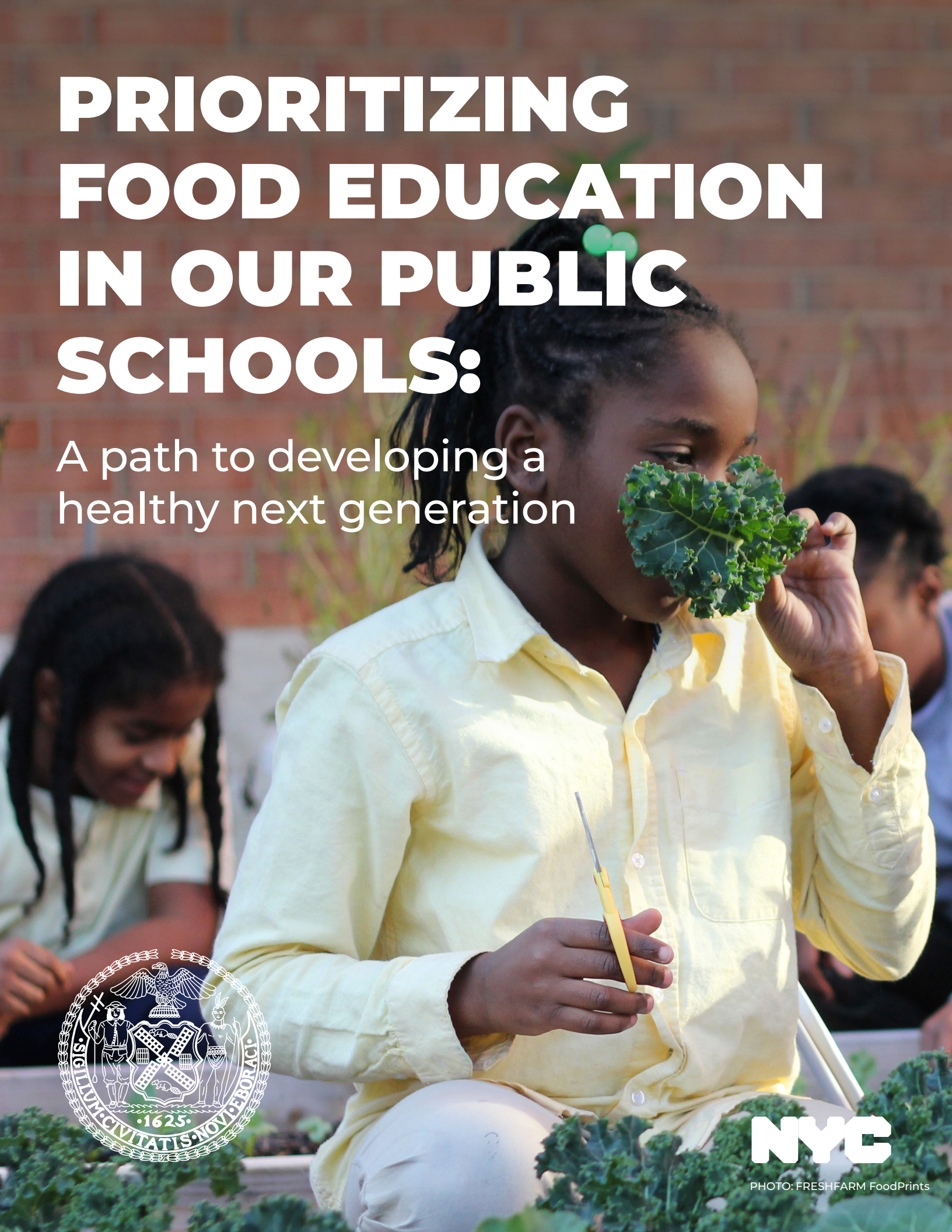
PRIORITIZING FOOD EDUCATION IN OUR PUBLIC SCHOOLS:

A path to developing a healthy next generation



NYC

PHOTO: FRESHFARM FoodPrints

Table of Contents

3 Letter from the Mayor

4 Letter from the Office of Food Policy Executive Director

5 Letter from the New York City Public Schools Chancellor

6 Executive Summary

8 Introduction

13 Our Goals

Goal 1: Students build knowledge and habits about healthy eating and wellness.

