Strategic Technology Plan
2015-2020

NYC Department of Education

Here are our strategic priorities and related goals for the next five years:

Integrate Technology into Instruction

- Increase access to Science, Technology, Engineering, Math (STEM) and computer science education for every New York City public school student.
- Increase professional learning and collaboration opportunities for New York City educators and other school staff.
- Provide more and better access to digital instructional materials for students with disabilities and English Language Learners.
- Promote good digital citizenship and thoughtful use of social media among students and staff.

Invest in Infrastructure and Devices

- Bring next-generation broadband and wireless technologies to school buildings.
- Use technology to improve the efficiency and safety of pupil transportation services.
- Increase the number of computing and web-enabled devices available to students.
- Increase the sustainability and efficiency of our facilities and operations.

Focus on the User

- Support teaching, learning, and operational excellence with NYCDOE data that is secure, appropriately accessible, and of high quality.
- Connect educators, families, and key partners with timely, relevant information about students' academic progress.
- Replace the NYCDOE website with a streamlined, mobile-first service that focuses on the information most relevant to families.
- Expand proactive technical support for schools.
- Improve the clarity, simplicity, and accessibility of NYCDOE systems.

NYCDOE VISION

The New York City Department of Education is committed to working collaboratively with parents, educators, school communities, and external stakeholders to improve student achievement and ensure that every child graduates from high school prepared for college, a career, and a future as a productive, critically thinking adult.

NYCDOE MISSION

Rigorous instruction: Classes are driven by high educational standards and engage students by emphasizing the application of knowledge.

Collaborative Teachers: The staff is committed to the school, receives strong professional development, and works together to improve the school.

Supportive Environment: The school is safe and orderly. Teachers have high expectations for students. Students are socially and emotionally supported by their teachers and peers.

Strong Family-Community Ties: The entire school staff builds strong relationships with families and communities to support learning.

Effective Leaders: The principal and other school leaders work with fellow teachers and school staff, families, and students to implement a clear and strategic vision for school success.

Trust: The entire school community works to establish and maintain trusting relationships that will enable students, families, teachers, and principals to take the risks necessary to mount ambitious improvement efforts.

THEORY OF ACTION FOR TECHNOLOGY

If we equip **educators** with the content, devices, internet connectivity and pedagogical skills to use technology in support of instructional goals, and we provide **families** with information and digital tools that support active participation in their children's learning –
Then **students** will have integrated, authentic, and relevant learning experiences and environments that foster academic achievement, the development of digital skills, and the knowledge necessary to graduate and be successful in the 21st century workforce.

INTRODUCTION

Technology is infused in all that we do. It's not an add-on or a nice-to-have; it's a driver and enabler of the way we work and live in the 21st century.

The City of New York has a stated commitment to become the most technology-friendly and innovation-driven city in the world, and the New York City Department of Education (NYCDOE) is committed to ensuring that our students and staff have access to the technology tools, services, and skills that will play an ever-more crucial role in their success.

This Strategic Technology Plan highlights programs and investments through which the NYCDOE will harness the power and promise of technology for the benefit of our students, educators, and communities over the next five years. We wrote this plan with the intention of making it relevant to NYCDOE staff, families, students, and members of the broader NYC community who may wish to:

- Understand connections between technology and the strategic goals of the NYCDOE.
- Identify opportunities for expanded technology programming and investment.
- Align goals and action plans for new technology-related initiatives.
- Inform policy creation and funding decisions.

To develop this plan, we engaged extensively with more than 250 individuals inside and outside the NYCDOE who care deeply about the intersection of education and technology in New York City. We identified the following near-universal themes during these conversations and meetings:

- Mobility
- Support
- Use of digital content
- Access to and use of data

1 Increase access to Science, Technology, Engineering, Math (STEM) and computer science education for every New York City public school student.

WHAT IT LOOKS LIKE

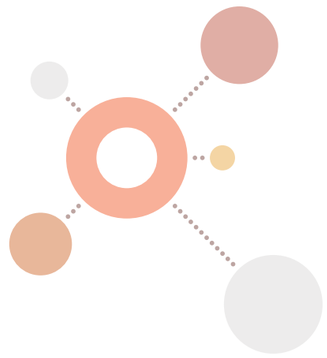
All New York City public school students have the opportunity to acquire content knowledge and skills in STEM disciplines, and graduate from high school with the ability to pursue post-secondary opportunities in STEM fields.

HOW IT WILL HAPPEN

The NYCDOE will increase the availability of training, curriculum, professional development, and other supports to expand opportunities for NYC students to develop knowledge and skills in computer science and other STEM disciplines.

Key initiatives include:

- The NYC STEM Education Framework, launched in August 2015, offers a structured approach schools can use to implement or expand STEM programming. The framework is designed to help schools develop a STEM approach that integrates well with each school's existing instructional mission and vision.
- The NYC Summer STEM program, a four-week summer learning program for NYC students completing second, seventh, and tenth grades, that focuses on students living in high-need communities. This program was piloted in Summer 2015 with philanthropic support and university partnership.



