



# Reducing Barriers to Consuming School Meals

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## Acknowledgments

This guide was written by Diane Girouard and Crystal FitzSimons of the Food Research & Action Center (FRAC). Maria Bowman, MPH, formerly of FRAC, contributed to this guide. FRAC gratefully acknowledges the support of the National Dairy Council for this guide.

## About FRAC

The Food Research & Action Center (FRAC) is the leading national organization working for more effective public and private policies to eradicate domestic hunger and undernutrition. For more information about FRAC, or to sign up for FRAC's *Weekly News Digest* and monthly *Meals Matter: School Breakfast* newsletter, visit: [frac.org](http://frac.org).

# Introduction

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**T**he School Breakfast Program and National School Lunch Program help ensure students have the nutrition they need to learn throughout the school day. With more than 95,000 schools across the country participating in the school meals programs, the meals that are provided offer a huge opportunity to reduce food insecurity by serving nutritionally balanced and low-cost or free breakfasts and lunches to millions of low-income students every school day, and are an especially crucial support for struggling families trying to stretch limited resources at home. When students participate in school meals, they tap into its many important benefits: improved health, better test scores, and fewer visits to the school nurse, school absences, and behavioral referrals.

Too many students miss out on these benefits, however, when barriers exist that prevent students from consuming the entirety of their meals. Limited access to breakfast before the start of the school day, long serving lines, and short meal periods are some of the logistical and scheduling constraints that prevent students from eating school meals. Students may be less likely to consume components of their school meals if food being served is unfamiliar to students or is not served in an appealing way. Other issues, such as “meals shaming” practices that deny a student a regular lunch because the student does not have enough funds to pay, can be a deterrent to eating. All of these barriers leave too many children missing out on a healthy, nutritionally balanced school meal.

Given the critical role that school meals play in children’s well-being and overall academic performance, the Food Research & Action Center (FRAC) has conducted

interviews with school nutrition staff across the country to identify and highlight best practices for breaking down the barriers that keep students from being able to fully consume their school meals. Throughout these conversations, the following common practices were emphasized as strategies to increase student meal consumption:

- **restructure school lunch time** to ensure students have enough time to eat lunch;
- **expand accessibility to school meals** by providing meals at no charge to all students and through innovative service models, like breakfast after the bell;
- **increase the appeal of school meals** through offering locally sourced foods, scratch-cooking, culturally reflective menu items, and engaging students;
- **enhance the cafeteria environment** to provide well-designed spaces;
- **market and brand the school meals program** to create awareness around the program and the initiatives the district is participating in; and
- **provide robust nutrition education** to make the cafeteria an extension of the classroom.

This guide provides strategies to boost school meals consumption. School districts can follow the practices implemented by their peers and highlighted throughout this report to help maximize student participation and consumption in school meals.

# Restructure School Lunch Time

**T**he timing of lunch during the school day and the amount of time students have to eat their meal directly impacts the amount of food that students consume. Schools should first address scheduling barriers to maximize the time students have to eat meals, as well as ensuring lunch is served at a time where students are hungriest and focused on eating, not rushing to get to recess.

## Provide 30 Minutes for Lunch

Schools must offer lunch between 10:00 a.m. and 2:00 p.m., but there are no federal requirements that specify how long lunch times must be, leaving school districts to determine the length of lunch periods. Studies have shown that students eat more of their lunch when they have sufficient time to eat, and that insufficient time can result in decreased consumption of fruits, vegetables, and milk.<sup>1</sup> Recent data found that the typical lunch period is around 30 minutes, but that the time students actually have to consume their meal is considerably less.<sup>2</sup> Research suggests that school policies that provide 30 minute lunch periods (of which students have at least 25 minutes of seat time with their meal) provide adequate time for students to eat and encourage consumption of meals.<sup>3</sup>

## Schedule Recess Before Lunch

Children are hungrier after physical activity, and putting recess before lunch can lead to more food being consumed. The Montana Office of Public Instruction has collected yearly data on the impact of scheduling recess before lunch since 2005, which shows that elementary



students in schools offering recess before lunch consume more of their meals.<sup>4</sup> In a survey of Montana principals in schools where recess before lunch is implemented, principals reported they saw improved consumption, decreased food waste, a calmer atmosphere in the cafeteria during lunch, and improved classroom behavior after lunch.