Strategy 1.a) Expand food education across all New York City Public Schools, including DOE early childhood education programs, at every stage of a child's educational journey.

Strategy 1.b) Increase the selection of and consumption of plant-powered menu options.

Goal 2: Students have access to and consume healthy food in schools that meets their needs.

Strategy 2.a) Understand student consumption through behavioral science, technology, and data.

Strategy 2.b) Ensure ethnic and cultural foods are available to all students.

Strategy 2.c) Ensure equity across all school districts by prioritizing Capital Improvements to school kitchens and cafeterias, especially in Taskforce on Racial Inclusion and Equity (TRIE) designated neighborhoods.

Goal 3: The community (families, food service workers, educators) has the knowledge and resources to be advocates for healthy habits and wellness.

Strategy 3.a) Drive transparency in student health, wellness, and nutrition in all schools.

Strategy 3.b) Ensure that members of the community have the tools and knowledge to become advocates for healthy habits and wellness.

Strategy 3.c) Increase school community awareness, training, and understanding (including educators, school leaders, family, and staff).

Strategy 3.d) Acknowledge the importance of community providers in supporting student food education.

17 Conclusion

To my fellow New Yorkers,

Healthy eating is powerful. I know it first-hand: the power of healthy eating saved my life. Integrating a better, more healthful way of eating and embracing a plant-based lifestyle reversed my Type 2 diabetes and saved my eyesight.

Now, as Mayor, I'm working with every agency across our city to transform our food system and bring healthier food to our communities across the five boroughs. We know that unhealthy foods like fast food, processed foods, and sugary drinks contribute to chronic diseases. It is not our DNA. It's our lunch. It's our dinner.

Much of the problem lies in the fact that oftentimes, only higher-income neighborhoods have access to the Whole Foods of the world, while our low-income neighborhoods are left with junk food options.

Eighty percent of healthcare dollars in America go toward treating the diet-related chronic diseases that these kinds of foods fuel. I don't want to keep feeding this health care crisis — I want to change it.

And it starts in our schools. It starts by educating our kids. This roadmap, *Prioritizing food education in our public schools*, outlines how our administration is going to educate our kids for a healthier future. We want to make sure that our children are not only academically smart, but nutritionally balanced and healthy.

By educating them on good eating habits and nutrition, on how to grow and cook food, we know that we are setting them up for healthier lives.

And it will trickle down to their families and their communities. And it is our hope that this re-culturing moment will spread to their homes, to their families, as they share meals at the dinner table and talk about their days.

Food is more than what you put in your mouth. Food is how we define ourselves. When we change how we eat, we change how we live.

Food is more than what you put in your mouth. Food is how we define ourselves. When we change how we eat, we change how we live.

And here in New York City we want to define ourselves as city that lifts our children up, that provides healthy, nutritious food for this generation and the next.

A positive way of eating enhances our lives, preserves our health, creates a more sustainable food system, and delivers nutritional equity and food justice for all.

Together we are building a healthier food system for New York City's children.

Mayor Eric Adams

As a parent of two students in our city's school system, I know how important a nutritious, tasty meal is in fueling my kids for the classroom. But a healthy meal is just one part of setting kids up for success — we need to equip our kids with the knowledge and habits to live healthy lives, in and outside of school and long after graduation. We also need to provide a supportive environment for kids to develop and practice those habits.

As a registered dietitian who has spent my professional career advancing food programs and policies to make the healthy choice the easy choice for New Yorkers, I know this work is complex.

A healthy meal is just one part of setting kids up for success — we need to equip our kids with the knowledge and habits to live healthy lives, in and outside of school and long after graduation.

This roadmap, *Prioritizing food education in our public schools,* outlines how the Adams' administration will leverage food education to develop a culture of healthy eating and wellness for all New York City students.