- Career and Technical Education (CTE) programs support both students' postsecondary aspirations and the City's economy. Students in CTE programs have the opportunity to learn "hands-on" career skills while earning a high school diploma. CTE in New York City prepares students for a diverse range of career and post-secondary education pathways, including technology fields such as Computer Science, Computer Systems Networking, Digital Multimedia and Communications, Digital Art & Design, and Information Technology. CTE programming is offered through 50 dedicated CTE high schools, as well as programs offered within other high schools.
- Computer Science for All, an initiative to make computer science education an integral part of the NYC public school experience over the next ten years. Through an unprecedented public-private partnership, we will invest significantly in professional development, programming, and curricular resources, and will train a projected 4,775 NYC teachers. Our vision is that all NYC students will experience at least one meaningful, high-quality computer science learning experience during each major stage of their education: elementary, middle, and high school.

  Schools will have flexibility and support to develop an approach that works for their students; there will not be one, mandated curriculum. Where some schools may choose to offer computer science courses, others may choose to embed computer science skills and concepts into other subject matter. Examples of potential implementation approaches include:

  - Integrate a unit of computer science into a content course or sequence of courses such as robotics, web design, physical computing, computer programming and coding, multimedia design, 3D design and fabrication, or other emerging skills and technologies.
  - Offer a semester or full-year course on computer science, such as Advanced Placement Computer Science.
  - Offer a multi-year sequence of computer science courses or units within technology classes, similar to the NYCDOE's Software Engineering Pilot (SEP).
  - Integrate computer science into art, technology, or other classes.

WHO'S DRIVING

Division of Teaching and Learning; Division of Strategy and Policy; and the Division of Instructional and Information Technology

LEARN MORE

Computer Science for All: Fundamentals for Our Future
NYC Summer STEM
STEM Framework
Blended Learning Institute – Computer Science Track
Software Engineering Pilot program
Bronx Academy for Software Engineering
Academy of Software Engineering

WHAT IT WILL TAKE
$$$
$25M-$50M

Integrate Technology into Instruction

2 Increase professional learning and collaboration opportunities for New York City educators and other school staff.

WHAT IT LOOKS LIKE

Through a suite of integrated online and in-person supports, educators will connect with content, colleagues, and learning opportunities to support their ongoing professional development.

HOW IT WILL HAPPEN

The NYCDOE is organizing multiple efforts to increase professional learning and collaboration opportunities for educators:

- STEM Institutes, launched in April 2015, offer multi-day, intensive professional learning opportunities and ongoing planning and implementation support for participating educators. With philanthropic support and in partnership with several New York City STEM businesses and organizations, these institutes will engage teachers from up to 100 additional schools in school year 2015-16. Over 350 teachers from 100 schools attended the first STEM Institute.

- The WeTeachNYC platform will continue to evolve as hub for online, anytime, anywhere educator professional learning across all content areas. WeTeachNYC offers curated content, interactive online courses, and libraries of educational resources; collaboration tools to facilitate interaction with other educators; and will eventually integrate registration for in-person offerings.

- The Innovative Partner Professional Development (IPPD) program offers online and in-person opportunities for educators to become expert and/or certified in particular technologies and instructional tools. IPPD offerings are created and delivered in partnership with industry-leading companies and nonprofit organizations such as Google, Microsoft, PBS, and Common Sense Media.

- The annual School Technology Summit brings together school-based staff to attend workshops and panels, test products, engage with vendors, and network with one another.

- To support collaboration across schools, the NYCDOE provides monthly training and networking opportunities to Technology Single Points of Contact (SPOC) staff members designated by their schools to serve as the liaison for all technology matters. Additionally, the Sandbox website offers guidance and information about school technology, and links school-based staff to online collaboration forums.

WHO'S DRIVING

Division of Teaching and Learning; Division of Instructional and Information Technology

LEARN MORE

STEM Institute

WeTeachNYC

Innovative Partner Professional Development

School Technology Summit

WHAT IT WILL TAKE

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$5M-$25M

3 Provide more and better access to digital instructional materials for students with disabilities and English Language Learners.

WHAT IT LOOKS LIKE

NYCDOE educators, staff members and partners use available and appropriate technology to ensure that all students have equal access to curriculum content.

HOW IT WILL HAPPEN

The NYCDOE will design, and require partners to deliver, curricular materials and technologies to accommodate the wide range of learning needs of all children attending our schools. Requirements for content will include multiple text format options so that students can best access their instructional materials.

For students who are English Language Learners, a Language Access Coordinator at each school will work with staff and families to identify the resources that need to be translated to ensure appropriate access for students and their families. Free interpretation and translation services are available in Arabic, Bengali, Chinese, French, Haitian Creole, Korean, Russian, Spanish, and Urdu.

WHO'S DRIVING

Division of Teaching and Learning; Division of Instructional and Information Technology; Division of Specialized Instruction and Student Support; the Department of English Language Learners and Student Support; and the Division of Family and Community Engagement

LEARN MORE

Special Education

English Language Learners

WHAT IT WILL TAKE

$$$

$25-50M

4 Promote good digital citizenship and thoughtful use of social media among students and staff.

WHAT IT LOOKS LIKE

Students and staff use social media to enhance learning and communication, and to effectively navigate the choices and responsibilities that come with active participation in the online world.

