustain the benefits of other supports (such as preschool) and yield long-lasting enhancements of life chances.

With this body of evidence demonstrating effectiveness, it is important to consider the features distinguishing City Connects from other approaches to providing comprehensive, integrated student support to students. While it shares characteristics with various other models, several features of City Connects are distinct:

Grounding in developmental science. Several decades of theoretical and empirical research on the nature of child development have informed both the development of City Connects and its continuous improvement. This grounding helps ensure that the model is sensitive to, and responds to, the reality of how children grow and how they can best be supported.

Attention to four developmental domains to understand root causes. City Connects seeks to understand individual children's strengths and areas of challenge in academics, social/emotional/behavioral, health, and family domains. In seeking this understanding, City Connects builds on its grounding in developmental science to determine not just the surface issues, but the underlying reasons for any challenges.

Awareness of both strengths and needs of each child. Developmental science also supports City Connects' focus not only on individual needs but also on a child's strengths as a key strategy to promote positive development.

Belief in schools as the epicenter of support. Based on a deep and ever-evolving awareness of how schools work, City Connects offers a way to transform structures and roles that are already present in a school, making them more effective and efficient in their support for students.

Highly-trained coordinator of student support. In every City Connects school, a Master's-trained school counselor or social worker, holding state licensure in his or her field, serves as a City Connects Coordinator. These requirements ensure that the Coordinator has the professional skills needed to identify root causes that can reveal which supports will most benefit a student.

For each student, a tailored support plan that reflects the teacher's input. Through a defined and documented process that is supported by a proprietary software system, every year, each student in the school receives a customized support plan. The City Connects Coordinator meets with each teacher individually to discuss every student in the class. In light of each student's unique strengths, needs, and interests, a support plan is drafted.

For students at significant risk, an in-depth review and goals. When the teacher or anyone in a City Connects school has significant concerns about a student, the Coordinator initiates a structured process for an in-depth review. This meeting involves school staff representing multiple professions, such as teachers, student support staff, and school administration.

Defined paths of collaboration with families and community agencies. Cultivating and maintaining community partnerships is a key aspect of the Coordinator role. The City Connects practice and its software make it possible to identify appropriate school- and community-based supports for students and to collaborate with families in decisions about services, referrals, and delivery.

Fidelity monitoring system. Through the proprietary software system, information can be automatically compiled to show the degree to which City Connects is being delivered in any location and network-wide. Developed with reference to research in implementation science, the system supports scaling and sustainability.

Positive outcomes for students, schools, and communities. Strong evidence points to City Connects' effectiveness in supporting positive outcomes for children and youth, both in academic achievement and indicators of life chances. With the addition of a randomized controlled trial involving thousands of students, this research is among the strongest support available for the effectiveness of ISS. Annual anonymous surveys show high levels of satisfaction among principals, teachers, and community agencies.

This progress report provides an in-depth description of the features that distinguish City Connects from other approaches. We offer this report in response to both the growing momentum to find practical and evidence-based ways to support students' out-of-school needs and the research agenda seeking to identify the essential elements of comprehensive student support.

The story of our growth

Since its inception in the 1990s, City Connects has grown from a local collaboration to a national model of integrated student support. As an intervention that values evidence, City Connects has collected and analyzed data on its effectiveness. As discussed below, a consistent set of findings shows that City Connects makes a difference for students.

START UP

The partnership that led to City Connects began when researchers and school and community leaders jointly recognized that out-of-school factors have a significant influence on students' experience in school. Principals and teachers observed that efforts to address these factors in school were often unsystematic, lacking an organized way to coordinate the rich resources of the community. Agencies reported a need for established connections to schools. At the same time, researchers pointed out growing evidence from the developmental sciences that could inform effective ways to address this problem.

Together, educational and community leaders and researchers began to develop a collaborative way to support students by addressing the out-of-school factors impacting student success and thriving in school. Drawing on effective practices emerging at the time, the team met with school principals, teachers, school and district staff, community agency representatives, and families to define a practice systematizing the work traditionally done in schools by school counselors, nurses, psychologists, community partners, and others. The resulting system, designed to permit data collection and measurement of outcomes, was initially implemented in Boston schools in the 2001-02 academic year.

REPLICATE

Through its gradual expansion, City Connects has proved to be replicable. Its first expansion, in 2007-08, was to seven schools in a new geographic area of the city of Boston. The following year, City Connects launched in several urban Catholic schools in Boston. It also expanded outside of the Boston area, to a distant site in Dayton, OH. Two years later, City Connects' success led to the program's launch in "Turnaround" (consistently low-performing) schools in the Boston Public district, as well as public schools in Springfield, MA.

During this replication phase, City Connects' evidence base grew dramatically, demonstrating that City Connects students outperform their peers in measures of academic achievement in elementary school, with benefits persisting into middle school, high school, and beyond.

SCALE

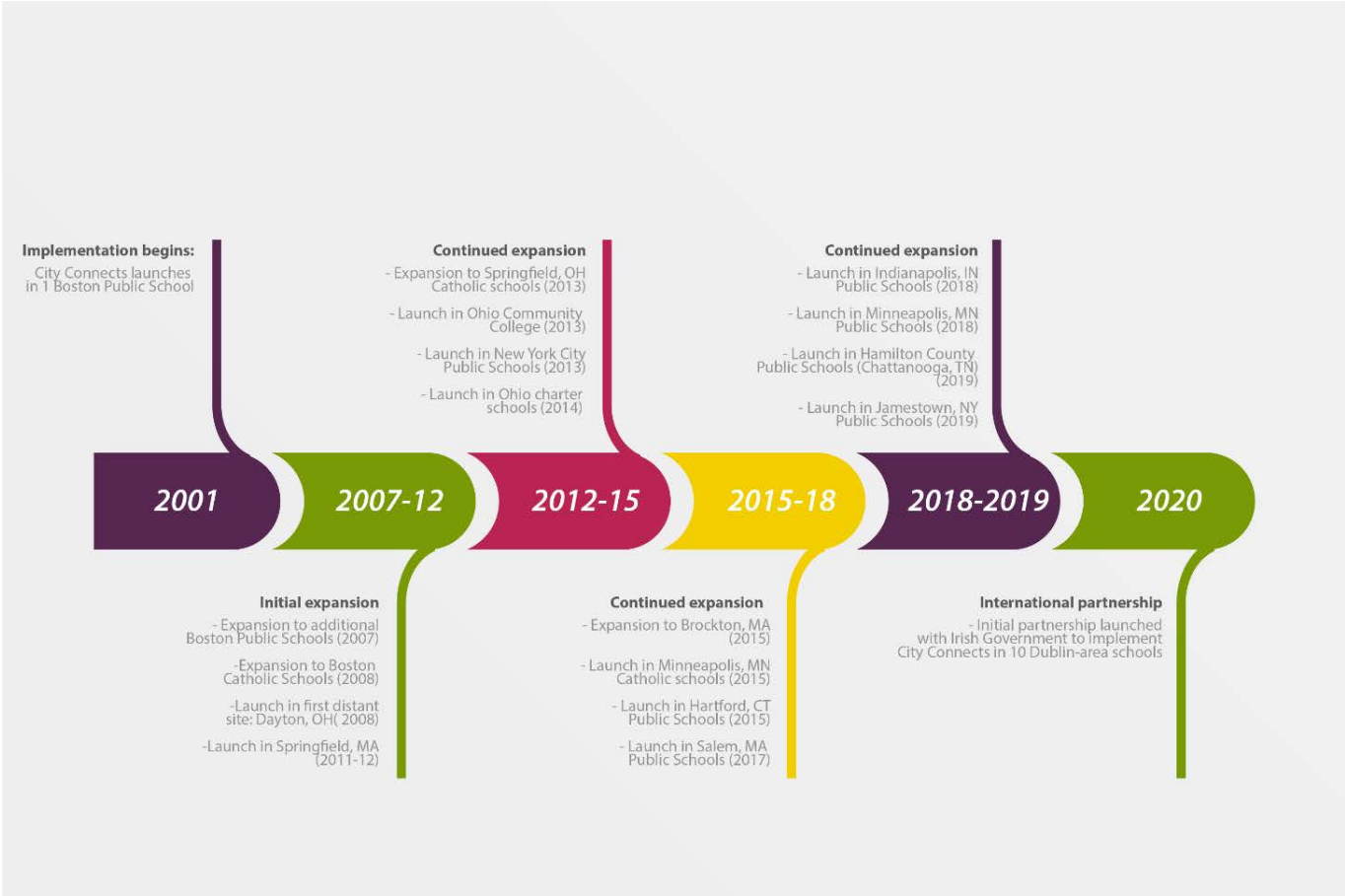
As City Connects' evidence base has expanded, interest in City Connects as a comprehensive approach to supporting all students has grown nationally and internationally. It is currently implemented in 91 public, charter, and Catholic schools across six states. In the 2018-19 school year, over 26,000 students were served.

City Connects is now recognized nationally as a comprehensive approach to student support that can be delivered at low cost and that yields significant, positive outcomes for children’s achievement and life chances.

Most recently, City Connects has begun collaborating with civic leaders in the North East Inner City (NEIC) neighborhood of Dublin, Ireland. The Irish Department of Education and Skills and Department of Children and Youth Affairs, together with the NEIC community, are leading an effort to launch City Connects in ten Dublin primary schools in fall 2020.

Figure 1 illustrates the growth and development of City Connects.

FIGURE 1. Timeline of City Connects' expansion



Why City Connects?

Every student deserves the opportunity to learn and thrive in school. However, what happens outside of school can greatly impact what happens inside of school. For students living in poverty, out-of-school factors can be pervasive and severe. Students and their families may struggle with hunger, housing, medical issues, or other needs. A lack of time or resources may mean that needs remain unmet and connections that would benefit a student or a family are not made. While schools and districts increasingly recognize the need to address these factors that affect learning and thriving, they often lack a systematic way of doing so.

City Connects offers an approach to addressing these out-of-school factors that is grounded in developmental science. **Four core principles** of effective practice emerging from the developmental sciences have informed the development of City Connects and guide the work of addressing the out-of-school factors that impact achievement.

COMPREHENSIVE

Children develop across biological, psychological, and social domains (Bronfenbrenner & Morris, 2006; Ford & Lerner, 1992). Each domain is simultaneously impacting each of the other domains (Rutter, 2007). For this reason, student support must take different developmental domains into account. At the same time, children's needs span a continuum of intensity, from mild to severe. Therefore, student support must be offered at various levels of intensity: prevention, early intervention, and intensive/crisis intervention (Adelman & Taylor, 2006).

CUSTOMIZED

Child development is dynamic and complex, and each child experiences a unique interaction between personal characteristics and environment (Cicchetti & Sroufe, 2000). As a result, no two children's experiences or developmental trajectories are identical (Sameroff, 2009). Also, developmental science points to the value of addressing children's strengths in addition to their needs, creating conditions for resilience (Masten & Tellgen, 2012). Thus, to be effective, student support practices must tailor approaches in ways that take into account the individual strengths and needs of every student in a school.

COORDINATED

Developmental science points out the mutually influential relationships among a child and his or her home, school, and neighborhood (Bronfenbrenner & Morris, 2006). Aligning efforts across these contexts is especially important for children at economic disadvantage (Dearing et al., 2016; Garcia Coll et al., 1996). For example, given the critical role of families in children's development, it is important that student support plans be coordinated with family collaboration. Also, effective student support involves an assessment of strengths and needs with teacher input. To provide the full array of supports students need, schools should leverage the work of

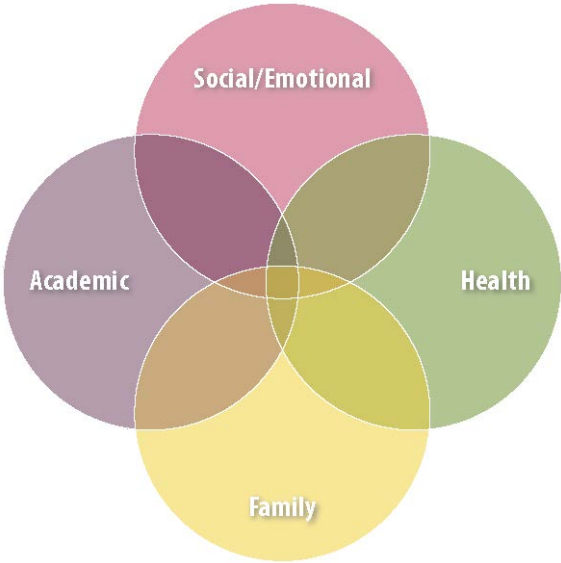
providers and resources from the community (Brabeck & Walsh, 2003; D’Agostino, 2013). Coordination requires communication and systems for aligning the efforts of these people and groups.

CONTINUOUS

Developmental science suggests that continuity of care in a safe, predictable, and stable environment positively impacts development (Waters, Weinfield, & Hamilton, 2000). Implementation of student support should promote this continuity and stability. Further, connecting students to the supports that best match their evolving strengths and needs is an iterative process because development is dynamic and changes over time. For example, early childhood experiences affect what happens in elementary school and beyond (National Research Council and Institute of Medicine, 2000). As a result, children may need varying levels of support across the continuum of their development. Developmental science makes clear that, given appropriate attention to contexts, the course of a child’s development can be altered and enhanced.

City Connects operationalizes these principles in its specific model for student support. As a **comprehensive** approach, City Connects considers the overlapping impact of four developmental domains—academic, social/emotional, health, and family—on children’s readiness to learn and thrive in school. This comprehensive approach makes it possible to seek the root cause behind an apparent challenge and respond appropriately. For example, what surfaces as an academic need may have social-emotional roots. See Figure 2.