With a comprehensive food education, students learn about food throughout their educational journey, not just in the cafeteria or in health class, but in math, science, reading, the school garden, and more.

A comprehensive food education also engages the community surrounding each student — parents, teachers, cafeteria workers, building managers, community organizations, and countless others — so that everyone who is a vital part of the student's educational journey has the knowledge and resources to be advocates for healthy habits and wellness.

I'm proud of what this city has already accomplished to provide every student with a healthy food environment. New York City was the first major city in the country to set nutrition standards for all foods and meals purchased and served by the city, including school meals. New York City was also one of the first jurisdictions to provide free meals to every student regardless of family income.

With this food education plan, New York City continues to be a leader in healthy eating and wellness, starting with our kids.

Kate MacKenzie
Executive Director, New York City Mayor's Office of Food Policy

Every day, adult New Yorkers make choices: what to wear, what to do, and what to eat. Our kids do the same. This roadmap is focused on not only improving the health and wellness of kids through food education, but building the habits and knowledge that enable them to make the best choices every day.

New York City has been a leader in progressive food policy standards, access, and nutrition education for decades. That's because we understand that health and wellness extend beyond the food we eat. They require our entire community to come together to make nutritious food accessible to all, teach each other about the value of healthy living, and ensure that every kid — and their families — have the resources they need to thrive.

In this roadmap, leaders from across the city are putting forth an ambitious plan to reimagine the culture of food, starting with our kids. Our call to action is simple: **make access to high-quality food and nutrition education, world-class food experiences, and equitable community resources available to all children and their families**.

Learning about food doesn't just happen in health class. It can be found in other classes like math or English, during PE and Health, and even after-school activities. That is why we're calling it, "Food Education." Food Education starts with expanding our approach to nutrition education to include every aspect of a child's educational journey.

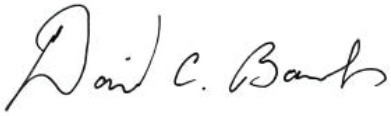
Learning about food doesn't just happen in health class. It can be found in other classes like math or English, during PE and Health, and even after-school activities. That is why we're calling it, "Food Education." Food Education starts with expanding our approach to nutrition education to include every aspect of a child's educational journey.

Each strategy in this roadmap — for example, culturally responsive food options in all school cafeterias — is designed to meet the challenges students face today. But these strategies will also build the structures necessary — such as developing the technologies to meaningfully understand student consumption and waste — to meet the challenges of tomorrow and beyond. That is, some strategies in this roadmap are already underway while others will take additional time to launch.

Most importantly, this roadmap is anchored by our duty to make health and wellness a priority in the neighborhoods that need it most. Implementation of these strategies will be informed by the ongoing work across the city focused on racial inclusion and equity, including a priority focus on the school districts most impacted by years of inequitable receipt of resources and services.

Finally, this roadmap will remain a living document, iterating over the next few years as we gather more insights from the strategies that are implemented. Our goal is to understand, innovate, and scale as New York City grows and changes.

David Banks
Chancellor, New York City Public Schools



EXECUTIVE SUMMARY

PHOTO: Green Bronx Machine

Executive Summary

PHOTO: Wellness in the Schools

Food education is critical in developing healthier students, families, and communities. By developing healthy eating habits early, students achieve and maintain a healthy body weight, consume important nutrients, and reduce the risk of developing health conditions such as high blood pressure and diabetes. A healthy diet is also associated with improved cognitive function[1], reduced absenteeism[2], improved mood[3], and improved academic performance[4].

A comprehensive approach to food education also teaches students about the larger food system itself — the production, processing, distribution, retail, consumption, and post-consumption of food — and how each component interacts with the environment, economy, community, and more. Students in turn learn to make food decisions that build a more equitable, sustainable, and resilient New York City.

The objective of this roadmap is to operationalize the administration's priority of expanding food education across all New York City public schools. It outlines three goals, nine strategies, and more than 30 key performance indicators to track our progress.