HOW IT WILL HAPPEN

The NYCDOE will continue to expand guidance, training, and resources to support students, teachers, staff, and families in using technology thoughtfully and responsibly. Training opportunities address topics including the NYCDOE's Social Media Guidelines, use of devices to school to support learning and family engagement, and policies that promote safe and responsible use of online tools.

Professional development for educators is aligned to a Digital Scope & Sequence for grades K-12 which, in turn, is aligned to the Common Core Learning Standards and the National Education Technology Standards for Students, among other frameworks. The scope and sequence defines key concepts in digital citizenship, and offers curricular content for grades K-12.

SPOTLIGHT

The Public Schools Athletic League (PSAL) is developing new web-based tools and applications, for student athletes and their families, to provide current information and feedback opportunities. The PSAL Student Leadership Council will also use Social Media channels such as the PSAL Facebook page, Twitter feed, Instagram account to keep interested parties informed.

WHO'S DRIVING

Division of Instructional and Information Technology; Divison of Operations

LEARN MORE

NYCDOE Social Media Guidelines

Common Sense Education Digital Citizenship Scope & Sequence

National Education Technology Standards for Students

Public Schools Athletic League

WHAT IT WILL TAKE

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Under $5M

5 Bring next-generation broadband and mobile technologies to school buildings.

WHAT IT LOOKS LIKE

NYC schools have access to secure, reliable internet service at faster speeds.

HOW WILL IT HAPPEN

The NYCDOE Capital Plan calls for a $450 million investment to modernize all major components of our internet infrastructure (network design, bandwidth capacity, and wireless technology), as well as upgrades to building electrification.

Planned investments include:

- **Modernization** of our network by consolidating our existing seven network sites to four, which will reduce complexity and increase operational efficiency. This investment will ensure that bandwidth and wireless upgrades within each school are supported by a robust, reliable core network.
- **Updates** to the wireless technology standards and infrastructure in schools and administrative buildings, expanding and improving access to fast wireless internet in all NYCDOE locations.
- **Installation** of additional fiber cabling to increase bandwidth capacity and accommodate schools' need for access to applications, online curriculum and assessments, and media-rich experiences. As a result, schools will access faster and more consistent broadband internet services.

WHO'S DRIVING

Division of Instructional and Information Technology

LEARN MORE

NYCDOE Proposed Five-Year Capital Plan Amendment, January 2016

WHAT IT WILL TAKE

$ $$ $$

$50M+

6 Use technology to improve the efficiency and safety of pupil transportation services.

WHAT IT LOOKS LIKE

Students are safer and spend less time commuting on school buses.

HOW IT WILL HAPPEN

The NYCDOE will pilot the use of video and Global Positioning System (GPS) technology on school buses to increase efficiency and safety for students.

We will test the use of video cameras on the interior and exterior of school buses to capture:

- **Traffic** conditions in front of the vehicle
- **Students** entering, riding, and exiting the school bus
- **Drivers and attendants** entering, riding, driving, and exiting the school bus

Our GPS pilot will provide us with real-time information on student pick-up, transport, and drop-off locations and times, location of buses in transit, and identification of students currently in transit—information we will be able to share with families in real time, as well.

A comprehensive review and analysis of routing processes and supporting technology will be conducted to inform larger investments.

WHO'S DRIVING

Division of Operations; Division of Instructional and Information Technology

LEARN MORE

Office of Pupil Transportation

WHAT IT WILL TAKE

$ $$ $

$25M-$50M

7 Increase the number of computing and web-enabled devices available to students.

WHAT IT LOOKS LIKE

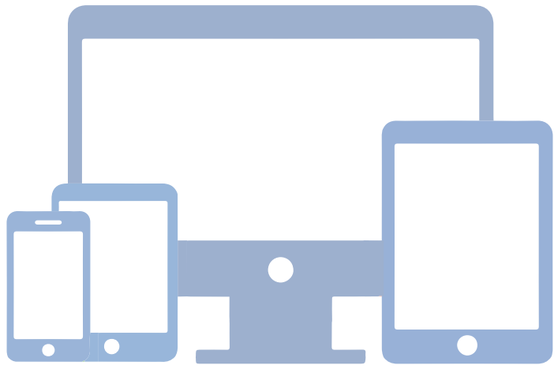
All students have consistent access to computers and other technology tools while at school.

HOW IT WILL HAPPEN

The NYCDOE will make a significant investment over five years to increase the number of devices available for student use. Additionally, lifting the prohibition on student-owned mobile phones in school offers new opportunities to expand the use of devices in learning environments.

The NYCDOE will use several new funding streams to invest in devices over the next five years:

- $1.2 million in New York State School Technology Voucher Program (STVP) funds targeting 267 schools with documented device gaps. Each school will receive 70 licenses for a system that enables 10+ year old computers to run contemporary programs and software. In the first year and a half, STVP will fully fund these licenses. Thereafter, STVP will subsidize 50% of the program costs. Schools will receive full technical support throughout the project.