FIGURE 2. The interaction of children’s developmental domains



Supports and services are identified in all of these areas at the levels of prevention/enrichment, early intervention, or intensive intervention.

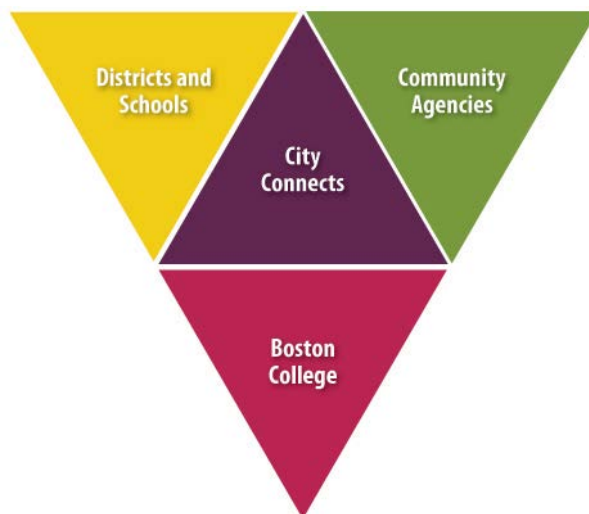
The City Connects practice considers both strengths and needs of every student in a school across these domains, and connects each to services at appropriate levels of intensity in a **customized** way. The practice ensures that each and every child in a school is considered individually to find the unique combination of supports and services

that will help that child thrive. Customization makes it possible to respond to an identified root cause behind a challenge observed by teachers and others in the school. For example, if the comprehensive review of a student’s strengths and needs reveals a possible social-emotional cause for an academic struggle, then offering a social-emotional support—for example, a leadership opportunity or a social skills group—may lead to academic improvement.

Customization also occurs at the level of the school. Research indicates that the climate and overall social conditions of schools have consequences for academic development (Berkowitz et al., 2017; Thapa et al., 2013). To widen opportunities for enrichment, for prevention purposes, and also in cases when a need becomes evident within or across entire grade levels, supports are brought into the school to serve large numbers of students.

City Connects is **coordinated**, structurally linking districts and schools with community partners to make available the full array of supports and services students may need, as shown in Figure 3.

FIGURE 3. The City Connects partnership



This partnership includes structures to enable coordination. For example, core processes ensure teacher input in a review of strengths and needs of every child, close collaboration with families in developing and carrying out individual support plans, and regular communication with community agencies providing services.

Finally, to ensure that student support is **continuous**, City Connects developed a practice in which the individual strengths and needs of every student are reviewed every year, and in which a secure, proprietary database makes it easy to follow up on each student’s service referrals and progress throughout the school year and across years. While it isn’t possible to predict what events might take place in a student’s life, it is possible to respond with consistency and care.

Model and implementation

Model

The City Connects approach for collaborating with a school district to implement its model is grounded in the literature on implementation science informing sustainable interventions (Foley et al., 2015). Before implementation, a steering committee is formed, typically in the spring, with representation from both City Connects and the district. The committee engages in several stages of planning. First, City Connects works with the district to conduct a needs assessment, seeking the input of principals, teachers, families, students, and community agencies to understand current strengths and needs in the area of student support. An environmental scan identifies a range of agencies and resources in the community. Next, City Connects reports findings to the district and, if the district decides to move forward with implementation, provides infrastructure and supports, including materials for recruiting and hiring, and an orientation process for principals. This process enables a shared vision for success and alignment of priorities. Following this planning process, implementation is launched, typically at the start of an academic year.

At the core of the intervention is a City Connects Coordinator in each school, trained as a school counselor or school social worker, who connects students to a customized set of services through collaboration with families, teachers, school staff, and community agencies. The Coordinator follows standardized practices codified in the City Connects Practice Manual, as shown in Figure 4 and detailed in the components below.

In some districts, the Coordinator is a new position created in the school, and in others, an existing position, such as a school counselor role, is redefined to include responsibility for implementing the City Connects model. Depending on the size of the school, two Coordinators may be hired. Typically, there is one Coordinator for every 400 students in the school.

The Coordinator is central to several core components of the City Connects model. Through these practice elements, the Coordinator collaborates with classroom teachers and others to develop a tailored individual support plan for each student in the school.

WHOLE CLASS REVIEW

The Coordinator works with each classroom teacher to review each and every student in the class and develop customized support plans that addresses their individual strengths and needs. There are five aspects of the Whole Class Review (WCR):

- Identifying the strengths and needs of each student across four domains (academic, social/emotional/behavioral, health, and family)
- Identifying and locating appropriate school- and/or community-based services and enrichments
- Establishing the connection between these service providers and individual children and their families

- Documenting and tracking the delivery of services
- Following up to ensure appropriateness of fit

As they conduct the WCR, at the most general level, the teacher and Coordinator group the students in a class into tiers: strengths and minimal risk (Tier 1); strengths and mild (Tier 2a) to moderate (Tier 2b) risk; or strengths and severe risk (Tier 3).

INDIVIDUAL STUDENT REVIEW

Students identified as having intensive needs, at any point during the school year, receive an Individual Student Review (ISR). A wider team of professionals discuss and develop specific measureable goals and strategies for the student. The ISR is conducted by a student support team—an existing school structure that can include school psychologists, teachers, principals, nurses, and occasionally community agency staff members—that is typically led by the Coordinator. The Coordinator communicates with the family before and after the ISR. Typically, 8% to 10% of the students in a school receive an ISR in a given year.

COMMUNITY AGENCY PARTNERSHIPS

A critical aspect of the Coordinator's role is developing and maintaining partnerships with community agencies and institutions. These relationships are vital to providing all students with the supports and enrichments they need to thrive. In 2018-19, over 261,000 services were delivered by about 1,200 different community partners.

CONNECTING STUDENTS TO SERVICES, TRACKING, AND FOLLOWING UP

During and after these conversations with teachers, school staff and leaders, and community agency representatives, City Connects Coordinators connect each student to the particular enrichment and service programs that will best meet his or her strengths and needs. Coordinators work closely with families as students are referred and connected to particular enrichments and services.

To aid with the process, and to permit streamlined tracking and follow-up, City Connects has developed a proprietary web-based student support information system, called MyConnects. The system allows for secure collection of data on student reviews, individual student plans, service referrals, and providers (both school-based and community agencies) who deliver services. The database systematizes the work of referring students to services, contributing to efficiency and helping to enable one Coordinator to serve 400 students. MyConnects data are used for three purposes: 1) tracking and record-keeping at the individual and school level; 2) monitoring and evaluating the implementation of the intervention throughout the school year; and 3) conducting research on the effectiveness of the intervention.

Services can be classified into three broad categories: prevention and enrichment, early intervention, and intensive/crisis intervention. Each category includes services of different types. The tailoring of services is accomplished through different combinations of quantity and type of services from these three broad categories,

resulting in a unique set of services for each student.

Figure 4 provides a visual overview of the core work of the City Connects Coordinator within the context of the school and community.

FIGURE 4. The City Connects core practice



The work of the Coordinator is guided by a local Program Manager, who typically oversees the practice in up to 20 schools. The Program Manager delivers local group professional development every other week, drawing on a City Connects-provided library of resources. The Program Manager also offers coaching and support through regular one-to-one meetings with Coordinators, observation of core practice elements, and formative feedback. Because Program Managers themselves participate in regular professional development from Boston College, they receive continuous support for their work assisting Coordinators to navigate specific school contexts as they implement the City Connects model.

City Connects uses a fidelity monitoring system to ensure consistent delivery of the practice across all sites and further support the work of the Program Manager. Grounded in research on implementation science, the system was designed to provide a snapshot of fidelity across core components of the practice, such as Whole Class Review and Individual Student Review. The fidelity system draws on information gathered through MyConnects during the course of regular work in the practice, automatically compiling this information to offers an overall picture of fidelity as well as component-by-component information. Program Managers are able to see at a glance which components are being implemented successfully, and which can benefit from further coaching, both across their districts and at the individual school level. The system allows City Connects central staff to consult with Program Managers, supporting scaling and sustainability.

Context of implementation

City Connects was implemented in 82 schools in four states across nine school districts (totaling 26,045 students) in the 2018-19 school year, expanding to six states in 2019-20. Six of the nine school districts were public school districts and three were Catholic school districts. Schools served students ranging from pre-kindergarten through grade 12, with a majority of schools serving students in kindergarten through eighth grades. Table 1 presents a summary of pre-kindergarten through grade 12 student characteristics for each school district as well as an average across all City Connects schools.

TABLE 1. City Connects student demographic characteristics from the 2018-19 school year, grades PK-12

	Boston, MA Public	Springfield, MA Public	Dayton, OH Public	Salem, MA Public	Minneapolis, MN Public	Indianapolis, IN Public	Boston, MA Catholic	Dayton & Springfield, OH Catholic	Minneapolis, MN Catholic	City Connects
Number of Schools	22	22	2	8	1	3	11	4	9	82
Number of Students	7,037	7,532	895	3,104	193	972	3,180	1,360	1,772	26,045
% Female	48.6%	48.5%	49.5%	49.3%	45.1%	50.3%	53.9%	51.0%	52.0%	49.7%
% Race/Ethnicity										
African American/Black	36.5%	15.4%	72.5%	24.8%	100.0%	28.3%	23.7%	18.4%	20.8%	26.8%
Asian	10.8%	1.2%	0.0%	3.1%	0.0%	0.2%	5.5%	1.5%	5.9%	4.8%
Hispanic/Latino	36.1%	49.3%	0.4%	10.6%	0.0%	27.2%	26.6%	14.8%	43.7%	33.3%
Multi-racial Non-Hispanic/Other	4.9%	26.8%	26.1%	2.5%	0.0%	40.1%	25.4%	9.5%	12.3%	16.2%
White	11.6%	7.3%	0.9%	59.0%	0.0%	4.2%	18.8%	55.8%	17.3%	18.9%
% Economically Disadvantaged ¹	62.3%*	80.1%*	58.9%*	48.7%*	86.7%*	NA	47.0%	43.4%	62.7%	NA ¹
% Students with Disabilities	22.7%*	23.5%*	6.5%*	20.8%*	8.7%*	8.1%	4.0%	9.5%	5.0%	17.3%
% English Language Learners	34.5%*	19.7%*	0.0%*	12.2%*	36.7%*	25.7%	25.0%	16.5%	26.9%	23.4%

Source: City Connects database unless otherwise indicated by *

* State education department websites (profiles.doe.mass.edu; education.ohio.gov; education.mn.gov/mde/data)

NA: data not available

¹Definition of economic disadvantage varies across sites (eligible for free or reduced-price lunch or participation in one or more state-administered programs such as Supplemental Nutrition Assistance Program (SNAP), Temporary Assistance for Needy Families (TANF), or Medicaid). Aggregate City Connects total cannot accurately be computed.

The information on student demographics presented in Table 1 highlights the significant academic and financial needs that students in City Connects schools experience. In City Connects schools, 81% of the population includes minority students; a third of the student population identify as Hispanic and 27% identify as Black. There are differences across districts in student race/ethnicity, highlighting the varied contexts in which City Connects is implemented. For example, compared to the overall City Connects sample, Ohio and Minnesota Public Schools serve more Black students; Springfield, MA Public and Minnesota Catholic Schools serve greater numbers of Hispanic students; and Boston Public Schools serve the greatest number of Asian students.

Generally, almost a quarter of students in City Connects schools are English Language Learners and about 17% of students receive special education services. Further, at least two-thirds of students in City Connects schools are economically disadvantaged. It is important to note that this measure differs across school districts, and the state-specific definitions have a higher income threshold to qualify as being in economic need than the traditional metric of eligibility for free or reduced-price lunch—and thus, fewer students are classified as experiencing economic disadvantage. Turning to differences in City Connects schools across districts, Boston and Minneapolis public schools serve the largest number of English Language Learners, more than a third of their student population. Further, Boston, Springfield, and Salem public schools serve greater numbers of special education students compared to the other districts. Springfield and Minneapolis public schools have the highest rate of economic disadvantage, where over 80% of their students experience economic hardship.

Reviews and services

During the Whole Class Review process, as described above, the City Connects Coordinator and teacher group students into three tiers: strengths and minimal risk (Tier 1), strengths and mild to moderate risk (Tier 2), or strengths and severe risk (Tier 3). Tier 2 is divided into two levels: 2a (mild risk) and 2b (moderate risk). Table 2 shows the number and percentages of students in each tier across all districts.

TABLE 2. Number and percentage of students placed in each tier across all City Connects sites, 2018-19

	Number	Percentage
Tier 1 (minimal risk)	9,408	36%
Tier 2a (mild risk)	8,199	32%
Tier 2b (moderate risk)	5,514	21%
Tier 3 (intensive risk)	2,831	11%
TOTAL	25,952	100%

Data Source: MyConnects database, 2018-19. Student Ns differ from those in other tables because students without a tier are excluded.

Students identified as having strengths and severe risks (Tier 3) are considered for an Individual Student Review. In some cases, students experiencing significant risks are already receiving targeted supports and follow-up.

Others are reviewed by a team of professionals that assesses the strengths and needs of the individual student and develops a plan with specific, measurable goals and strategies. The Individual Student Review process is described in more detail above. In 2018-19, across all districts, 2,084 students (8%) received this intensive review.

Across all districts, Coordinators work to develop and maintain relationships with community agencies that provide services to students. These services range in intensity from prevention and enrichment services, such as arts or sports programs, to intensive or crisis interventions, like mental health counseling or violence intervention. In 2018-19, City Connects worked with more than 1,200 community partners to deliver more than 261,000 services to students.

Table 3 shows the numbers and percentages of services delivered across categories.