Our Goals:

1. **Students build knowledge and habits about healthy eating and wellness.**
2. **Students have access to and consume healthy food in schools that meets their needs.**
3. **The community (families, food service workers, educators) has the knowledge and resources to be advocates for healthy habits and wellness.**

These goals will help us advance our vision: a future in which all New York City students develop a culture of healthy eating, wellness, and lifelong habits through access to healthy food, food education, experiential learning, and community involvement.

However, these goals are just the beginning. New York City will continue to lead the way in advancing food education as a tool to support healthier students, families, and communities.

1 Child Nutrition Facts, Centers for Disease Control and Prevention, https://www.cdc.gov/healthy-schools/nutrition/facts.htm.

2 Child Nutrition Facts, Centers for Disease Control and Prevention, https://www.cdc.gov/healthy-schools/nutrition/facts.htm.

3 Child Nutrition Facts, Centers for Disease Control and Prevention, https://www.cdc.gov/healthy-schools/nutrition/facts.htm.

4 Pucher KK, Boot NMWM, & De Vries NK. (2012). School Health Promotion Interventions Targeting Physical Activity and Nutrition can Improve Academic Performance in Primary- and Middle School Children. Health Education, 55(5), 372–391.

Introduction

Obesity and Chronic Disease in New York City

Nearly 40% of New York City public school children have overweight or obesity, and childhood obesity disproportionately impacts Black and Latino students.

Nearly 40% of New York City public school children have overweight or obesity[5], and childhood obesity disproportionately impacts Black and Latino students[6].

Children who have obesity are at increased risk for chronic diseases, such as diabetes, heart disease, and asthma[7]. Chronic diseases are also the leading causes of disability and death in New York State and throughout the United States[8].

Many factors influence body weight and chronic disease risk, including genetics, physical activity, and diet. An individual's physical and social environment also plays a large role — this might include pervasive marketing of unhealthy foods and sugary drinks, lack of access to healthy foods, or minimal access to safe areas for exercising.

Schools are uniquely poised to provide students with opportunities to learn about social and environmental determinants of health and practice a healthy lifestyle that prevents weight gain and chronic disease.

School breakfast, lunch, dinner, and snack programs provide students with important nutrients. Research shows that students who participate in the school meal programs consume more whole grains, fruits, and vegetables during meal times and have better overall diet quality than nonparticipants[9]. A healthy diet is associated with improved cognitive function[10], reduced absenteeism[11], improved mood[12], and improved academic performance[13].

5 Pediatric Obesity Action Kit, NYC Health, https://www.nyc.gov/site/doh/providers/resources/public-health-action-kits-pediatric-obesity.page.

6 Health Department Announces Pediatric Obesity Outreach Campaign Targeting Pediatricians and Family Practitioners, NYC Health, https://www.nyc.gov/site/doh/about/press/pr2019/pediatric-obesity-outreach-campaign.page.

7 Childhood Obesity, Healthline, https://www.healthline.com/health/weight-loss/weight-problems-in-children#risk-factors.

8 Chronic Diseases and Conditions, New York State Department of Health, https://www.health.ny.gov/diseases/chronic/.

9 School Meals, Centers for Disease Control and Prevention, https://www.cdc.gov/healthyschools/nutrition/schoolmeals.htm.

10 Child Nutrition Facts, Centers for Disease Control and Prevention, https://www.cdc.gov/healthyschools/nutrition/facts.htm.

11 Child Nutrition Facts, Centers for Disease Control and Prevention, https://www.cdc.gov/healthyschools/nutrition/facts.htm.

12 Child Nutrition Facts, Centers for Disease Control and Prevention, https://www.cdc.gov/healthyschools/nutrition/facts.htm.

13 Pucher KK, Boot NMWM, & De Vries NK. (2012). School Health Promotion Interventions Targeting Physical Activity and Nutrition can Improve Academic Performance in Primary- and Middle School Children. Health Education, 55(5), 372–391.