- $7 million in technology-focused Race to the Top grants from New York State to purchase devices for approximately 160 schools integrating computer science into their curriculums and to seven persistently struggling schools.
- Investment of a portion of the funds allocated to New York City from the New York State Smart Schools Bond Act to acquire technology equipment over the next five years. This investment, with the support of other funding sources, will further the NYCDOE's plan to deliver high-quality curriculum and coursework in computer science, and increase availability of devices for use across content areas. *As of fall 2015, NYC's Smart Schools Bond Act investment plan for classroom technology is under development*.

As of March 2015, NYC schools can allow students to bring their devices to school and each school may determine its own policy on use of student devices. The NYCDOE launched an annual Bring Your Own Device (BYOD) Institute to support educators in developing policies, programs, and practices that use student devices to enrich teaching, enhance learning, and improve school culture. Through the Institute, and ongoing support via face-to-face and online opportunities, educators will learn how to start small and gradually incorporate mobile devices into meaningful interactions with students and families.

To increase and share insight into the ways schools are using devices across the city, the NYCDOE will also launch a School Technology Map that displays information about devices, infrastructure, and applications in use at each school. This map will offer information for educators, policymakers, the philanthropic community, and families to inform collaboration across schools, targeted investments in technology, and the development of policies and practices that support schools in deepening the integration of technology into instruction.

WHO'S DRIVING

Division of Instructional and Information Technology; Division of Teaching and Learning

LEARN MORE

New York State School Technology Voucher Program

New York State Smart Schools Bond Act

Chancellor's Regulation A-413, Cell Phones and Other Electronic Devices in Schools

NYCDOE BYOD Google Group

WHAT IT WILL TAKE

$$$$

$50M+

Increase the sustainability and efficiency of school facilities and operations.

WHAT IT LOOKS LIKE

Technology tools facilitate schools' efforts to conserve energy and operate more sustainably. Students learn about environmental science while having a real, current impact on reducing their own schools' environmental footprint.

HOW IT WILL HAPPEN

We will train Sustainability Coordinators in every school to create school-specific sustainability plans, manage their schools' energy conservation programs, and conduct annual surveys assessing the state of recycling and sustainability in their schools.

Key partners will help schools accomplish this goal:

- The Green Schools Alliance makes building-level energy data available through an online dashboard. Over 1,200 school buildings will be able to monitor real-time energy consumption and electrical power usage.
- Solar One Green Design Lab provides environmental curriculum for over 300 schools. Solar One's curriculum supports school-wide sustainability projects and finds solutions to environmental challenges through emerging technologies.

WHO'S DRIVING

Division of Operations

SPOTLIGHT

Maspeth High School is a model school, winning several citywide awards for their work to reduce waste and greenhouse gases by:

- Establishing a Green Club student group who used LED arrays to grow hydroponic produce
- Conducting facility-wide audits for waste, recycling, energy, and water use and studying the school's heating and cooling systems to identify inefficiencies
- Creating anti-litter public service announcements
- Posting energy saving and recycling tips with recycling bins in every classroom
- Launching indoor and outdoor composting programs

Tottenville High School created a Green Technology Club and organized students to participate in a Solar Car Challenge, a competition to motivate students in science, engineering, and alternative energy. Through this competition students learn how to design, engineer, build, and race roadworthy solar cars. The Staten Island high school team represented New York City with their design and fully functioning solar-powered car.

LEARN MORE

The Sustainability Initiative

Green Schools Alliance

Solar Car Challenge

Solar One Green Design Lab

Maspeth High School

Tottenville High School

WHAT IT WILL TAKE

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Under $5M

Invest in Infrastructure & Devices

Support teaching, learning, and operational excellence with NYCDOE data that is secure, appropriately accessible, and of high quality.

WHAT IT LOOKS LIKE

Processes, protocols, and tools for the use of NYCDOE data support instructional and operational excellence across the system.

HOW IT WILL HAPPEN

The NYCDOE will ensure that our data is:

- **Secure and Private**

  Individual student and employee information will continue to be secure, private, and managed in compliance with requirements of city, state, and federal laws and regulations such as the Federal Education Rights and Privacy Act. The NYCDOE will monitor technological advancements relevant to our schools and central offices to keep pace with industry best practices.

- **Appropriately Accessible**

  We have and will continue to set role-appropriate access for employees. We also facilitate three types of access to data to non-employees:

  - **NYC Open Data.** The NYCDOE publishes non-personal data to the NYC Open Data Portal, in compliance with local law. The Open Data Portal promotes transparency and accountability; it also creates opportunities for external parties such as researchers, application developers, social service organizations, and citizens to help pinpoint issues and solve problems.

  - **Timely, nimble, legally compliant access to data for contracted partners.** The NYCDOE establishes formal data-sharing agreements, ensures that privacy laws are adhered to, appropriate controls are in place, and that only data that serves a well-defined educational purpose is shared.

  - **Data requests associated with research studies.** The NYCDOE's Research Policy and Support Group vets requests from outside researchers to conduct studies within our school system. The Research Policy and Support Group ensures that research conducted does not compromise the privacy of our students or disrupt the work of students and staff.