TABLE 3. Total number of services delivered to students, by service category, 2018-19

	Service N	Category %	Total % of Services
CATEGORY 1 (Prevention & Enrichment)			
After-School Programs	6,682	7%	
Before-School Programs	1,378	1%	
Sports or Physical Activity	12,834	12%	
School Vacation and Summer Programs	2,748	3%	
Violence Prevention	448	<1%	
Arts Enrichment Programs	16,684	16%	
Youth Development Enrichment Programs	27,694	27%	
Academic Enrichment Programs	20,787	20%	
City Connects Healthy Life Skills Curriculum	2,618	3%	
High School Programs for Transitions to College, Career, and Job	4,930	5%	
Faith-Based Programs	5,986	6%	
Category Total	102,789		
CATEGORY 2 (Early Intervention)			
Academic Services	24,602	26%	
Social, Emotional, and Behavioral Services	22,142	24%	
Classroom Health Lesson/Intervention	11,962	13%	
Family Services (Donations, Outreach, Conferences, Fuel and Other Assistance)	32,121	34%	
Mentoring Programs	1,774	2%	
Language Services for Students and Families	549	1%	
Category Total	93,150		42%
CATEGORY 3 (Intensive / Crisis Intervention)			
Attendance Support	7,919	32%	
Check-in with City Connects Coordinator	3,080	13%	
Special Education Identification Services	688	3%	
Violence Intervention	337	1%	
Family Services	1,204	5%	
Counseling Services for Students	2,298	9%	
Crisis Intervention	1,022	4%	
Health/Medical Services	7,088	29%	
High-intensity Mental Health Services*	173	1%	
504 Plan Services	608	2%	
Category Total	24,417		
GRAND TOTAL	220,356		

Source: MyConnects database, 2018-19. City Connects delivered an additional 36,359 health screenings and 5,070 IEP-mandated services. *This category includes only the highest-intensity mental health services (therapeutic mentoring, psychiatric services, and intensive care coordination). Other mental health services are included in Social, Emotional, and Behavioral Services; Family Services Counseling; Health/Medical Services; Counseling Services for Students.

Tables 4 and 5 and Figure 5 illustrate the distribution by tier of students receiving different services.

TABLE 4. Mean number of services and percent of services by student tier, 2018-19.

	# of Students	Mean # of Services (Std. Deviation)	1-2 Services	3-4 Services	5+ Services
Tier 1 (minimal risk)	9,408	9.5 (5.3)	6.8%	9.4%	83.7%
Tier 2a (mild risk)	8,199	9.8 (5.4)	5.6%	9.6%	84.8%
Tier 2b (moderate risk)	5,514	10.7 (5.6)	4.4%	7.8%	87.7%
Tier 3 (intensive risk)	2,831	11.6 (6.0)	3.8%	6.6%	89.5%
TOTAL	25,952	10.1 (5.5)	5.6%	8.8%	85.5%

Source: MyConnects database, 2018-19.

Table 4 shows that the mean number of services per student is smallest in Tier 1 (9.5) and largest in Tier 3 (11.6). Additionally, the percentage of students receiving 1-2 services is highest for Tier 1 and lowest for Tier 3. The corresponding proportions for 5+ services are the highest in Tier 3 and lowest in Tier 1. In other words, on average, students experiencing higher risk receive more services. Students in the lowest risk level (Tier 1) are more likely than their counterparts in higher risk levels to receive 1-2 services (as opposed to 3-4 or 5+ services). However, it should be noted that in all tiers, at least 83% of students receive 5 or more services.

Table 5 presents the mean number of services per category for each tier. Category 1 services are classified as prevention and enrichment services, such as before school programs and arts enrichment. Category 2 services are considered early intervention services, including academic support or mentoring. Category 3 services are intensive or crisis intervention services, such as mental health counseling or attendance support.

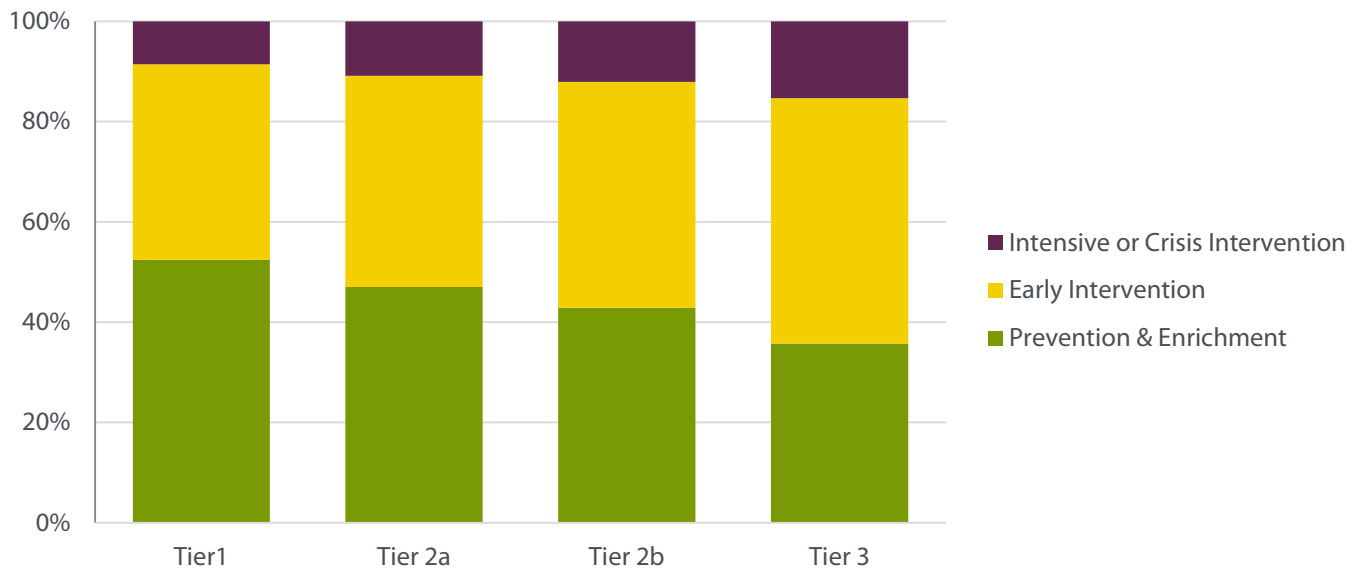
TABLE 5. Mean number of services by category, for each student tier, 2018-19.

Mean Number of Services per Student (Std. Deviation)				
	# of Students	Category 1: Prevention and Enrichment Services	Category 2: Early Intervention Services	Category 3: Intensive or Crisis Intervention Services
Tier 1 (minimal risk)	9,262	4.3 (3.5)	3.2 (2.7)	0.7 (0.9)
Tier 2a (mild risk)	8,085	3.9 (3.6)	3.5 (2.9)	0.9 (1.0)
Tier 2b (moderate risk)	5,450	3.9 (3.4)	4.1 (3.1)	1.1 (1.2)
Tier 3 (intensive risk)	2,796	3.5 (3.2)	4.8 (3.4)	1.5 (1.4)

Source: MyConnects database, 2018-19. Health screenings and IEP-mandated services not included. Student Ns differ from those in other tables because students receiving only health screenings and IEP-mandated services are excluded.

Figure 5 presents a breakdown of the proportion of services from each category (1, 2, and 3) for all tiers of risk (1, 2a, 2b, and 3). Students at all tiers, on average, received most of their services from category 1, fewer services from category 2, and the smallest percentage of services from category 3. When comparing results across tiers, students in Tier 1 receive the highest average number of category 1 services and the smallest average number of category 3 services. The inverse is true for students in Tier 3: these students receive the highest average number of category 3 services and the smallest average number of category 1 services.

FIGURE 5. Proportion of services by category, for each student tier, 2018-19



Source: MyConnects database, 2018-19. Health screenings and IEP-mandated services not included.

CITY CONNECTS ON THE GROUND

As shown in the tables and figure above, students in City Connects schools receive multiple services, regardless of their tier. The following vignettes illustrate the array of services a school and an individual student may receive. While the vignettes are based on real data, all names of people and organizations have been changed, along with other details, to protect confidentiality.

THE SCHOOLS

The students described in these vignettes are enrolled in two different schools: the Helen Keller School and the Dr. Vicente Gold School. Each school serves students in pre-kindergarten through grade 5. Both are located in urban neighborhoods in a large city in the eastern U.S., and each has been implementing City Connects for four or more years. Each school serves about 330 students and has partnerships with about 30 community agencies. District and school services are offered in addition to community partner-provided services. Some services are offered to all students in the school, or all students in a particular grade, while others are provided to smaller numbers of students based on individual strengths and needs. The Coordinator identified and contacted partners providing these services based on ongoing monitoring of school and student needs. Throughout the course of the year, for each student described below, services were added or adjusted based on student progress.

JONAH'S STORY

Jonah is a male student in grade 3 at the Helen Keller School. Through the City Connects Whole Class Review Process, the Coordinator and Jonah's teacher observed strengths and mild educational risk (Tier 2a). Math and attendance were areas of strength for Jonah at the start of the school year. He was reading slightly below grade level. At times, he presented some challenging behaviors in the classroom. On the basis of this review, Jonah was referred to a small-group reading intervention and also to a social-emotional learning intervention.

Later in the fall, an additional need arose. Jonah's family was facing financial hardship, so they received donations from the school and from community-based holiday assistance programs. A need was also identified for seasonally appropriate clothing. A program that distributes supplies and clothing was able to provide Jonah with the warm winter clothing he needed as the seasons changed as well as books and personal-care items.

Over the course of the year, Jonah's behavior challenges escalated. The Coordinator arranged school-based supports (classroom behavioral systems, meetings with the school-based behavior team, counseling) to help manage his oppositional behaviors and anger. The services were effective for Jonah; his behavior improved by the end of the year and he needed less support as he developed more self-control and emotional awareness. Jonah made strong academic progress, which was reflected in growth percentiles on statewide tests.

BRIELLE'S STORY

Brielle is a female student in grade 2 at the Dr. Vicente Gold School. Through the City Connects Whole Class Review process, the Coordinator and Brielle's teacher observed strengths as well as needs and behaviors indicating intensive educational risk (Tier 3). An area of strength for Brielle was attendance; despite the family's struggles with homelessness and a move in the early part of the year, Brielle maintained good attendance. Family was another area of strength, with a parent advocating for Brielle throughout the school year. Brielle's classroom work was below grade level in both reading and math. She had significant behavioral challenges and poor personal hygiene. Her teacher noted that she was often tired in school and that she struggled with emotional regulation, often hitting adults and other children after losing control of her body during outbursts, which were sometimes a result of being teased by peers for having dirty clothing.

Over the course of the school year, Brielle received many services to help support her needs, including reading interventions, out-of-school counseling services, and clothing resources. Building on the strong family involvement with the school, the Coordinator arranged psychoeducation for her parent on personal care for children. After these services were put in place, Brielle's behaviors improved. The Coordinator observed that Brielle was coming to school with better hygiene. She was no longer having outbursts and made more friends.

As the school year continued, Brielle was able to make significant academic progress. She also demonstrated positive growth in behavior, with further reduction in behavior problems. Her teacher reported that she was able to express herself calmly in class. The teacher and Coordinator both observed signs that Brielle was developing stronger friendships, and to both, she appeared to be a happier child.

Outcomes for students

Ongoing evaluation of City Connects has produced a consistent set of findings that demonstrate the long-lasting impact of City Connects. The evidence that City Connects benefits students has converged across various methods, different samples, and multiple sites. Across these methodologies and samples, studies show that attending a City Connects school makes a difference for students through each stage of their development. Beginning in elementary school, after leaving City Connects and moving on to middle and high schools, and into their postsecondary years, City Connects students outperform comparison peers on measures of academic achievement, measures of success, and enhanced life chances and opportunities.

At the elementary level, students enrolled in City Connects schools experience better academic outcomes than their peers not enrolled in City Connects schools. These outcomes include stronger academic effort, higher report card scores, better attendance, and improved performance on statewide tests, and they persist as students move beyond elementary school.

Stronger academic effort

- City Connects students significantly outperform comparison students in academic effort in grades 3 through 5, as reflected in teacher ratings (City Connects, 2010).

Higher report card scores

- Despite starting with lower report card scores in first grade, students in City Connects schools demonstrated significantly higher scores than those in comparison schools in reading, writing, and math by the end of fifth grade. The magnitude of these positive effects was as large as the negative effects of poverty (City Connects, 2010).
- English language learners (ELL) experienced significantly larger treatment benefits on literacy outcomes than non-ELL students. By third grade, ELL students in City Connects schools demonstrated similar reading report card scores to those proficient in English in comparison schools, thereby eliminating the achievement gap in reading between ELL and non-ELL students (City Connects, 2010).
- A study applying a difference-in-differences analysis found that City Connects students who had significantly lower report card scores in reading and math at the beginning of implementation demonstrated significantly greater improvement in those scores, catching up to comparison peers in reading by grade 5 and math by grade 4, and outperforming comparison students in math by the end of grade 5 (City Connects, 2016).
- Experiencing City Connects in sixth grade led to significant gains in middle school academic achievement (beyond the positive effects of attending a City Connects middle school) when school characteristics were taken into account (City Connects, 2016).

Better attendance

- City Connects students were found to have a significantly lower total number of days absent than students from the comparison group beginning in grade 4 and continuing through grade 12 (City Connects, 2014).