In addition to providing healthy meals, schools have an opportunity to teach students about individual nutrition and the social, environmental, and economic implications of our food system — in other words, to provide students with a comprehensive food education.

Food Education

"Food education" describes any combination of educational strategies, accompanied by environmental supports, designed to motivate and facilitate voluntary adoption of food choices and other food and nutrition-related behaviors conducive to health and well-being of individuals, community, and the planet[14]. While "nutrition education" is often viewed as only related to food choices for personal health, we are using "food education" to go beyond nutrition to include the external effects of our food choices on the environment, economy, community, and more. Food education can be integrated throughout the school day, across subjects, in the lunchroom, and even at school events.

Food education permeates learning and the student experience throughout the school day, as well as before and after school. It can take many forms, from hands-on food preparation, school-wide assemblies, classroom-based learning, field trips to farmers markets or botanical gardens, school garden-based lessons, and more.

Food education permeates learning and the student experience throughout the school day, as well as before and after school. It can take many forms, from hands-on food preparation, school-wide assemblies, classroom-based learning, field trips to farmers markets or botanical gardens, school garden-based lessons, and more.

In New York City, 56% of K-12 public schools (1025 schools) have at least one food education program. However, 815 schools, or 44%, lack even one[15]. This is particularly true for high schools — food education programs are much more common in elementary schools.

Food education is critical in supporting healthier students. When efforts to create healthier school food environments — like healthier school meals — are paired with food education, they are more effective[16]. Expanding food education to all K-12 public schools in New York City will support students in making healthier choices and succeeding in and out of the classroom.

Our Vision

We envision a future in which **all New York City students and families develop a culture of healthy eating, wellness, and lifelong habits through access to healthy food, food education, experiential learning, and community involvement.**

The administration's commitment to food education and healthy eating has paved the way for early successes in achieving this vision. Since January of 2022, we have:

14 Contento, IR, Koch, PA. Nutrition Education: Linking Research, Theory, and Practice, 4th Edition.

15 https://www.tc.columbia.edu/media/centers-amp-labs/tisch/NEP-Report-March-22-2018.pdf.

16 Center for Nutrition Policy and Promotion, Evidence Analysis Library Division. (2012). A Series of Systematic Reviews on the Effects of Nutrition Education on Children's and Adolescents' Dietary Intake. Available at https://www.cnpp. usda.gov/nutrition-evidence.

PHOTO: Jen Harris

- **Introduced Plant-Powered Fridays:** Every Friday, our school cafeterias feature a nutritious plant-based dish as the primary menu item, helping our students receive the recommended five servings of fruit and vegetables per day and encouraging them to make healthy food choices for a lifetime.
- **Committed $100M to the Cafeteria Enhancement Experience:** The Cafeteria Enhancement Experience (CEE) initiative will transform more than 80 cafeterias into warm and welcoming spaces for students to enjoy nutritious meals.
- **Expanded Halal Kitchens:** 87 public schools are now certified to serve halal meals.
- **Launched Chefs in Schools:** A Chef's Council developed over 100 scratch-cooked, plant-based, and culturally relevant recipes to be tested in schools across all five boroughs. The Council evolved into Chefs in Schools, with a $5.5M commitment to provide culinary training to school food service workers.
- **Prioritized Food Education:** Committed $1M to integrate food education throughout the school day — in core courses, experiential learning, afterschool and overall school culture.

We will continue to build off this early success by focusing on several new frontiers:

- **Measurement and transparency:** Integrate behavioral science and modern technology to measure student choice, consumption, and waste in real-time.
- **Plant-powered and culturally responsive menus:** Expand access to minimally processed, healthy, and nutritious meals to students across the city.
- **Across educational experience:** Create unique food-centered learning opportunities and experiences for all, including 0-5 year olds.
- **Physical Infrastructure:** Invest resources and funding in improvements that drive accessibility, equity, and progress across schools.