- **Of High Quality**

  The NYCDOE continuously assesses and improves the quality and consistency of the data we manage, report, and use. The Data Integrity Scorecard will continue to be available to schools so they can monitor data discrepancies. The Data Governance Council, which provides oversight and accountability for data-management processes, will expand to ensure that all data that flows through NYCDOE systems is of the highest possible quality. This group will sharpen the NYCDOE's focus on providing and maintaining data that is consistent, representative, and useful.

WHO'S DRIVING

Division of Instructional and Information Technology; Division of Teaching and Learning

LEARN MORE

Privacy Laws and Regulations

NYCDOE Chancellor's Regulation

NYC Open Data Portal

Research Support and Policy Group/Internal Review Board

WHAT IT WILL TAKE

$$

$5M-$25M

Focus on the User

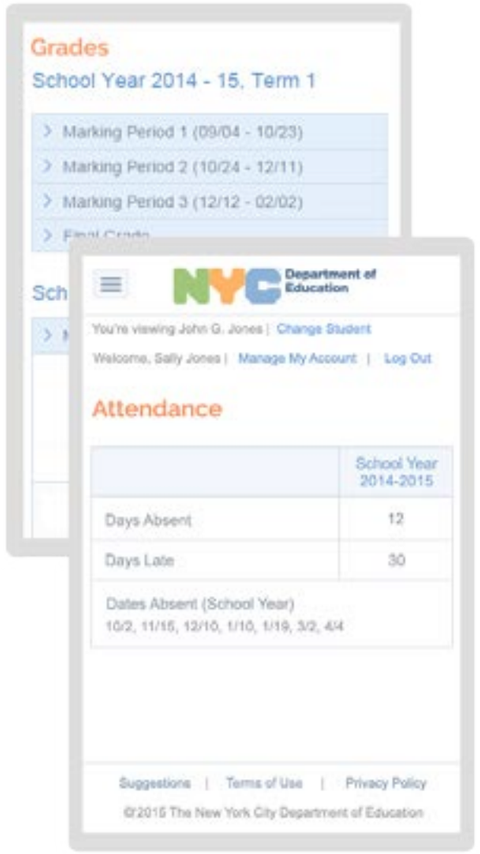
Connect educators, families, and key partners with timely, relevant information about students' academic progress.

WHAT IT LOOKS LIKE

Staff, families, and where relevant, community partners will use an evolving suite of web-based tools to access, analyze, and understand student data.

HOW IT WILL HAPPEN

In a school system of our scale, there is no one-size-fits-all approach to student data. Educators, families, and community partners need to access data of various and different types—and interact with that data differently.



The NYCDOE currently supports the use of several data-collection and analysis tools; in the near future, we envision developing a comprehensive, adaptable system that can meet diverse needs and integrate seamlessly and securely with third-party tools. Individual schools will continue to be able to adopt the tools that best meet their needs for specific functions (e.g., attendance, parent communication, assessment).

- **NYC Schools**, which offers families direct access to information about their children's progress in school, including attendance, grades, and state exam results. Information can be viewed in ten languages, and displays clearly on any type of mobile or desktop device. In the years ahead, the NYCDOE will continue to add new features and functionalities based on feedback from families.

- Two spreadsheet-based tools launched in spring 2015—the **School Performance Data Explorer** and the Progress to Graduation Tracker—offer educators easy-to-navigate, current data to help tailor interventions and supports for students.

- The **iLearn NYC** platform will expand to give more students access to complete online lessons and courses customized by their teachers, who in turn can interact with real-time data about their students' progress. Participating schools (over 300 in 2015-16) receive ongoing support to develop a blended-learning vision and familiarity with online systems, as well as opportunities for professional learning.

- Beginning in the 2015-16 school year, 128 **NYC Community Schools** will adopt a suite of secure, web-based tools that facilitate data analysis and web-based collaboration by school staff and community-based organization partners. These tools, which are based on Google Apps for Education and Tableau, present real-time academic, attendance, and other data in a format designed to facilitate action-planning and timely intervention. Community Schools receive training and support to help them integrate these tools into their day-to-day work.

As with any data tool used by the NYCDOE, student data shared with partner organizations is governed by formal data-sharing agreements, and all applicable laws and regulations.

WHO'S DRIVING

Division of Teaching and Learning; Division of Instructional and Information Technology; Division of Strategy and Policy

LEARN MORE

Press Release: Chancellor Fariña Announces New School Data Tracking Tools to Drive School Improvement and Increase Accountability

iZone NYC

Community Schools Initiative Overview

Google Apps for Education at the NYCDOE

WHAT IT WILL TAKE

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$25M-$50M

Focus on the User

11 Replace the NYCDOE website with a streamlined, mobile-first service that focuses on the information most relevant to families.

WHAT IT LOOKS LIKE

Families will quickly locate useful, easy-to-understand information on the NYCDOE website, using the device of their choice.