Higher performance on statewide tests

- Students who experienced City Connects in elementary school significantly outperformed comparison peers on measures of academic achievement (statewide test scores in English and mathematics and grade point averages) in grades 6, 7, and 8 (Walsh et al., 2014). The beneficial effects were not only statistically significant but also practically significant, with effect sizes ranging from 0.29 to 0.67 (An, 2015).
- A study drawing on a natural experiment taking advantage of the cutoff for kindergarten enrollment demonstrated that students experiencing an additional year of City Connects performed significantly better on statewide tests of English language arts in grade 3 and math in grades 3 and 5 than students who did not have that year of City Connects (City Connects, 2016).
- Immigrant students who experienced City Connects significantly outperformed immigrant students who never experienced the intervention on both reading and math achievement test scores. City Connects also narrowed achievement gaps between immigrant students and their English-proficient peers (Dearing et al., 2016).
- Positive findings related to performance on state tests were replicated in Boston with students enrolled in schools with “Turnaround” (consistently low-performing) designation. After just one year of implementation of City Connects, gaps in student performance between Turnaround schools and comparison schools were narrowed to insignificant levels for grade 3 English and grades 3, 4, and 5 math. After two years, gaps narrowed to insignificant levels for grade 4 and 5 English (City Connects, 2016).
- Positive findings seen in Boston Public Schools replicated in Springfield, MA schools designated as “Transformation” schools, a reform model for consistently low-performing schools. After three years of implementation of City Connects, gaps in student performance between Transformation schools and comparison schools narrowed to insignificant levels for statewide test scores in both English and math at grades 3, 4, and 5. For grade 3 math, grade 4 English and math, and grade 5 English, these gap reductions exceeded What Works Clearinghouse standards for substantively important effect sizes (City Connects, 2016).
- Findings also replicated in Catholic schools in Boston. For example, for math, scores in sixth grade were significantly higher for students in City Connects Catholic schools than for those in comparison schools after controlling for demographics. Also, lower-income students in City Connects schools started out with slightly lower language scores in third grade than lower-income students in comparison schools, but surpassed them by sixth grade (Shields et al., 2016).

As they move into middle and high school, students who experience City Connects in elementary school outperform comparison peers on indicators of educational success and life chances. City Connects makes a positive impact on retention in grade, chronic absenteeism, and high school dropout.

Less likely to repeat a grade

- City Connects students at greatest educational risk demonstrated lower rates of retention (being held back in grade) than comparable students never enrolled in City Connects (City Connects, 2012).

Less likely to be chronically absent

- Students enrolled in City Connects elementary schools demonstrated lower rates of chronic absenteeism in middle and high school (defined as being absent from school 10% of days or more) than students in comparison schools (City Connects, 2014).

Less likely to drop out of high school

- Once they reached high school, students previously enrolled in a City Connects school from kindergarten through grade 5 dropped out of school at about half the rate of students enrolled in non-City Connects schools at the same time (Walsh et al., 2017).

Recent studies have built on and extended this set of findings. First, new research using a randomized controlled trial design – the gold standard in educational research and first of its kind for City Connects – shows positive elementary school academic outcomes for students randomly assigned to City Connects schools. Next, a study examining the synergistic interaction of City Connects and early childhood education suggests that City Connects helps sustain the beneficial impact of preschool. Finally, new research examining the continuing effects of City Connects after high school graduation for students who experienced City Connects in elementary school shows that former City Connects students are more likely to enroll in, and graduate from, postsecondary institutions.

City Connects leads to higher elementary school test scores

As described above, prior studies have demonstrated positive effects of the City Connects intervention on student outcomes such as test scores and high school dropout rates (e.g., Walsh et al., 2014; Dearing et al., 2016; Lee St.-John et al., 2018). While findings have been consistent across studies using different statistical solutions to address the possibility of bias, to date, outcomes research on the intervention has relied on quasi-experimental design.

This section summarizes the first-ever study of the effect of City Connects on student outcomes to use a randomized controlled trial design. This approach is widely regarded as the “gold standard” in educational studies for supporting a claim that observed benefits for students are not merely associated with, but are in fact caused by, the intervention being studied.

The guiding research question for this study was:

Does participating in City Connects as a result of a random lottery assignment improve English language arts (ELA) and mathematics performance in elementary school on a state-administered standardized assessment?

To answer this question, researchers compared academic outcomes for two groups of students in Boston Public Schools: those who received a random offer to attend a school with City Connects and those who received a random offer via the same lottery to attend a school that had never implemented City Connects. This study was possible because the school assignment process in Boston includes a random component. Given that many non-random factors determine where students attend school, City Connects and non-City Connects students may differ systematically on a number of observable and unobservable characteristics. These differences can then make it difficult to ascertain the true causal impact of the City Connects intervention on student outcomes. A random-assignment process permits researchers to isolate the causal impact of the City Connects intervention.

Students included in the analysis

The analytic sample was drawn from 13,432 students applying to attend kindergarten and participating in the Boston Public School enrollment lottery for academic years 2006-07 through 2013-14. In this district, at the time, students applied to schools via a centralized assignment system, wherein families could provide up to 10 choices for a school they would like their kindergarten student to attend. These school preferences, along with “priority” variables, such as having a sibling already attending the school and proximity of the school to the student’s home, were used to assign students to schools. In cases where applicants outnumbered available spots in a particular school, and where some applicants were “tied” on the priority variables (e.g., neither had a sibling already in the school), randomly generated numbers were used to break ties and determine school placement. The final analytic sample consisted of students for whom school assignment was determined via randomly generated number. Of the total sample, 4,119 students had a random chance of being assigned to a school implementing City Connects.

Analytic methods and results

In a first step, a deferred acceptance algorithm¹ was developed to reproduce the district’s algorithm and applied to district-provided lottery number and school preference data in order to confirm the school assignment process. The assignment process was replicated with a high degree of classification accuracy (95%).

Next, deferred acceptance propensity scores along with the random lottery offer to attend a school implementing City Connects were used to estimate the treatment effect using two distinct but complementary analyses: an intention-to-treat (ITT) regression model and an instrumental variable (IV) regression model. The ITT regression specification is valuable because it provides information about the potential impact of City Connects based on a student’s school assignment, regardless of whether they actually attended that school or not. The IV model provides an estimate of effects for students who actually attended City Connects schools. From a research perspective, this difference is important because people do not always comply with random offers. ITT results show how the two random assignment groups performed regardless of whether or not they complied with their school assignment; IV results show performance differences based on actual attendance.

The ITT analysis demonstrated that, starting in grade 4, students who were randomly assigned to City Connects schools in kindergarten scored higher than their comparison peers in both ELA and mathematics on the Massachusetts statewide test, significantly so in fifth grade (see Table 6). This observed result is also practically significant, as reflected in the effect sizes reported in Table 6.

¹ Deferred acceptance (DA) propensity scores represent a student’s “risk” of assignment to a particular school in the school lottery assignment process. Analysts selected only those groups of students for whom the DA propensity score was the same but school assignment varied by lottery offer. This helped ensure that any variability in school assignment between students is solely the result of the randomly generated lottery number. In other words, provided the DA propensity score, lottery offers are random and thus independent of all observed and unobserved covariates (Abdulkadiroglu et al., 2017).

TABLE 6. Impact of City Connects on elementary school statewide test scores (Intention to Treat estimates, effect sizes)

	ELA	Math
Kindergarten	0.01 (.06)	0.06 (.07)
3 rd	0.005 (.06)	0.04 (.08)
4 th	0.10 (.08)	0.08 (.08)
5 th	0.21* (.12)	0.21** (.10)

* $p < 0.10$; ** $p < 0.05$

Standard errors, clustered by school, are in parentheses.

Source: Boston Public Schools data, 2006-07 through 2013-14

Results from the IV analysis were similar; students randomly assigned into and receiving City Connects during elementary school years consistently scored higher in both mathematics and ELA than non-treatment peers, significantly so in grade 5 ELA (effect size 0.60) and mathematics (effect size 0.59) (see Table 7). Such findings are of notable practical importance, as these represent moderate to large effect sizes.

TABLE 7. Impact of City Connects on elementary school statewide test scores (Instrumental Variable estimates, effect sizes)

	ELA	Math
Kindergarten	0.04 (.18)	0.18 (.22)
3 rd	0.01 (.16)	0.12 (.21)
4 th	0.29 (.24)	0.24 (.24)
5 th	0.60* (.32)	0.59* (.32)

* $p < 0.10$

Standard errors, clustered by school, are in parentheses.

Source: Boston Public Schools data, 2006-07 through 2013-14

- Students who were randomly assigned to City Connects schools in kindergarten scored significantly higher than their peers randomly assigned to comparison schools on fifth grade statewide ELA and mathematics tests.
- These findings suggest that City Connects causes improvements in academic performance for elementary school students.
- This study represents the first large-scale RCT demonstrating the impact of an integrated student support intervention in elementary schools.

Sustaining the positive effects of preschool during elementary school

The impact of poverty on educational outcomes emerges in early childhood (Hair et al., 2006), and early childhood education programs are one effort to offset negative impacts. Preschool programs are associated with positive effects on student academic outcomes, but these effects often “fade out” over time. However, positive effects may be more likely to persist when students receive subsequent educational supports (i.e., sustaining environments; Bailey et al., 2017). Similarly, early childhood education programs and later educational supports may complement each other in a dynamic way, such that skill development in early childhood amplifies the effects of later educational supports (Cunha & Heckman, 2007).

Guided by these theories, a set of analyses tested the hypothesis that preschool and City Connects may work synergistically to support students’ math and literacy performance in elementary school. These analyses addressed the question:

Is the effect of preschool and City Connects greater than the effect of preschool alone or City Connects alone?

The analyses compared report card scores and state standardized test scores for math and literacy across four groups: students who received 1) preschool followed by City Connects, 2) only City Connects, 3) only preschool, or 4) neither preschool nor City Connects.

Students included in the analysis

The sample consists of 18,788 Boston Public Schools (BPS) students who started first grade in a BPS school between the school years 2004-05 and 2010-11. Of this sample, 465 students attended preschool and later attended a City Connects school; 1,463 students did not attend preschool but later attended a City Connects school; 3,951 students attended preschool and were later in a comparison elementary school in BPS; and 12,909 students did not attend preschool and were later in a comparison school.²

Analytic methods and results

The analysis included group comparisons of students’ first through fourth grade math and reading spring report card scores, and third and fourth grade math and English Language Arts (ELA) scores on the Massachusetts Comprehensive Assessment System (MCAS) exam, the state’s standardized test. Students could have up to four years of report card scores and two years of MCAS scores.

The analysis used propensity score adjustments (Austin & Stuart, 2015) to reduce potential bias from sociodemographic differences among groups. Multiple group inverse weight propensity scores (e.g., McCaffrey et al., 2013) were created using a generalized boosted regression model. Weights were included in cross-sectional hierarchical linear models to evaluate the synergistic effect of City Connects and preschool on report card scores and MCAS scores, by grade. This report focuses on a subset of models that compare academic performance for students who received preschool-only or City Connects-only to students who received both preschool and City Connects. Each model includes students who had

² We excluded students without first grade data, special education students educated primarily outside of the general classroom setting, students who attended schools that implemented City Connects for only one year, and students without at least one wave of report card scores.

academic performance data for that grade. All models control for student characteristics of gender, race, special education status, English learner status, foreign born status, and cohort.

Figures 6A and 6B display math and reading report card scores and figures 7A and 7B display MCAS scores in math and English language arts for City Connects-only students (purple) and preschool-only students (green), relative to students who received both preschool and City Connects, by grade. Mean scores for students who received preschool and City Connects are set to zero, such that scores for preschool-only students and City Connects-only students are average score point differences. Report card scores could range from one to four. MCAS differences are in raw score points. Statistically significant differences ($p < .05$) are in black bold font.

Preschool only vs. preschool and City Connects: As Figure 6A shows, students who received preschool only had third grade math report card scores that were 0.32 points lower, and fourth grade math report card scores that were 0.42 points lower, on average, than students who received preschool and City Connects. Both differences are statistically significant, and suggest that preschool followed by City Connects may better support third and fourth grade math performance than preschool alone.

City Connects only vs. preschool and City Connects: Compared to students who received preschool and City Connects, students who received City Connects only had lower math report card scores in first, second, and third grades (Figure 6A); lower reading report card scores in first and third grades (Figure 6B); and lower MCAS scores in ELA in fourth grade (Figure 7B), on average. These differences are statistically significant, suggesting that preschool may amplify the effects of City Connects on math and reading report card scores in earlier elementary school grades, and on ELA standardized test performance in fourth grade.

Taken together, results suggest that preschool and City Connects may work synergistically to support student performance in elementary school, and this synergy varies by grade, subject area, and measure. Forthcoming analyses will address the dynamic complementarity of preschool and City Connects in elementary school with comparison among all groups, and further probe how effects differ across grades and measures.

FIGURES 6A-7B. Mean math and literacy score point differences by grade, City Connects-only and preschool-only students relative to students who received both preschool and City Connects, report card and statewide test score

Note: Statistically significant differences between the displayed group and the reference group are in black bold font.