Our Approach

Achieving our vision will require **partnership and innovation, a whole of government approach,** and **a commitment to equity and data**. We will work closely with new and existing partners doing the work on the ground every day, including community organizations, philanthropic organizations, academics, and more. We will also collaborate across agencies like the Department of Education (DOE), Department of Health and Mental Hygiene (DOHMH), and Department of Youth and Community Development (DYCD), and others to increase governmental commitment and impact. Finally, we will leverage data to center equity, digging into the information we track to identify patterns and disparities — for example, looking not just at the number of schools that have food

education programming, but where these schools are, who they do and do not serve, and why.

This approach sets a foundation for work that will be ongoing. We intend to continue to collaborate between agencies and work with partners and families in order to deliver world-class food education to all students across the city.

Impact

In 2021-22, there were 1,058,888 students in the New York City school system, the largest school district in the United States.

In 2021-22, there were 1,058,888 students in the New York City school system, the largest school district in the United States. Of those students[17]:

- 13.9 percent of students were English Language Learners
- 20.6 percent were students with disabilities
- 71.9 percent were economically disadvantaged
- 41.1 percent were Hispanic
- 24.4 percent were Black
- 16.6 percent were Asian
- 14.7 percent were White
- 139,752 were in charter schools[18]

During the 2021-22 school year, the K-12 school meals program served an average of 256,618 breakfasts per day and 508,084 lunches per day. The total meals served in the 2021-2022 school year, including suppers and snacks, was 146,632,123[19]. In addition to K-12 students, New York City is home to more than 500,000 children under the age of five, approximately 75,000 of whom are enrolled in a city-contracted early childhood education program, many of which provide meals[20]. By improving the health and wellness of New York City students and their communities, we can reduce chronic disease rates and achieve a healthier and happier city.

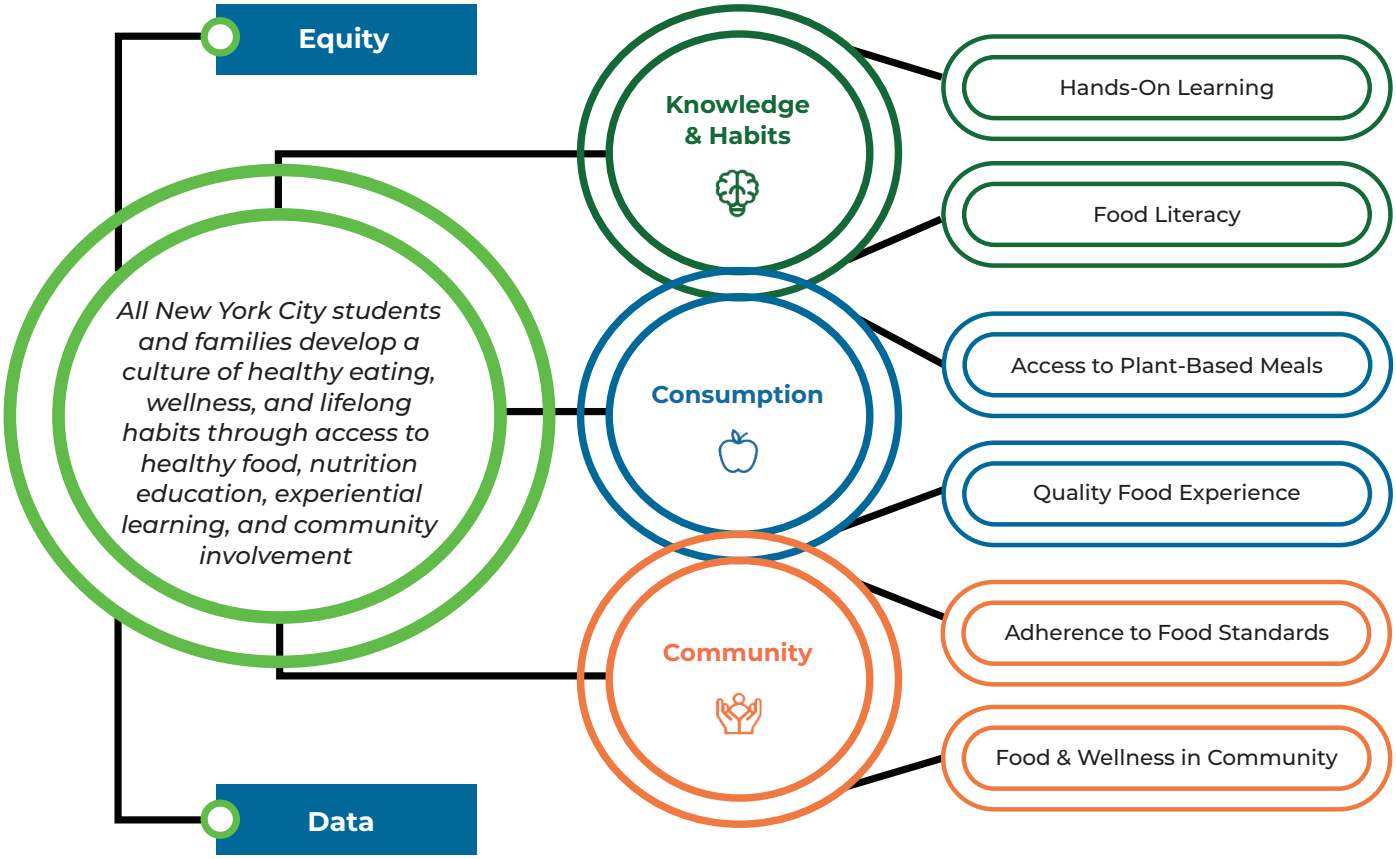
17 DOE Data at a Glance, https://www.schools.nyc.gov/about-us/reports/doe-data-at-a-glance.