HOW IT WILL HAPPEN

We will redesign the NYCDOE web presence to prioritize the needs of students and families. Wherever possible, we will replace or supplement offline transactions with online services. The new website will convey information for parents and students in plain language, and in multiple languages. Visitors will find relevant information with fewer clicks–whether about school enrollment, school food, events, facts, forms, rules, or procedures.

The site's architecture and search functionality will be redesigned and its visual appearance updated. We will acquire and customize a content management system (CMS) that will make the creation of engaging online content straightforward and intuitive for NYCDOE staff. This will enable us to offer the kind of simple and seamless online service that people have come to expect from the web.

SPOTLIGHT

A new, free SchoolFood mobile app was released in summer 2015 to make it easier for families find free meals provided by the NYCDOE. Our Summer Meals Program is available at hundreds of public schools, community pool centers, New York City Housing Authority complexes, and other locations around the city.

WHO'S DRIVING

Division of Instructional and Information Technology; Communications and External Affairs; Divison of Operations

LEARN MORE

TECH@schools.nyc.gov

School Food

School Food Mobile App

WHAT IT WILL TAKE

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Under $5M

12 Expand proactive technical support for schools.

WHAT IT LOOKS LIKE

Field Tech Health Checks identify root causes of recurring technical difficulties in schools, and issues are addressed proactively rather than reactively.

HOW IT WILL HAPPEN

NYCDOE Field Techs will increasingly engage schools in holistic technology health assessments. Through analysis of helpdesk tickets and insights gained on the ground, we will proactively diagnose and address common technology issues.

Health Checks will both help to preempt some of the more common school technology challenges, and also bolster the capacity of school staff to troubleshoot future technical issues. Armed with data about a school's systems, bandwidth utilization, wireless infrastructure, and device inventory, field technicians will conduct school visits during which they will meet with school leaders and the technology Single Point of Contact (SPOC), and will support the SPOC in devising and carrying forward a plan to improve technology performance at the school. These consultations, along with annual SPOC "boot camp" sessions, help to build the capacity of school staff to independently diagnose and apply solutions to technical issues.

WHO'S DRIVING

Division of Instructional and Information Technology

LEARN MORE

DIITcustomerrelations@schools.nyc.gov

WHAT IT WILL TAKE

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Under $5M

Improve the clarity, simplicity, and accessibility of NYCDOE systems.

WHAT IT LOOKS LIKE

The tools users interact with will be easier to access and navigate, simplifying everyday processes.

HOW IT WILL HAPPEN

The NYCDOE Capital Plan proposes expansion and consolidation of critical school-based data processes over a five-year period. Rather than transition all at once, we will gradually introduce modules and components that replace existing systems while also adding new capabilities. This approach will enable us to continuously improve each technology tool in response to feedback from the field.

The NYCDOE will redesign core functions of our 30 year-old student information management system, Automate the Schools (ATS) and incorporate them into a modern, web-based system. School staff will quickly and easily manage (and get reporting on) enrollment, attendance, grading, and testing using this new system. Ultimately, schools will choose the technology tools that best suit their day-to-day needs from an array that includes both third-party software and NYCDOE-specific options.

Also during this five-year period, we will use capital and tax-levy funds to automate school cafeterias and kitchens. All schools will receive new hardware, software, wiring, and cabling to enable automated processes that support ordering, serving, and managing school food service. New technology will replace paper checklists and sign-off process with fully automated point-of-sale terminals where students can discretely pay for their meals or obtain their meals for free.

Additionally, the NYCDOE will be introducing a cloud-based platform for email and file storage that should improve communication and file management throughout the organization.

WHO'S DRIVING

Division of Instructional and Information Technology; Division of Teaching and Learning

LEARN MORE

NYCDOE Proposed Five-Year Capital Plan Amendment, January 2016

WHAT IT WILL TAKE

$$$$

$50M+

ABOUT THIS PLAN

This document was created by the NYCDOE's Division of Instructional and Information Technology (DIIT) and is designed reflect the vision, voices, and insights of our students, colleagues, customers, and counterparts from across the NYCDOE and the country. Accordingly, this plan was developed following extensive consultation with over 250 stakeholders who shared their views via one-on-one meetings and focus groups. What we learned in those meetings helped us to take a broad view of the challenges and opportunities related to technology at the NYCDOE, and to home in on the most relevant—and actionable—strategic priorities and goals.

This is not a plan designed to be read once and placed on a shelf; rather, it is a living document that articulates the real priorities, plans, and work underway at the NYCDOE; how technology enables these; and how both the programs and the technology we need will evolve in the years ahead. DIIT will continue an ongoing cycle of consultation, reflection, and annual updates to keep the plan relevant and timely.

ABOUT THE DIVISION OF INSTRUCTIONAL AND INFORMATION TECHNOLOGY (DIIT)

The Division of Instructional and Information Technology at the NYCDOE strives to understand what educators want and need, and to translate those needs into an IT strategy that supports instructional and operational excellence. DIIT provides network and internet services for schools and administrative locations, develops and maintains over 300 applications, databases, and software systems used by NYCDOE school and central staff; administers the NYCDOE website and intranet, visited by over 200,000 people each day; and provides direct support to help schools use technology in support of their educational programs. DIIT collaborates with partners across the NYCDOE to ensure that our IT investments are aligned to NYCDOE priorities and program goals.