■ City Connects only ■ Preschool only

FIGURE 6A. Report card scores: Math

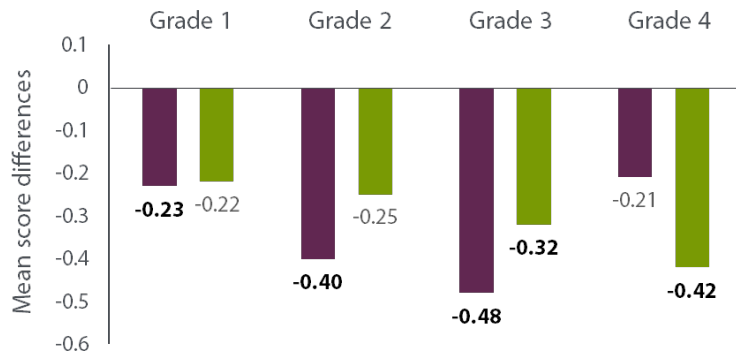


FIGURE 6B. Report card scores: Reading



FIGURE 7A. Statewide test scores: math

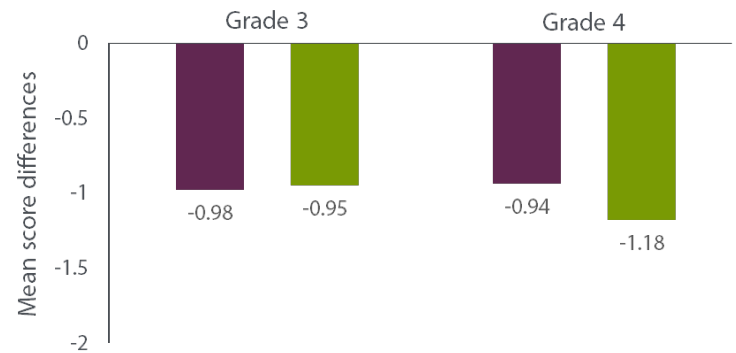
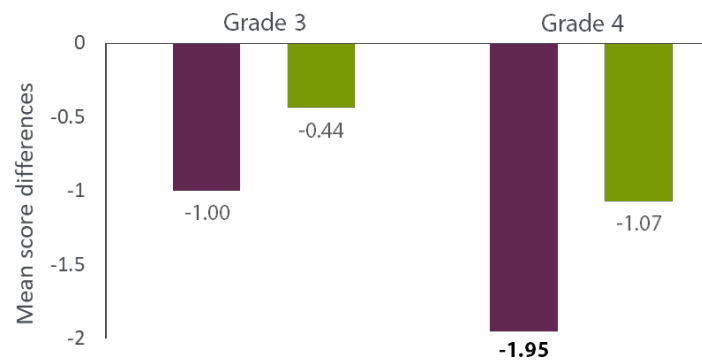


FIGURE 7B. Statewide test scores: ELA



- On average, students who received preschool and City Connects had significantly higher math report card scores in third and fourth grade than preschool-only students.
- On average, students who received preschool and City Connects had significantly higher math report card scores (first through third grades) and reading report card scores (first and third grades) than City Connects-only students. Students who received preschool and City Connects also scored significantly higher on a fourth grade standardized test of ELA than students who received City Connects-only.
- These findings suggest that City Connects sustains positive effects of preschool on elementary school math performance.
- Findings also suggest that preschool and City Connects programs complement each other to support student performance in elementary school, and may do so differently across grades, subject areas, and measures.

Improving enrollment in and completion of postsecondary education

As outlined above, a growing body of research demonstrates that City Connects has positive effects on student achievement in elementary school, and that these benefits persist after students leave City Connects and move on to middle school (e.g., Dearing et al., 2016; Walsh et al., 2014). Further, students who receive City Connects in elementary school are about half as likely to drop out of high school than their comparison peers (Lee-St. John et al., 2018). By extension, City Connects may benefit students in ways that make it more likely for them to attend and graduate from college.

This study examined the effects of City Connects on postsecondary enrollment and completion. It addressed two main questions:

1. Do students who received City Connects in elementary school have a higher probability of **enrolling in postsecondary education** than comparison peers?
2. For all students who enroll in postsecondary education, do those who received City Connects in elementary school have a higher probability of **completing postsecondary education** than comparison peers?

To answer these questions, propensity score weighting (Rosenbaum & Rubin, 1983; Thoemmes & Ong, 2016) was used. This method statistically adjusts for the fact that students are not randomly assigned to City Connects or the comparison

group. Pre-existing student differences that relate to whether a student receives City Connects may pose a challenge for making causal claims about the intervention’s effectiveness. To reduce this potential bias, propensity scores for each student estimate the probability that a student would receive City Connects based on their observable baseline characteristics. The propensity score weights are then included in statistical models that estimate City Connects’ effectiveness.

Students included in the analysis

The analyses combined two sources of data. The first is longitudinal data from Boston Public Schools (BPS) for all students who graduated from BPS high schools during the 2009 through 2017 school years. The second data source is from the National Student Clearinghouse, which provides student records of postsecondary enrollment and completion. From these data, we determined which BPS graduates participated in postsecondary education and which did not.

To examine the effect of City Connects on postsecondary enrollment, we included BPS high school graduates from the 2009 through 2017 cohorts (N = 26,182). To examine the relation between City Connects and postsecondary completion, we used an analytic sample of BPS high school graduates from the 2009 through 2013 cohorts who enrolled in a postsecondary institution (N = 12,733). This analytic sample restriction ensures that students had at least four years after high school graduation to complete postsecondary education, and account for the fact that postsecondary completion is conditional on enrollment.

Students were in the City Connects group if they received City Connects during at least one elementary school year. Students who never received City Connects were in the comparison group. Table 8 shows demographic data separately for each analytic sample.

TABLE 8. Student sample size, years of City Connects, and demographic characteristics for City Connects students and the comparison group, across two analytic samples

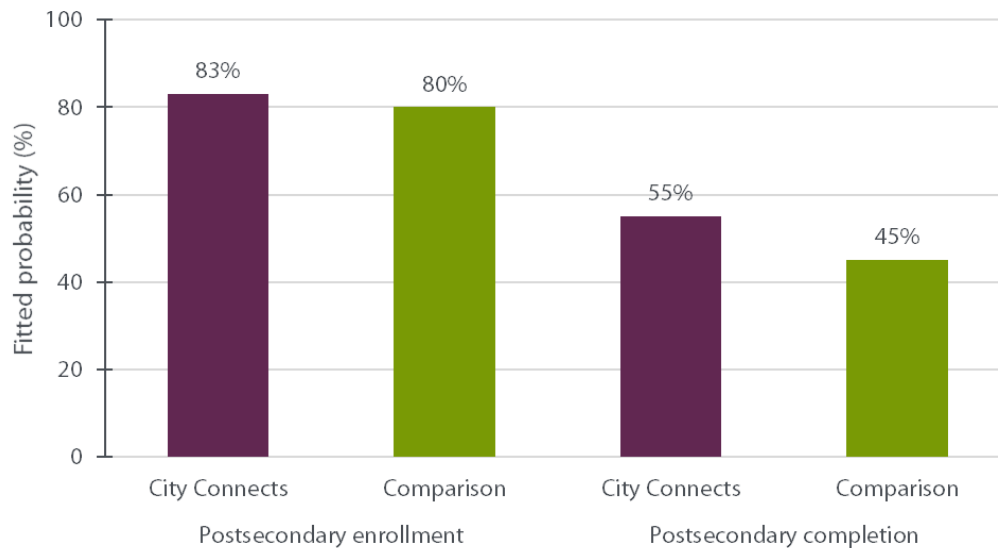
	All BPS Graduates 2009 through 2017		BPS Graduates 2009 through 2013 who enrolled in postsecondary education	
	City Connects	Comparison	City Connects	Comparison
N students	2,116	24,066	732	12,001
Years of City Connects				
Mean	2.65	-	2.17	-
SD	1.67		1.15	
Male	46%	46%	44%	43%
Race				
Black	28%	39%	27%	39%
Hispanic	31%	34%	33%	31%
Asian	29%	11%	29%	13%
White	11%	15%	11%	15%
Multi-Racial/Other	1%	1%	1%	1%
Special education				
< 25% outside of the regular classroom	7%	4%	5%	4%
25-60% outside of the regular classroom	9%	6%	8%	5%
Qualifies for free lunch	89%	84%	89%	82%
Qualifies for reduced-price lunch	3%	4%	4%	4%
English learner	27%	30%	25%	28%

Analytic methods and results

Stabilized propensity score weights (Thoemmes & Ong, 2016) were calculated using students' demographic and academic characteristics that predated participation in City Connects. These weights were included in logistic regression models that compared postsecondary enrollment and completion between City Connects students and their peers who did not receive City Connects.

Controlling for student high school graduation year, gender, race/ethnicity, special education status, free or reduced lunch status, and English learner status, students who received City Connects in elementary school had a higher probability of enrolling in postsecondary education. Further, among students who enrolled, students who received City Connects in elementary school had a higher probability of postsecondary completion. These differences are both statistically and practically significant. As Figure 8 shows, City Connects students had, on average, a three-percentage-point greater probability of enrolling in postsecondary education (left), and conditional on enrollment, a ten-percentage-point greater probability of completing postsecondary education (right).³

FIGURE 8. Average fitted probabilities for City Connects and Comparison students for postsecondary enrollment (left; N = 26,182) and postsecondary completion (right; N =12,733)



- On average, students who received City Connects in elementary school had a significantly higher probability of enrolling in postsecondary education than comparison peers.
- Among students who enrolled in postsecondary education, students who received City Connects in elementary school had a significantly higher probability of graduating than comparison peers, on average.
- These findings suggest that City Connects has a long-term, positive effect on students' academic achievement from elementary school through college.

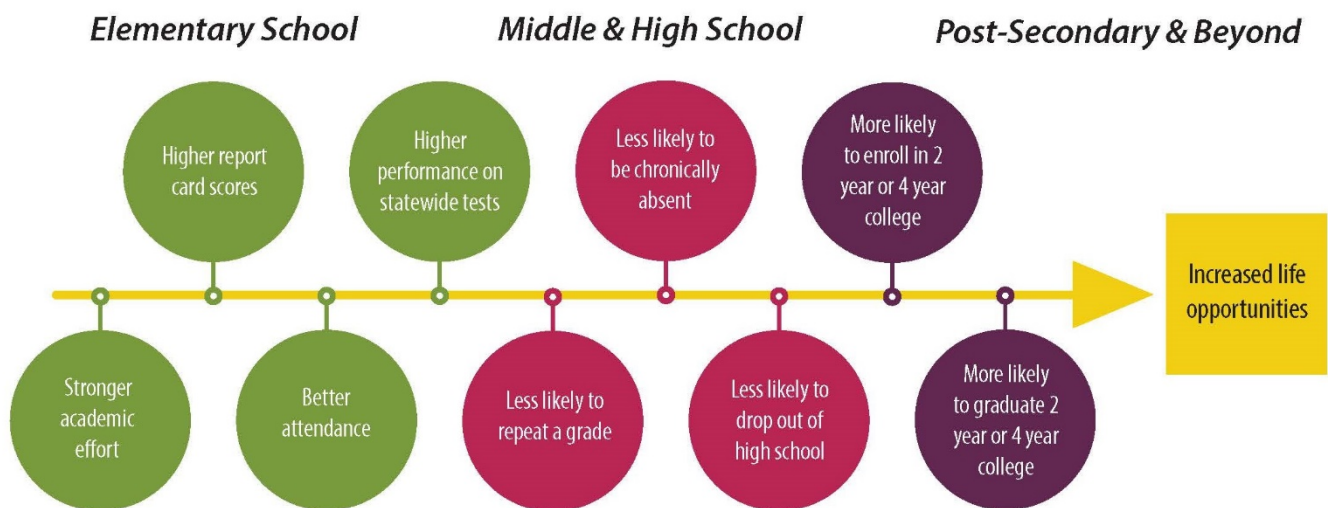
³ Additional details of the study are available in a preprint of the related manuscript (darxiv.org/byadw/). Sensitivity analyses (e.g., Oster, 2019) suggest that the effect of City Connects on students' postsecondary enrollment and completion both appear robust to potential omitted variable bias, albeit more so for completion than enrollment.

Summary of converging findings

Ongoing evaluation of City Connects has produced a consistent set of findings showing that attending a City Connects school makes a difference for students. City Connects students outperform comparison peers on measures of academic achievement, measures of success, and enhanced life chances and opportunities through each stage of their development.

Figure 9 below illustrates City Connects' impact for students, from the time they are enrolled in City Connects elementary schools, through middle and high school, and into their post-secondary years and beyond.

FIGURE 9. The lifetime impact of City Connects



The results of earlier and recent evaluation studies demonstrate the positive effects of City Connects repeatedly, across methodological approaches, sites, and samples. Consistently, studies show that City Connects students significantly outperform comparison peers on a variety of measures of academic achievement and thriving. The accumulation of evidence, including results from the first large-scale RCT of an integrated student support intervention in elementary schools, now permits an argument that City Connects causes these benefits for students.

Impact on schools

Each spring, City Connects conducts confidential surveys of principals, teachers, and community partners who work with City Connects. The surveys are designed to assess participants' satisfaction with City Connects and to identify both strengths and opportunities for improvement. The survey is administered electronically using the Qualtrics survey tool. Principals across all districts are surveyed annually. Teachers and community partners are surveyed every other year after three years of implementation in a district.

In the spring of 2019, City Connects surveyed all groups, across all districts. In other words, every principal, teacher, and community partner working with City Connects in the 2018-19 school year was invited to participate in the survey. Survey participants worked in Boston public and Catholic schools; Springfield and Salem, MA public schools; Indianapolis, IN public schools; Dayton and Springfield, OH Catholic and charter schools; and Minneapolis, MN public and Catholic schools. The findings below are presented in aggregate across all districts. In this section, we report on principal and teacher survey findings, returning to community partner findings in the section that follows.

Principal satisfaction

Principals and administrators at all sites were invited to participate in City Connects annual satisfaction survey.⁴ Across all districts, 92% of principals reported satisfaction with City Connects, and 95% would recommend City Connects to another principal. Two out of every three principals (67%) report having more time for their core work, and 92% reported that student support had improved in their schools as a result of City Connects. In the words of a Boston principal,

“We have an opportunity to engage in a comprehensive review with a team of experts to develop a goal and data-driven plan of support.”