18 DOE Data at a Glance, https://www.schools.nyc.gov/about-us/reports/doe-data-at-a-glance.

19 DOE Data for SY '21-22.

20 Accessible, Equitable, High-quality, Affordable: A Blueprint for Child Care & Early Childhood Education in New York City, https://www.nyc.gov/assets/home/downloads/pdf/office-of-the-mayor/2022/Childcare-Plan.pdf.

New York City Administration for Children's Services Monthly Flash Report, January 2023, https://www.nyc.gov/assets/acs/pdf/data-analysis/flashReports/2023/01.pdf.


Equity
Data
All New York City students and families develop a culture of healthy eating, wellness, and lifelong habits through access to healthy food, nutrition education, experiential learning, and community involvement
Knowledge & Habits
Consumption
Community
Hands-On Learning
Food Literacy
Access to Plant-Based Meals
Quality Food Experience
Adherence to Food Standards
Food & Wellness in Community

OUR GOALS

PHOTO: Common Threads

Our Goals

GOAL 1: Students build knowledge and habits about healthy eating and wellness.

Strategy 1a: Expand food education across all New York City Public Schools, including DOE early childhood education programs, at every stage of a child's educational journey.

We will advance this strategy by (1) developing a "Food Education Guidebook" to guide principal decisions on programs; (2) convening a Food Education Council; (3) offering professional development opportunities for teachers and early childhood educators; and (4) introducing learning opportunities in early childhood education for both students and staff.

Key performance indicators:

- Number of schools offering food education programming
- Number of classrooms and students reached at each school
- Publish Food Education Standards
- Number of teachers and educators trained by geography and age group
- Number of official city partners and number of childcare sites offering programming

Creating a set of standards for schools to follow when determining which food instructional resources, programs, and other interventions are right for their communities will reduce burden on school leaders and ensure that students are provided with high quality, age-appropriate, culturally responsive instruction and experiential learning opportunities. These opportunities, coupled with strong instructional practice, will lead to a change in mindset and behavior.

Strategy 1b: Increase the selection of and consumption of plant-powered menu options.

We will advance this strategy by (1) measuring student choices in school meals; and (2) building program management and evaluation capacity at the Department of Education.

Key performance indicators:

- Student meal participation analyzed by menu type
- Explore opportunities to study student school lunch consumption vs. plate waste
- Data collection plan and systems are developed
- Publish Annual Reports on progress

GOAL 2: Students have access to and consume healthy food in schools that meets their needs.