About the New York City Department of Education

The New York City Department of Education (NYCDOE) is the largest school district in the United States. We operate over 1,700 schools, employ 130,000 staff and create growth opportunities for 1.1 million students. 176 languages are spoken in our schools.

PROGRAMS APPENDIX

Academy of Software Engineering

The Academy of Software Engineering is NYCDOE high school that offers innovative software engineering and computer science skills and knowledge, internships in New York City's tech industry with professional mentors, cutting-edge equipment, and computing courses focused on programming, advanced computer science, web design, user experience, entrepreneurship, and mobile application development.

Bronx Academy for Software Engineering

Bronx Academy for Software Engineering (BASE) is a four-year CTE high school in which students receive training in programming, software design and application development.

Bring Your Own Device

Bring Your Own Device enables students to bring their mobile devices to school and where applicable, use those devices in the classroom for instructional purposes.

Career and Technical Education

Career and Technical Education programs give students opportunities to master academic, technical, and workforce skills. These schools provide to students a range of programs focused on preparing graduates for higher education and career-track employment in high-demand industries.

Community Schools

Community Schools offer a coordinated approach to increasing learning opportunities and improving students' academic performance through strong partnerships among principals, parents, teachers, and community organizations.

Computer Science for All

Computer Science for All is an initiative to make computer science education an integral part of the NYC public school experience over the next ten years.

Data Integrity Scorecard

The Data Integrity Scorecard is designed to provide schools with a view of known potential errors in their school's data and is refreshed nightly.

iLearn

iLearn offers online lessons and courses customized by their teachers, and enables teachers to interact online with real-time data about their students' progress.

Innovative Partner Professional Development
Innovation Partner Professional Development provides NYCDOE staff with online and in-person opportunities to become expert and/or certified in particular technologies and instructional tools.

NYCDOE Capital Plan
The Capital Plan for FY2015-2019 will allow for the continued advancement of our goals of growth, sustainability, equity and resilience by creating more than 44,000 seats in areas of current overcrowding and will take significant steps to address pre-kindergarten need.

NYC Schools Account
The NYC Schools Account offers families direct access to key information about their children's progress in school, including attendance, report card grades, and state exam results. Information can be viewed in ten languages, and displays clearly on any type of mobile or desktop device.

New York State Smart Schools Bond Act
The Smart Schools Bond Act authorized the issuance of $2 billion of general obligation bonds to finance improved educational technology and infrastructure to improve learning and opportunity for students throughout the State.

New York State School Technology Voucher Program
The New York State School Technology Voucher Program is the result of a settlement agreement between New York State consumers and Microsoft Corporation.

NYC Open Data
NYC Open Data makes the wealth of public data generated by various New York City agencies and other City organizations available for public use.

Progress to Graduation Tracker
The Progress to Graduation Tracker is designed to act as an early warning system, providing high school educators with real-time information about which individual students are on-track for college and graduation.

Pupil Transportation Services
Pupil transportation services are provided through the Office of Pupil Transportation (OPT), which is the largest school transportation department in the country. Over 600,000 New York City students attending both public and non-public schools located within the five boroughs and neighboring counties in New York, New Jersey and Connecticut use these services. OPT also provides bus service for more than 160,000 field trips every year.

SchoolFood
SchoolFood is a mobile application that makes it easier for families find free meals during the summer that are provided by the NYCDOE. It is available on iTunes.

School Performance Data Explorer
The School Performance Data Explorer provides all NYCDOE educators with current data to help tailor early interventions and supports for students.

School Technology Summit
The NYCDOE School Technology Summit is an annual event that connects educators, administrators, and other staff to best practices in educational technology.

Social Media Guidelines
The Social Media Guidelines provide information about how to use social media responsibly, both within and outside the school community.

Software Engineering Pilot
The Software Engineering Pilot is a computer science curriculum-development and teacher-training program in 18 public middle and high schools.

WeTeachNYC
WeTeachNYC is an online hub for all things related to educator professional learning across all content areas.

STEM
Science, Technology, Engineering, and Mathematics (STEM) education is the integration of important core subjects that students need to know in order to be successful and competitive in a 21st century economy. STEM education involves the study of science and mathematics, and the meaningful integration of technology and engineering to provide opportunities for innovative problem solving. Using the engineering design process, students identify problems, develop and test possible solutions, and ultimately reach a solution. The integration of mathematics, science, and engineering practices used in conjunction with digital literacy will help students recognize and use the variety of perspectives that may be tapped into to help unravel complex inquiries. The purpose of STEM education is for all students, including minorities and underrepresented populations in STEM careers, to achieve literacy across core disciplines, become critical thinkers and to increase their motivation to pursue college and STEM careers.

STEM Framework
The STEM Framework is designed to help schools develop a STEM approach that integrates well with a school's existing instructional mission and vision.

Summer Meals
The Summer Meals program is available at hundreds of public schools, community pool centers, New York City Housing Authority complexes, and other locations around the city. No registration, documentation, or ID is required to receive a free breakfast or lunch meal.