When a school transitions to recess before lunch, some school staff may be concerned about accommodating handwashing and storing student's lunchboxes during recess and jackets after recess. Schools have addressed this in various ways and should develop a policy before

<sup>1</sup> Hildebrand, D., Millburg Ely, C., Betts, N., & Gates, G. (2018). *Time to Eat School Lunch Affects Elementary Students' Nutrient Consumption*. Available at: [https://schoolnutrition.org/uploadedFiles/5\\_News\\_and\\_Publications/4\\_The\\_Journal\\_of\\_Child\\_Nutrition\\_and\\_Management/Fall\\_2018/Fall2018-Time-To-Eat-Lunch.pdf](https://schoolnutrition.org/uploadedFiles/5_News_and_Publications/4_The_Journal_of_Child_Nutrition_and_Management/Fall_2018/Fall2018-Time-To-Eat-Lunch.pdf). Accessed on October 9, 2019.

<sup>2</sup> School Nutrition Association. (2018). *School Nutrition Operations Report*. This source is available to the public for purchase at <http://schoolnutrition.org/Publications/Bookstore/>.

<sup>3</sup> Cohen, J., Jahn, J., Richardson, S., Cluggish, S., Parker, E., & Rimm, E. (2016). *The Amount of Time to Eat Lunch is Associated with Children's Selection and Consumption of School Meal Entrée, Fruits, Vegetable, and Milk*. Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4698073/>. Accessed on October 14, 2019.

<sup>4</sup> Montana Office of Public Instruction. (2017). *Recess Before Lunch Guide*. Available at: [http://www.montana.edu/teamnutrition/documents/RecessBefore-Lunch2017-online\\_Revised.pdf](http://www.montana.edu/teamnutrition/documents/RecessBefore-Lunch2017-online_Revised.pdf). Accessed on October 9, 2019.

implementing recess before lunch that builds in time to allow students to return jackets to classrooms or other storage areas and wash hands before entering the cafeteria. Learn more about best practices for moving recess before lunch with the Montana Office of Public Instruction's [Recess Before Lunch](#) guide.

- Cincinnati Public Schools has several schools doing recess before lunch, and school nutrition staff have noticed shifting the schedule has helped with improved structuring of the school day and an increased amount of fruits, vegetables, and milk being consumed at these schools.
- In Minneapolis, 70 percent of schools schedule recess before lunch, up from just 7 percent in 2007. The school district has encouraged schools to adopt this scheduling change since 2006 as a way to increase consumption. In 2017, the school district updated its wellness policy directing schools to adopt this change if possible.

### Offer Versus Serve

Another common strategy school districts use to boost meal consumption is using offer versus serve (OVS). This strategy allows students to select the foods they want to eat, which promotes consumption, reduces food waste and costs, and helps service lines run smoothly. Schools are required to offer five food components (meats/meat alternatives, grains, fruits, vegetables, and milk) in order to be considered a reimbursable lunch. Under OVS, students select at least three of the five required components for lunch and three out of four items for breakfast. Under this serving method, a student must select a fruit or vegetable component at both breakfast and lunch. OVS at lunch is required for grades 9–12, and is optional for grades K–8, while OVS at breakfast is optional for all grade groups. The U.S. Department of Agriculture has shared [tips and posters on OVS](#) that school districts can use to help students and staff understand which items students must take for the school to be reimbursed.



# Expand Accessibility to School Meals

**S**cheduling barriers are not the only challenges students face to being able to consume a school meal. Accessibility to both school breakfast and lunch and the cost of the meals directly impacts consumption and participation, preventing students from receiving the nutrition they need to continue learning throughout the school day. Schools across the country are finding that innovative ways to serve breakfast and lunch beyond the traditional cafeteria lunch line, which they often combine with offering meals at no charge, can be enormously successful in increasing participation and aiding in consumption of school meals.