Strategy 2a: Understand student consumption through behavioral science, technology, and data.

We will advance this strategy by (1) analyzing meal participation by menu offering and meal type (i.e. breakfast, lunch); and (2) exploring the feasibility of a plate waste study.

Key performance indicators:

- Meal participation rates at macro and micro levels
- Number of schools offering breakfast in classroom, grab-n-go, and breakfast after the bell
- Results from exploring feasibility of a plate waste study

Strategy 2b: Ensure ethnic and cultural foods are available to all students.

We will advance this strategy by (1) expanding alternative meal options (including Halal Kitchens); and (2) developing and refining plant-based culturally responsive recipes.

Key performance indicators:

- Number of Halal kitchen requests received and completed
- Number of recipes developed and menued
- Number of culinary staff trained

Strategy 2c: Ensure equity across all school districts by prioritizing Capital Improvements to school kitchens and cafeterias, especially in Taskforce on Racial Inclusion & Equity (TRIE) designated neighborhoods.

We will advance this strategy by (1) expanding current surveying of all kitchens and cafeterias for kitchen and cafeteria needs; (2) replacing equipment in kitchens and cafeterias with identified need; (3) making infrastructure investments in school cafeterias and kitchens; and (4) expanding the Cafeteria Experience Enhancement (CEE) program.

Key performance indicators:

- Number of schools surveyed for kitchen and cafeteria needs
- Number of kitchens and cafeterias serviced
- Number of schools needing and receiving capital and equipment enhancements
- Total dollars invested in capital improvements
- Inclusion of a kitchens and cafeterias strategy in the next Capital Plan (2025-2029)
- Number of schools with CEE

GOAL 3: The community (families, food service workers, educators) has the knowledge and resources to be advocates for healthy habits and wellness.

Strategy 3a: Drive transparency in student health, wellness, and nutrition in all schools.

We will advance this strategy through (1) the Office of Technology and Innovation (OTI) School Kitchen Dashboard; and (2) the OTI School Garden Dashboard.

Key performance indicators:

- Maintain a school kitchen dashboard with annual updates
- Develop a school garden dashboard by Summer 2023

Strategy 3b: Ensure that members of the community have the tools and knowledge to become advocates for healthy habits and wellness.

We will advance this strategy through (1) the Chefs in Schools program; (2) school gardens; and (3) offering culinary training opportunities monthly for community members (such as Wellness in the Schools and Culinary Institute of America).

Key performance indicators:

- Number of community members reached by Chefs in Schools
- Number of schools with gardens in each school district
- Number of participants in culinary training opportunities by district

Strategy 3c: Increase school community awareness, training, and understanding (including educators, school leaders, family, and staff).

We will advance this strategy by expanding professional development opportunities for school staff and community-members in the areas of food justice, advocacy, and nutrition.

Key performance indicators:

Number of professional development, leadership, and experiential learning opportunities provided to school staff and community members.

Strategy 3d: Acknowledge the importance of community providers in supporting student food education.

We will advance this strategy by prioritizing and resourcing investments and in-kind support provided by non-profit and academic partners.

Key performance indicators:

- Number of partners supporting food education programs in schools
- The dollar amount of funding supporting organizations to do school programming

CONCLUSION

PHOTO: Jen Harris

Conclusion

This roadmap outlines an ambitious plan to ensure every New York City student develops a culture of healthy eating, wellness, and lifelong habits. Schools are the foundation of this work, but success will require the contributions of many: educators, parents, chefs and culinary staff, advocates, childcare providers, construction teams, government officials, and more.

All New Yorkers — not just K-12 students — interact with the food system every day. Food is how we nourish our bodies, live our values, connect with family and friends, share culture, and engage with our environment and community. By integrating food education across a child's experience in and out of school, we are preparing the next generation to achieve their full potential and contribute to a healthy, sustainable, and equitable New York City.

PHOTO: Green Bronx Machine