Principals reported that Coordinators communicating with and supporting families was a particular area of strength for the intervention: 85% of principals report that the Coordinator plays an important role engaging families, and 93% report being satisfied with the supports that the Coordinator provides for families. When asked to identify ways the City Connects Coordinator works with families in the school, a majority of principals reported that Coordinators served as a point of contact for families in the school (78%), reached out to families on behalf of the school (87%), supported teachers in having difficult or sensitive conversations with families (82%), connected families to services (93%), and supported families with transitions (71%).

In addition to being satisfied with City Connects' work with families, principals also reported satisfaction on a range of Coordinator-provided supports. See Table 9.

⁴ The survey was sent to 94 principals and assistant principals across districts, and 61 (65%) participated. Not every principal responded to every question. Therefore, item-level Ns may vary.

TABLE 9. Percentage of principals satisfied with the Coordinator-provided supports in each area

I am satisfied with the support City Connects provides to:	N=60
Students (e.g., securing services, providing individual support, running lunch groups)	92%
Teachers (e.g., conducting Whole Class Reviews and assisting with behavior challenges in the classroom)	90%
Families (e.g., family outreach, following up with families, assisting with parent meetings)	93%
Principals/Administrators (e.g., coordinating Student Support Team, supporting administrative activities)	93%
The School (e.g., their presence on the playground, bus and lunch duty)	79%
Community Partnerships (e.g. maintaining communication with agencies, following up to secure services, coordinating agency work in the school)	88%

Source: City Connects 2019 principal survey

Principals also reported on how helpful they found various aspects of City Connects in their schools. As shown in Table 10, a large majority of principals (92% or more for all items) found each aspect of the program helpful, with coordination of Whole Class Reviews and connecting students to services being the highest-rated program aspects at 100% satisfaction each. In the words of a Springfield, MA principal,

“Our City Connects Coordinator reaches out regularly to families, sits in on conferences, and is an active participant at the school in all areas.”

TABLE 10. Percentage of principals rating specific program aspects as (somewhat/very) helpful

The following aspects of City Connects have been somewhat/very helpful in my school:	N=60
Facilitation of the Student Support Team	97%
Coordination of Whole Class Reviews	100%
Students being connected to services	100%
Individual and small group student support	97%
Behavior management support	92%
Teacher support	92%
Family support	95%
Focus on health	92%
Having the extra staff member in the building	97%
Management of relationships with community agencies	95%
Administrative support	95%
Student support data (e.g., Mid-year report, End-of-year report)	92%

Source: City Connects 2019 principal survey

Principals also reported on other features of the program’s impact. For example, 93% of principals rated City Connects as somewhat or very helpful at impacting the following: student academic achievement, student health and well-being, the quality of supports and enrichments provided to students in the school, and school climate. Moreover, 95% of principals rated City Connects as somewhat or very helpful at impacting the number of community-based service providers in their school.

In the words of a Boston Catholic principal,

“The City Connects program provides our school with a trained employee who can offer support for the behavioral, academic, and social emotional needs of our students, as well as provide support to the teachers, families, administration, and students in a variety of ways that no other person on staff could.”

Teacher satisfaction and impact on teaching

Teachers across all City Connects districts and sites were invited to take part in a survey in spring 2019⁵. Like principals, teachers reported high levels of satisfaction: 90% of teachers report that they are satisfied with City Connects and 91% would recommend the intervention to a colleague. 90% are satisfied with the supports City Connects provides to the school and 86% are satisfied with the supports provided to students and to themselves as teachers.

Teachers were also asked about the Whole Class Review process, in which the teacher and Coordinator review the strengths and needs of each individual student across academic, social/emotional/behavioral, health, and family domains. As shown in Table 11, teachers report that this process influences various aspects of their work with students.

TABLE 11. Percentage of teachers who agree with each statement about the Whole Class Review

I agree that:	N=679
The Whole Class/Grade Review process enhanced my awareness of the dynamics of my class as a whole.	88%
The Whole Class/Grade Review process enhanced my awareness of my students as individuals.	90%
The Whole Class/Grade Review supported my ability to identify new options for working with my students.	83%
The Whole Class/Grade Review was helpful to me.	84%
My instructional practices were enhanced as a result of the Whole Class/Grade Review.	74%
The Whole Class/Grade Review process added to my knowledge of the non-academic aspects of my students’ lives (e.g., neighborhood and family context).	84%
The Whole Class/Grade Review process increased my empathy for students.	85%

Source: City Connects 2019 teacher survey

⁵ The survey was sent to 2,005 teachers, and 853 (43%) participated. Not every teacher answered every question. Therefore, item-level Ns may vary.

As seen in Table 11, the Whole Class Review process may lead to a shift in teachers' perspectives on individual students. In the words of a Salem, MA teacher,

"[City Connects] looks at the whole student so we are not independently and ineffectively spending time and energy trying to figure out why a student is behaving a certain way or not succeeding and what can be done. Instead, [City Connects] has the big picture of the student and takes a team approach."

Teachers who participated in the Whole Class Review process report that knowing more about the non-academic aspects of their students' lives influences their teaching practice. 96% or more of teachers reported that they:

- Provided more differentiated instruction to meet the various learning styles of their students (e.g., small group work, visuals, and movement);
- Applied effective strategies to support students with specific academic needs;
- Were patient with their students because they better understood the non-academic issues that contributed to students' struggles in the classroom; and
- Thought about the factors influencing student behavior before reacting to the behavior.

In the words of a Springfield, MA teacher,

"City Connects does exactly what it's called. It connects our school with the city/community around it. It is the epitome of the truth that it takes a village to raise a child. I would not have the time, as a classroom teacher, to research and connect all the resources available to my students. We need a City Connects worker to do this important work."

In addition to the Whole Class Review process, teachers were also asked to respond to a set of questions regarding the Individual Student Review, which 74% of teachers reported participating in. In an Individual Student Review, the Coordinator brings a team together to discuss strengths, needs, and specific goals for students experiencing intensive risk. In addition to the Coordinator and teacher, the team may include a principal or assistant principal, a school nurse or other support staff member, community agency representatives, and/or family members. Teachers who participated had positive feedback about the process: 92% agreed that students who would benefit from an Individual Student Review received one and felt that the goals and objectives set for students were on target. Furthermore, 87% of teachers agreed that having a tailored plan in place for the student(s) who received an Individual Student Review made a difference to them as teachers. A majority of teachers were satisfied with the follow-up after the review (82%) and the quality of services their students received as a result of it (84%). In the words of an Indiana teacher,

"Sitting in on and participating in the [Whole Class Reviews], it was magical to see how each child was receiving a truly uniquely tailored plan of support. The fact that each child is individualized reiterates their worth and encourages teachers to attempt to understand first and 'deal' second when it comes to misbehaviors or other difficulties."

Teachers also responded to a set of questions regarding the specific ways City Connects Coordinators supported their work. Coordinators' ability to serve as a source of knowledge about student support, to support teachers in their work with

families, to obtain services for students, and to be someone to talk to and problem solve with were among teachers' top-rated supports. Teachers describe their City Connects Coordinators in the following ways:

"Incredible at working collaboratively with me to support the needs of the students in our building."

"A sounding board and overall great support to all faculty in whatever area they needed an additional hand."

"Someone else who loves the students as much as I do."

Teachers also reported on the helpfulness of City Connects in addressing other issues in the classroom. For example, 86% of teachers reported that City Connects helps them to follow through in securing non-academic supports for their students, and 80% agreed that City Connects helped them to address student behavior. More than three quarters found City Connects to be helpful in ensuring students came to class prepared to learn (78%), and in helping them to connect with students' families (79%). 76% of teachers reported that City Connects helped make their classrooms more conducive to learning. Moreover, more than three quarters (76%) agreed that City Connects promotes their effectiveness as a teacher.

Collaborating with families is a critical piece of the City Connects Coordinators' role, and Coordinators can support teachers in this area of work. Overall, 76% of teachers reported that Coordinators serve as a point of contact for families in the school and increase their awareness as teachers of the services available for families, such as translation, housing, and transportation. More than half (58%) of teachers agreed that Coordinators supported them in having difficult or sensitive conversations with families, and 61% reported that Coordinators contacted families on their behalf.

In the words of a Minnesota teacher,

"[The most important benefit of City Connects is] the connection between families and myself that [Coordinator] was able to make. She supports me with having difficult conversations with students and families. She has the knowledge and resource information that make these conversations easier to have."

A Springfield, MA teacher reported,

"City Connects allows teachers to interact with caregivers on a different, non-academic level that is equally as important to students' success. They help caregivers find the support they need to help their students."

Impact on community agencies

Community agency partners across all City Connects districts were invited to take part in a survey in the spring of 2019.⁶ Like the principals and teachers who were surveyed, community partners reported high levels of satisfaction with City Connects. For example, 97% of community partners reported overall satisfaction with City Connects *and* would recommend City Connects to another agency. Further, 96% felt that City Connects was effective at identifying the needs of the students they work with and 92% agree that City Connects is effective at matching students to services.

In the words of an Indiana partner,

“I worked closely with the City Connects Coordinator and was able to get several of our students involved in programs that would have not been possible without the support and actions of City Connects.”

According to a community partner in Ohio,

“City Connects has been instrumental to help me deliver [services] to their students. Their ability to connect to students and their families provides an almost seamless referral process that helps the student meet their social emotional needs. I work in many schools and childcare institutions and none matches the City Connects experience.”

Community partners were also asked to indicate their level of satisfaction when working with schools with City Connects and schools without City Connects across specific aspects of school-related work, such as communication, referrals, and follow-up. Participants were first asked to respond to a set of survey questions pertaining to their work with City Connects schools. They were then prompted to answer the same set of questions related to their work with other (non-City Connects) schools.

Across each dimension of good collaboration, community partners were more satisfied with City Connects schools than schools without City Connects. The results are shown in Table 12.

⁶ The survey was sent to 575 community agency representatives who may have partnered with City Connects within the past two years. Of those, 140 (24%) participated in the survey. Note that some survey recipients did not participate because they did not work with a City Connects school. Not every community agency respondent answered every question. Therefore, item-level Ns may vary.

TABLE 12. Percentage of community partners who are satisfied (very/somewhat) with dimensions of partnership with City Connects and non-City Connects schools

I am satisfied with:	City Connects Schools N=91	Non-City Connects Schools N=104
Communication with primary contact	99%	79%
Referral process (e.g., identifying students that would benefit from your services)	94%	77%
Follow-up on service delivery (e.g., checking to ensure the student(s) received the service)	96%	73%
Effectiveness of your partnership in reaching goals	98%	79%
Providing you with feedback that would improve service delivery, when appropriate	92%	69%
Providing opportunities for you to provide feedback to the school	91%	65%
The cultural competence of your primary contact in the school	96%	82%

Source: City Connects 2019 community partner survey

As the table illustrates, across all dimensions, partners were more satisfied in their work with City Connects schools than with non-City Connects schools, particularly in the areas of communication, feedback, and follow-up.

According to a Boston partner,

“We [run programs] in select schools and community organizations. Some of our sites that have City Connects [Coordinators] handle our communications and contacts at the schools and they have consistently been some of the stronger programs because of their ability to dive deeply into the lives of the students that we are all partnering with. Their communication and flexibility with our volunteers on the ground, and their logistical sessions with staff, are incredibly helpful for our programs.”

Conclusions

Since beginning twenty years ago in a single Boston Public school, City Connects has expanded its operations to over 90 public, Catholic, and charter schools across six states. Throughout this period of growth, and particularly in the past five years, interest in City Connects and similar interventions has increased among practitioners, researchers, and policy makers. The work of addressing out-of-school factors, described as “Integrated Student Support,” is at the core of the City Connects practice.

City Connects is distinct from other approaches in several key ways. First, it is grounded in developmental science. Both theoretical and empirical research on the nature of child development have informed the development – and continuous improvement – of City Connects. City Connects pays keen attention to four developmental domains to understand root causes. In seeking to understand individual children’s strengths and areas of need, City Connects works to uncover and address not just the surface issues, but the underlying reasons for any challenges.

City Connects believes that schools are the epicenter of support. It provides a plan to transform pre-existing school structures and roles, making them more effective and efficient in supporting students. By having a highly-trained coordinator of student support in each school, City Connects can ensure that a tailored support plan is developed for all students, and for students at significant risk, an in-depth review that utilizes a structured process is held. City Connects has also outlined defined paths of collaboration with families and community agencies. Both are key partners in student success.

City Connects also stands apart in its ability to monitor and evaluate its implementation and its effectiveness. A fidelity monitoring system uses a proprietary software to automatically compile information showing the degree to which City Connects is being delivered in each and every location across the network. Moreover, years of evaluation – including a randomized controlled trial involving thousands of students – points to positive outcomes for students, schools, and communities. The outcomes include both academic achievement and indicators of life chances. At the elementary level, students enrolled in City Connects schools experience better academic outcomes than their peers, including improved effort, better grades, better attendance, and improved performance on state tests. In middle and high school, students who previously experienced City Connects in elementary school outperform comparison peers on indicators of educational success and life chances, including positive impact on retention in grade, chronic absenteeism, and high school dropout. Once City Connects students graduate from high school, they have higher rates of enrollment in, and graduation from, post-secondary institutions. Annual anonymous surveys show high levels of satisfaction among principals, teachers, and community agencies.

The research on City Connects demonstrates that City Connects makes a difference for students over the course of their lives.

The role of teachers

What happens outside of the classroom can greatly impact what happens inside the classroom. No one knows this reality better than a teacher. Teachers cannot focus on instruction – and students cannot concentrate on learning – when children come to the classroom with unmet needs. For students experiencing poverty, these needs can be pervasive and severe. Teachers recognize that supporting the whole child is critical to success in the classroom and beyond.