Sustainability Initiative
The Sustainability Initiative seeks to transform the NYCDOE into a more sustainable and efficient public entity regarding facility operation and maintenance and student environmental education.

Technology Single Point of Contact
A Technology Single Point of Contact is a staff member designated by their school principal to serve as a liaison for all technology matters.

The Sandbox
The Sandbox is a NYCDOE-internal online information hub for all things related to school technology.

WeTeachNYC
WeTeachNYC is an online hub for all things related to educator professional learning across all content areas.

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Goal One

Computer Science for All: Fundamentals for Our Future
http://www1.nyc.gov/office-of-the-mayor/education-vision-2015-computer-science.page

NYC Summer STEM
http://schools.nyc.gov/Academics/Science/NYCSummerSTEM

STEM Framework
http://schools.nyc.gov/NR/rdonlyres/DE2FC1DE-5FB8-474F-BD27-D75FF70EF610/0/STEMframework_WEB1.pdf

Blended Learning Institute – Computer Science Track
http://izonenyc.org/initiatives/blended-learning-institute/#computer-science-track

Software Engineering Pilot program
http://sepnyc.org/

Bronx Academy for Software Engineering
http://bronxsoftware.org/

Academy of Software Engineering
http://www.afsenyc.org/

Goal Two

STEM Institute
http://schools.nyc.gov/Academics/Science/SpringSTEMInstitute

WeTeachNYC
https://www.weteachnyc.org/

Innovative Partner Professional Development
https://vimeo.com/110824915

School Technology Summit
http://www.schooltechnologysummit.com/

Goal Three

Special Education
http://schools.nyc.gov/academics/specialeducation/default.htm

English Language Learners
http://schools.nyc.gov/Offices/Translation/default.htm

Goal Four

NYCDOE Social Media Guidelines
http://schools.nyc.gov/RulesPolicies/SocialMedia/default.htm

Common Sense Education Digital Citizenship Scope & Sequence
https://www.commonsensemedia.org/educators/scope-and-sequence

National Education Technology Standards for Students
http://www.iste.org/standards/iste-standards/standards-for-students

Public Schools Athletic League
www.psal.org

Goal Five

NYCDOE Proposed Five-Year Capital Plan Amendment, January 2016
http://www.nycsca.org/Community/CapitalPlanManagementReportsData/CapPlan/01212016_15_19_CapitalPlan.pdf

Goal Six

Office of Pupil Transportation
http://www.optnyc.org/

Goal Seven

New York State School Technology Voucher Program
http://schools.nyc.gov/Accountability/resources/AssessmentTechnology/default.htm

New York State Smart Schools Bond Act
http://www.p12.nysed.gov/mgtserv/smart_schools/

Chancellor's Regulation A-413, Cell Phones and Other Electronic Devices in Schools
http://schools.nyc.gov/NR/rdonlyres/8C04CC15-F156-4578-9775-53B98638D650/0/A413Final22615.pdf

NYCDOE BYOD Google Group
https://plus.google.com/communities/101739736850052439416

Goal Eight

The Sustainability Initiative
http://schools.nyc.gov/community/facilities/sustainability/

Green Schools Alliance
http://www.greenschoolsalliance.org/search/gsa_search_schools

Solar Car Challenge, About. 2015
http://www.solarcarchallenge.org/

Solar One Green Design Lab
http://www.thegreendesignlab.org/

Maspeth High School
http://www.maspethhighschool.org/

Tottenville High School
http://www.tottenvillehs.net/

Goal Nine

Privacy Laws and Regulations
https://www.law.cornell.edu/uscode/text/20/1232g

NYCDOE Chancellor's Regulation
http://docs.nycenet.edu/docushare/dsweb/Get/Document-44/A-820.pdf

NYC Open Data Portal
https://data.cityofnewyork.us/data?cat=education

Research Support and Policy Group/Internal Review Board
http://schools.nyc.gov/Accountability/data/DataRequests.htm

Goal Ten

Press Release: Chancellor Fariña Announces New School Data Tracking Tools to Drive School Improvement and Increase Accountability
http://schools.nyc.gov/Offices/mediarelations/NewsandSpeeches/2014-2015/Chancellor+Fariña+Announces+New+School+Data+Tracking+Tools+to+Drive+School+Improvement+and+Increase.htm

iZone NYC
http://izonenyc.org/

Community Schools Initiative Overview
http://schools.nyc.gov/AboutUs/schools/community_schools/default.htm

Google Apps for Education at the NYCDOE
https://sites.google.com/a/mynycschool.org/nycdoe-gafe/home

Goal Eleven

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School Food
http://www.schoolfoodnyc.org/

School Food Mobile App
http://www.schoolfoodnyc.org/MediaCenter/mobileapp.htm

Goal Twelve

DIITcustomerrelations@schools.nyc.gov

Goal Thirteen

NYCDOE Proposed Five-Year Capital Plan Amendment, January 2016
http://www.nycsca.org/Community/CapitalPlanManagementReportsData/CapPlan/01212016_15_19_CapitalPlan.pdf

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