By design, in order to build an individualized support plan for every student, City Connects engages every classroom teacher every year. The process elicits teachers' insights about their students and avails of their expertise in classroom dynamics and relationships. Teachers play a critical role in helping to identify the right constellation of supports and services for each student.

While teachers' expertise is essential, their time for non-instructional activities is limited. City Connects capitalizes on their expertise in an efficient way through the Whole Class Review (WCR). Working together each fall, the teacher and Coordinator review the strengths, needs, and interests of each and every student in the class. This takes place through a semi-structured interview during which the teacher provides insights into the student's development in academic, social/emotional/behavioral, health, and family domains. Their observations are captured in MyConnects, the student support database, and inform the customized support for the student.

Coordinators value the input teachers provide during this conversation, estimating that more than half of the information they use to tailor services comes from teacher knowledge of the students (2019 Coordinator survey). While conducting the WCR, the teacher and Coordinator describe each student's level of educational risk, ranging from Tier 1 (strengths and minimal risk) to Tier 3 (strengths and intensive risk). In addition to helping with assignment of supports and services, tier descriptions help provide the teacher a perspective on the class as a whole.

This WCR process not only serves as an essential part of the coordination of a support plan for each student—it also provides other benefits that teachers report in our annual anonymous satisfaction surveys. Responses from 846 teachers in our 2019 anonymous online survey showed that:

- Teachers reported that the WCR enhances their awareness of the dynamics of their classes as a whole (88%) and of students as individuals (90%), and increases their empathy for students (85%).
- Teachers also noted changes in their instructional practices as a result of knowing more about their students' non-academic lives. The vast majority of teachers (96% or more) reported that they use more differentiated instruction, apply effective strategies to support students with specific academic needs, are patient with their students because they better understand the non-academic issues that contribute to their struggles in the classroom, and think about the factors influencing student behavior before reacting to the behavior.

In the words of a teacher,

“City Connects is beneficial because it helps provide context to my students' lives outside of the classroom, and it also helps me figure out how to address their needs more specifically. Our City Connects coordinator has been a great source of support for me, especially as this is my first year teaching.”

In general, teachers reported high levels of satisfaction with City Connects: 90% of teachers are satisfied with City Connects, and 91% would recommend City Connects to a colleague. A teacher explained,

“City Connects helps us help the whole student. It assists teachers and schools in our ability to care for the emotional and physical aspects in addition to the academic aspects of a student. Students can't succeed when they are struggling emotionally and/or physically, so City Connects helps fill in those gaps that we as teachers can't always fill.”



Photo by Julie Dermansky

STAFF

Mary E. Walsh, Ph.D.

Executive Director, City Connects

Kearns Professor, Department of Counseling, Developmental and Educational Psychology, Lynch School of Education and Human Development, Boston College

Director of the Boston College Center for Optimized Student Support

Claire Foley, Ph.D.

Associate Director

Lecturer in Linguistics, Boston College

Tina Chen-Xu, M.B.A.

Senior Manager of Strategic Planning and Operations

Jennifer Coyle, M.A.

Manager of Special Projects

Patrice DiNatale, M.Ed.

Director of New Practice

Mary Therese Durr, M.S.

Data Quality Analyst

Ryan Hand

Communications Manager

Rebecca Lebowitz, Ed.D.

Senior Manager of Learning and Development

Kevin Lopez Mader, M.T.S.

Manager of Software Systems and Development

Brenda McCormick

Administrative Officer

Lynne Sullivan, M.B.A.

Director of Implementation

Brian Ward, M.A.

Manager of Technology Support and Administration

Joan Wasser Gish, J.D., M.A.

Director of Strategic Initiatives, Center for Optimized Student Support

RESEARCH STAFF

Anastasia Raczek, M.Ed.

Associate Director of Research & Evaluation

Jordan Lawson, Ph.D.

Research Associate

Jessica Petrie, Ph.D.

Continuous Improvement Specialist

Courtney Pollack, Ed.D.

Senior Researcher

Maria Theodorakakis, Ph.D.

Research Associate

City Connects: Intervention and Impact / Progress Report 2020

CONSULTANTS (2009-PRESENT)

Henry Braun, Ph.D.

*Boisi Professor, Department of Measurement, Evaluation, Statistics & Assessment, Lynch School of Education and Human Development, Boston College
Director, Boston College Center for Testing, Evaluation and Educational Policy*

Eric Dearing, Ph.D.

Associate Professor, Department of Counseling, Development, and Educational Psychology, Lynch School of Education and Human Development, Boston College

Maureen Kenny, Ph.D.

Professor, Department of Counseling, Development, and Educational Psychology, Lynch School of Education and Human Development, Boston College, Lynch School of Education, Boston College

Deoksoon Kim, Ph.D.

Associate Professor, Department of Teacher Education, Special Education, Curriculum & Instruction, Lynch School of Education and Human Development, Boston College

Laura O'Dwyer, Ph.D.

Associate Professor, Department of Measurement, Evaluation, Statistics & Assessment, Lynch School of Education and Human Development, Boston College

Tayfun Sönmez, Ph.D.

Professor, Department of Economics, Morrissey College of Arts and Sciences, Boston College

GRADUATE RESEARCH ASSISTANTS (2019-20)

Agnes Chung, M.Ed., M.S.

Danielle Goddard

Anna Hamilton, M.A.

Gabrielle Kaufman

Noman Khanani, M.A., M.Ed.

Patrick McGuinness

Allison Morgan

Despina Petsgourakis, M.A.

Kayla Prewitt

Quang Tran, M.Ed., M.Div., Th.M.

Doria Xiao, M.S.

Drina Yatsu, M.Ed.

UNDERGRADUATE RESEARCH ASSISTANTS (2019-20)

Alissa Paul

Morgan Tobin

Eugene Woo

EXTERNAL EVALUATORS (2013-PRESENT)

Clive Belfield, Ph.D.

*Principal Economist, Center for Benefit-Cost Studies of Education, Teachers College, Columbia University
Associate Professor of Economics at Queens College, City University of New York*

Brooks Bowden, Ph.D.

Assistant Professor of Methods and Policy, Department of Education Leadership, Policy, and Human Development, North Carolina State University

Lisa Gennetian, Ph.D.

Pritzker Associate Professor of Early Learning Policy Studies, Associate Professor in the Sanford School of Public Policy, Faculty Affiliate in the Center for Child and Family Policy, Duke University

Amy Heberle, Ph.D.

Assistant Professor, Psychology Department, Clark University

Terry Lee-St. John, Ph.D.

Research Scientist, SRI

Henry M. Levin, Ph.D.

*William H. Kilpatrick Professor of Economics & Education
Director, Center for Benefit-Cost Studies of Education, Teachers College, Columbia University
David Jacks Professor of Higher Education and Economics, Emeritus, Stanford University*

Pamela Morris, Ph.D.

Professor of Applied Psychology, New York University

Richard Murnane, Ph.D.

Thompson Professor of Education and Society, Harvard Graduate School of Education

Parag Pathak, Ph.D.

Professor of Economics, Massachusetts Institute of Technology

Peter Steiner, Ph.D.

Associate Professor of Educational Psychology, University of Wisconsin-Madison

CITY CONNECTS PROGRAM MANAGERS

Laurie Acker, M.S.

Program Manager, Minneapolis, MN Catholic and Charter Schools

Jennifer Bronson, M.Ed., J.D.

Program Manager, Hamilton County Public Schools (Chattanooga, TN)

Torylee Cigna, M.Ed.

Program Manager, Boston Catholic Schools

Sara Davey, M.S.W.

Program Manager, Boston Public Schools

Maureen Diehl, M.Ed.

Program Manager, Jamestown, NY Public Schools

Julie Donovan, M.S.W.

Program Manager, Springfield, MA Public Schools

Susan Eichenauer, M.A.

Program Manager, Ohio Catholic and Charter Schools

Dean Peterson, M.S.

Program Manager, Indianapolis, IN Public Schools

Ellen Wingard, M.Ed.

Program Manager, Salem, MA Public Schools

CITY CONNECTS COORDINATORS (2019-2020)

BOSTON PUBLIC SCHOOLS

Ashley Alvarez, M.A., Quincy Elementary School
Becky Chen, M.S.W., Mason Elementary School
Kendra Coan, M.S.Ed., M.Phil.Ed., Ellison Parks Early Education School
Colleen Dischiave, Ed.M., M.A., Edison K-8 School
Stanley Duperval, M.Ed., Martin Luther King Jr. K-8 School
Madeline Gillespie, M.S.W., Mendell Elementary School
Chelsea Hancock, M.A., Jackson/Mann K-8 School
Valia Markaki, M.S., Quincy Elementary School
Alexandra Marsh, M.A., Holmes Innovation School
Jacob Nyklicek, M.S.W., Russell Elementary School
Will Osier, Ed.M., Quincy Upper School
Harold Rudolph, M.A., David A. Ellis Elementary School
Emilie Russell, M.Ed., Warren-Prescott K-8 School
Connor Russo, M.A., Joseph Lee K-8 School
Stephanie Sanchez, M.S.W., Winthrop Elementary School
Justin Tsouros, M.S.W., Dever Elementary School
Sarah White, M.S.W., Winship Elementary School

BOSTON CATHOLIC SCHOOLS

Sabrina Alampi, M.S.W., Sacred Heart School
Zuleika Andrade, M.S.W., Mission Grammar School
Melinda Bouras, M.A., Saint Columbkille Partnership School
Ruth Kaumeheiwa, M.Ed., Saint John Paul II Catholic Academy Lower Mills Campus
Maria Laham, M.Ed., Trinity Catholic Academy
Meghan Logue, M.Ed., South Boston Catholic Academy
Allyson Oatley, M.A., Saint Patrick School
Misarline Pompilus, M.A., Saint John Paul II Catholic Academy Columbia Campus
Julie Rankin, M.A.S., East Boston Central Catholic School
Jennifer Reynolds, M.Ed., Lawrence Catholic Academy
Valerie Roth, M.A., Saint John Paul II Catholic Academy Neponset Campus
Matthew Schell, M.Ed., Saint Rose School

SPRINGFIELD, MA PUBLIC SCHOOLS

Steffanie Accorsi, M.Ed., Glennwood Elementary School
Elizabeth Antaya-Izoita, M.S.W., Gerena Community School
Stephanie Arroyo, M.S., Rebecca Johnson School
Oscar Caamano, M.S.W., Freedman School
Lindsay Cuadras, M.Ed., South End Middle School

Cheryl Tulloch, M.Ed., Homer Street School
Jennifer DeSousa, M.Ed., Brookings Elementary School
Kristen Eklund, M.S.W., Brunton School
Allison Emhoff, M.Ed., Lincoln Elementary School
Nicole Falcone, M.S.W., Milton Bradley School
Monica Gagliarducci, M.Ed., Brightwood Elementary School
Leia Georgeopolus, M.A., Boland School
Kevin Green, M.S.W., Dorman School
Chandi Jones, M.A., Balliet Elementary School
Jennifer Maccarini, M.A., Washington School
Enelida Mantilla, M.S.W., High School of Science and Technology
Adrianna Martinez, M.A., Zanetti Montessori Magnet School
Shandria McCoy, M.S.W., Indian Orchard Elementary
Natasha Muriel, M.Ed., Bowles Elementary School
Celeste Palladino, M.Ed., Liberty Elementary School
Colleen Perry, M.Ed., Pottenger School
Michelle Polimeni, M.Ed., DeBerry School
Stephanie Sanabria, M.A., Early Childhood Education Center
Ester Santiago, M.S.W., Sumner Avenue School
Taylor Sapia, M.Ed., White Street School
Kali Thomas, M.S.W., Kensington International School
Andrea Vallan, M.S.W., Glickman Elementary School
Maura Warwick, M.Ed., Frederick Harris School
Melissa Weiner, M.S.W., Mary M. Walsh School

OHIO CATHOLIC AND CHARTER SCHOOLS

Jama Badinghaus, M.Ed., Chaminade Julianne Catholic High School
Megan Bettelon, M.S.W., Our Lady of the Rosary School
Cory Hardin, M.S.E., Chaminade Julianne Catholic High
Adairia Kelly, M.S.W., DECA Prep Elementary School
Peyton Keys, M.S.E., Chaminade Julianne Catholic High School
Brittany Lewis, M.S., Dayton Early College Academy (DECA)
Andrea Migliozi, M.S.W., Catholic Central Middle/High School
Josh Richardt, M.Ed., Catholic Central Elementary School

MINNEAPOLIS, MN CATHOLIC AND CHARTER SCHOOLS

Christopher Benefield, M.A., Community of Saints Regional Catholic School and Saint Helena Catholic School
McKenzie Bergman, M.A., Blessed Trinity-Nicollet Campus
Christyna Jamma Sherrod, M.A., LIFE Prep School
Hilary Kelly, M.S.W., Stonebridge World School

Jessica Mack, MA., Saint Jerome School and Saint Pascal Regional Catholic School
CJ McGowan, M.A., Ascension Catholic School
Cassie Norris, M.S.W., Partnership Academy
Lindsay O’Keefe, M.Ed., Risen Christ Catholic School
Kari Person, M.Ed., Harvest Best Academy
Nicolette Williams, M.A., Saint John Paul II Catholic School and Saint Peter Claver Catholic School

SALEM, MA PUBLIC SCHOOLS

Laura Coffey, M.S.W., Witchcraft Heights Elementary School
Erika Griffin, M.S.W., Early Childhood Center
Marlene Lunt, M.Ed., Witchcraft Heights Elementary School
Brad Maloon, M.Ed., Collins Middle School
Genevieve Nutt, M.Ed., Horace Mann Laboratory School
Heather Perry, M.S., Bentley Academy Charter School
Mia Riccio, M.S., Collins Middle School
Joy Richmond-Smith, M.S.W. Saltonstall School
Sari Rudolph, M.A., Bates Elementary School
Liz Yoder, M.B.A., M.Ed., Carlton Innovation Elementary School

INDIANAPOLIS, IN PUBLIC SCHOOLS

Asha Quattrocchi, M.S., Cold Spring School

HAMILTON COUNTY PUBLIC SCHOOLS (CHATTANOOGA, TN)

Lisa Blakely, M.Ed., Soddy Elementary School
Christie Crowe, M.S., Red Bank Elementary School
Mario Gonzalez, M.A., Howard Connect Academy
Nicki Haynes, M.Ed., Hixson Middle School
Katie Honeycutt, M.Ed., Red Bank Middle School
Cindi Husk, Ed.S., Hixson Middle School
Amanda Mallard, M.S.W., Woodmore Elementary School
Ashley Medley, M.Ed., Dalewood Middle School
Jessica Morrow, M.Ed., Calvin Donaldson Elementary School
Randall Munn, M.Ed., Red Bank Middle School

JAMESTOWN, NY PUBLIC SCHOOLS

Michelle Cobbe, M.Ed., The Success Academy

INFORMATION TECHNOLOGY SUPPORT

Barry Schaudt, Ph.D.
Director, Research Services, Boston College

Rani Dalgin, M.S.W., M.Ed.
Senior Statistical Consultant, Research Services, Boston College

REFERENCES

- Abdulkadiroglu, A., Angrist, J., Narita, Y., & Pathak, P. (2017). Research design meets market design: Using centralized assignment for impact evaluation. *Econometrica*, 85 (5), 1373–1432. <https://doi.org/10.3982/ECTA13925>
- Adelman, H. S., & Taylor, L. (Eds.). (2006). *The school leader's guide to student learning supports: New directions for addressing barriers to learning*. Corwin Press.
- An, C. (2015). *Estimating the effectiveness of City Connects on middle school outcomes*. [Doctoral dissertation, Boston College]. eScholarship@BC. <http://hdl.handle.net/2345/bc-ir:104546>
- Austin, P. C., & Stuart, E. A. (2015). Moving towards best practice when using inverse probability of treatment weighting (IPTW) using the propensity score to estimate causal treatment effects in observational studies. *Statistics in Medicine*, 34(28), 3661–3679. <https://doi.org/10.1002/sim.6607>
- Bailey, D., Duncan, G. J., Odgers, C. L., & Yu, W. (2017). Persistence and Fadeout in the Impacts of Child and Adolescent Interventions. *Journal of Research on Educational Effectiveness*, 10(1), 7–39. <https://doi.org/10.1080/19345747.2016.1232459>
- Berkowitz, R., Moore, H., Astor, R. A., & Benbenishty, R. (2017). A research synthesis of the associations between socioeconomic background, inequality, school climate, and academic achievement. *Review of Educational Research*, 87(2), 425–469. <https://doi.org/10.3102/0034654316669821>
- Berliner, D. (2013). Effects of inequality and poverty vs. teachers and schooling on America's youth. *Teacher's College Record*. 115(12), 1-26.
- Brabeck, M. M., & Walsh, M. E. (2003). Meeting at the hyphen: Schools-universities-communities-professions in collaboration for student achievement and well-being. 102nd Yearbook, Part 2. Chicago: National Society for the Study of Education.
- Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. In R. M. Lerner & W. Damon (Eds.), *Handbook of child psychology: Theoretical models of human development* (p. 793–828). John Wiley & Sons Inc.
- Bryk, A. S., Sebring, P. B., Allensworth, E., Luppescu, S. & Easton, J. Q. (2010). *Organizing schools for improvement: Lessons from Chicago*. University of Chicago Press.
- Carter, P. L. & Reardon, S. F. (2014). *Inequality matters*. New York: William T. Grant Foundation.
- Center for Optimized Student Support (2018). *Comprehensive services for children in poverty – setting research agenda for integrated student support*. <https://www.bc.edu/content/dam/bc1/schools/lsoe/sites/coss/pdfs/AERAreport.pdf>
- Cicchetti, D., & Sroufe, L. A. (2000). The past as prologue to the future: The times, they've been a-changin'. *Development and Psychopathology*, 12(3), 255–264. <https://doi.org/10.1017/S0954579400003011>
- City Connects (2010). *The impact of City Connects: Annual report 2010*. Center for Optimized Student Support, Lynch School of Education, Boston College. www.bc.edu/content/dam/city-connects/Publications/CityConnects_AnnualReport_2010.pdf
- City Connects. (2012). *The impact of City Connects: Progress report 2012*. Center for Optimized Student Support, Lynch School of Education, Boston College. www.bc.edu/content/dam/city-connects/Publications/CityConnects_ProgressReport_2012.pdf
- City Connects (2014). *The impact of City Connects: Progress report 2014*. Center for Optimized Student Support, Lynch School of Education, Boston College. www.bc.edu/content/dam/cityconnects/Publications/CityConnects_ProgressReport_2014.pdf

- City Connects (2016). *The impact of City Connects: Student outcomes. Progress report 2016*. Center for Optimized Student Support. www.bc.edu/content/dam/files/schools/lsoe/cityconnects/pdf/City%20Connects%20Progress%20Report%202016.pdf
- City Connects (2018). *City Connects: Intervention and impact. Progress report 2018*. Chestnut Hill, MA: Center for Optimized Student Support, Lynch School of Education, Boston College. <https://www.bc.edu/content/dam/bc1/schools/lsoe/sites/coss/pdfs/CityConnectsProgressReport2018.pdf>
- Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D. & York, R. L. (1966). *Equality of educational opportunity*. US Department of Health, Education, and Welfare, Office of Education.
- Cunha, F., & Heckman, J. (2007). *The technology of skill formation* (Working Paper No. 12840; Working Paper Series). National Bureau of Economic Research. <https://doi.org/10.3386/w12840>
- D'Agostino, C. (2013). Collaboration as an essential school social work skill. *Children & Schools*, 35(4), 248-251. <https://doi.org/10.1093/cs/cdt021>
- Dearing, E., Walsh, M., Sibley, E., Lee-St. John, T., Foley, C. & Raczek, A. (2016). Can community and school-based supports improve the achievement of first-generation immigrant children attending high-poverty schools? *Child Development*, 87(3), 883-897. <https://doi.org/10.1111/cdev.12507>
- Duncan, G.J., & Murnane, R.J. (Eds.) (2011). *Whither opportunity? Rising inequality, schools, and children's life chances*. Russell Sage.
- Foley, C., Theodorakakis, M., Walsh, M. E., DiNatale, P., & Raczek, A. (2015). *Building a sustainable intervention to address the out-of-school factors affecting achievement: A primer and case study*. [Policy brief]. Center for Optimized Student Support. <https://www.bc.edu/content/dam/city-connects/Publications/Policy%20Brief%20-%20Building%20Sustainable%20Interventions%20Final%20WEBSITE.pdf>
- Ford, D. H., & Lerner, R. M. (1992). *Developmental systems theory: An integrative approach*. Sage Publications, Inc.
- Garcia Coll, C.T., Akerman, A., & Cicchetti, D. (2000). Cultural influences on developmental processes and outcomes: Implications for the study of development and psychopathology. *Development and Psychopathology*, 12, 333-356.
- Hair, E., Halle, T., Terry-Humen, E., Lavelle, B., & Calkins, J. (2006). Children's school readiness in the ECLS-K: Predictions to academic, health, and social outcomes in first grade. *Early Childhood Research Quarterly*, 21(4), 431-454. <https://doi.org/10.1016/j.ecresq.2006.09.005>
- Harrington, M. (1962). *The other America: Poverty in the United States*. Simon & Schuster.
- Lee-St. John, T. J., Walsh, M. E., Raczek, A. E., Vuilleumier, C. E., Foley, C., Heberle, A., Sibley, E., & Dearing, E. (2018). The long-term impact of systemic student support in elementary school: Reducing high school dropout. *AERA Open*, 4(4), 1-16. <https://doi.org/10.1177/2332858418799085>
- Masten, A.S. & Tellegen, A. (2012). Resilience in developmental psychopathology: Contributions of the project competence longitudinal study. *Development and Psychopathology*, 24(2), 345-361. <https://doi.org/10.1017/S095457941200003X>
- McCaffrey, D. F., Griffin, B. A., Almirall, D., Slaughter, M. E., Ramchand, R., & Burgette, L. F. (2013). A tutorial on propensity score estimation for multiple treatments using generalized boosted models. *Statistics in Medicine*, 32(19), 3388-3414. <https://doi.org/10.1002/sim.5753>
- Moore, K. A., Caal, S., Carney, R., Lippman, L., Li, W., Muenks, K.,... Terzian, M. A. (2014). *Making the grade: Assessing the evidence for integrated student supports*. Child Trends. <https://www.childtrends.org/wp-content/uploads/2014/02/2014-07ISSPaper2.pdf>
- Moore, K. A., Lantos, H., Jones, R., Schindler, A., Belford, J., Sacks, V. (2017). *Making the grade: A progress report and next steps for integrated student supports*. Child Trends. https://www.childtrends.org/wp-content/uploads/2017/12/ISS_ChildTrends_February2018.pdf

- National Research Council and Institute of Medicine Committee on Integrating the Science of Early Childhood Development, Shonkoff, J. P., & Phillips, D. A. (Eds.). (2000). *From neurons to neighborhoods: The science of early childhood development*. National Academy Press. <https://doi.org/10.17226/9824>
- Oster, E. (2019). Unobservable selection and coefficient stability: Theory and evidence. *Journal of Business & Economic Statistics*, 37(2), 187–204. <https://doi.org/10.1080/07350015.2016.1227711>
- Phillips, M., Brooks-Gunn, J., Duncan, G., Klebanov, P. & Crane, J. (1998). Family background, parenting practices, and the black–white test score gap. In C. Jencks & M. Phillips (Eds.), *The black-white test score gap* (pp. 103-145). Brookings Institution Press.
- Reardon, S. F. (2011). The widening academic achievement gap between the rich and the poor: New evidence and possible explanations. In G. Duncan & R. Murnane (Eds.), *Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 91–115). Russell Sage Foundation Press.
- Reardon, S.F. (2013). The widening income achievement gap. *Educational Leadership*, 70(8), 10-16.
- Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, 70(1), 41–55. <https://doi.org/10.1093/biomet/70.1.41>
- Rothstein, R. (2010). *How to fix our schools*. (Issue Brief No. 286). Economic Policy Institute, October 14, 2010. <https://www.epi.org/publication/ib286/>
- Rutter, M. (2007). Gene–environment interdependence. *Developmental Science*, 10(1), 12-18. <https://doi.org/10.1111/j.1467-7687.2007.00557.x>
- Sameroff, A. (2009). The transactional model. In A. Sameroff (Ed.), *The transactional model of development: How children and contexts shape each other* (p. 3–21). American Psychological Association. <https://doi.org/10.1037/11877-001>
- Shields, K.A., Walsh, M.E., & Lee-St. John, T.J. (2016). The relationship of a systemic student support intervention to academic achievement in urban Catholic schools. *Journal of Catholic Education*, 19(3), 116-141. <https://dx.doi.org/10.15365/joce.1903072016>
- Thapa, A., Cohen, J., Guffey, S., & Higgins-D'Alessandro, A. (2013). A review of school climate research. *Review of Educational Research*, 83(3), 357-385. <https://doi.org/10.3102/0034654313483907>
- Thoemmes, F., & Ong, A. D. (2016). A primer on inverse probability of treatment weighting and marginal structural models. *Emerging Adulthood*, 4(1), 40–59. <https://doi.org/10.1177/2167696815621645>
- Walsh, M. E., & Brabeck, M. M. (2006). Resilience and risk in learning: Complex interactions and comprehensive interventions. In R. J. Sternberg & R. F. Subotnik (Eds.), *Optimizing student success in school with the other three Rs: Reasoning, resilience, and responsibility* (pp. 113–142). Information Age Publishing.
- Walsh, M.E., Lee-St. John, T., Raczek, A.E., Vuilleumier, C., Foley, C., & Theodorakakis, M. (2017). *Reducing high school dropout through elementary school student support: An analysis including important student subgroups*. [Policy brief]. Center for Optimized Student Support. www.bc.edu/content/dam/bc1/schools/lsoe/sites/coss/pdfs/Dropout%20Policy%20Brief%202017.pdf
- Walsh, M. E., Madaus, G. F., Raczek, A. E., Dearing, E., Foley, C., An, C. Lee-St. John, T. & Beaton, A. (2014). A new model for student support in high-poverty urban elementary schools: effects on elementary and middle school academic outcomes. *American Educational Research Journal*, 51(4), 704-737. <https://doi.org/10.3102/0002831214541669>
- Walsh, M. E., & Murphy, J. (2003). *Children, health, and learning: A guide to the issues*. Praeger.
- Waters, E., Weinfield, N. S., & Hamilton, C. E. (2000). The stability of attachment security from infancy to adolescence and early adulthood: General discussion. *Child Development*, 71(3), 703-706.

**City Connects is based at the
Center for Optimized Student Support at
the Lynch School of Education and
Human Development,
Boston College**

Please direct all inquiries regarding this report to:

Mary E. Walsh, Ph.D.

Claire Foley, Ph.D.

Campion Hall, Room 305D
140 Commonwealth Avenue
Chestnut Hill, MA 02467

CityConnects@bc.edu

www.cityconnects.org



[@CityConnects](https://twitter.com/CityConnects)



BOSTON
COLLEGE

CENTER FOR OPTIMIZED
STUDENT SUPPORT