## Move Beyond the Cafeteria Line

School breakfast scheduled before the start of the school day and in the cafeteria limits access to and consumption of an entire breakfast. Many students are unable to participate at all, and the students who do, often find themselves rushing through the meal in order to get to class on time. Moving breakfast out of the cafeteria before school and into the classroom as part of the regular school day overcomes these timing challenges and opens school breakfast to more students. Schools can increase breakfast participation and consumption by implementing: [breakfast in the classroom](#), [“grab and go,”](#) and [second chance breakfast](#).



Innovative service models are not limited to school breakfast — a combination of service lines and kiosks at lunch time can help reduce the amount of time that students have to stand in line, increase participation, and give students more time to eat. While cafeteria service lines remain the most commonly used venue for serving school lunch, the School Nutrition Association finds that “grab and go” kiosks inside or outside the cafeteria at lunch are on the rise, especially in large school districts.<sup>5</sup>

## Offer Meals to All Students at No Charge

More students are able to participate in — and therefore consume — school meals if barriers around payment are eliminated. Many high-poverty schools are able to offer free breakfast and lunch to all students, which helps remove the stigma that is often associated with school meals, opens the program to children from families who may struggle to pay the reduced-price copayment or the paid charges, and streamlines the implementation of breakfast after the bell service models. Because these provisions allow all students to eat at no cost for breakfast, lunch, or both, participating schools and districts do not have to contend with unpaid school meal debt. This eliminates the “shaming” of students who do not have sufficient funds to cover the costs of their meals. Schools can offer [free breakfast and lunch to all students](#) through options, such as community eligibility or Provision 2.

## Eliminate the Reduced-Price Copayment

School districts that determine it is not financially viable to offer free meals to all students can consider eliminating the reduced-price copay for breakfast, lunch, or both meals. The cost to eliminate reduced-price copayments can be applied to the school nutrition account, and, for many schools, the increase in participation makes it a financially viable option.

<sup>5</sup> School Nutrition Association. (2018). *School Nutrition Operations Report*. This source is available to the public for purchase at <http://schoolnutrition.org/Publications/Bookstore/>.

# Increase the Appeal of School Meals

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**T**here are many ways schools can improve the appeal of meals served in schools so students are more likely to consume all components. Students may be less inclined to consume all components of their meals if menu items are not visually appealing or do not reflect students' preferences. Well-planned menus take time and careful consideration, but are crucial to the success of a school's meals programs.

## Customize Entrée Options

Menus that offer multiple choices and customizable meals can encourage greater consumption. Students, especially at the secondary school level, enjoy having the choice of different entrées or personalizing their meals at “build-your-own” stations.

- Cincinnati Public Schools (Ohio) allows students to customize their salads and foods at a “flavor station” that includes non-salt spices and herbs. Adding garnishes, like sliced tomatoes to pasta or topping burritos with fresh cilantro, also can help increase appeal.
- The District of Columbia Public Schools (Washington, D.C.) has started a fusion bar at some of its high schools that serve made-to-order bowls inspired by a local fast-casual restaurant.

## Reflect Student's Cultural Backgrounds

Offering foods and flavors that students traditionally eat at home can encourage consumption, and school meals provide an opportunity for children to try new foods and learn about the cultures of their peers. Providing samples of different cultural foods before adding the item to the menu creates awareness, builds familiarity, and allows students to experience and develop a palate for trying new foods.

- Minneapolis Public Schools (Minnesota) taste-tested 50,000 samples of Korean kimchi, Moroccan freekeh, and Indian chana masala dishes at 46 schools before adding them to the menu.

- Baldwin-Whitehall Schools (Pennsylvania) has one of the largest percentages of refugees in the state. While students were taking meals, foods, like pastas and pizza, were not being consumed, and instead were thrown away because students were unfamiliar with these items. The school's nutrition department researched new recipes over summer break to feature more of the familiar traditional dishes and flavors their students enjoy at home. As a result, consumption increased at the middle and high school levels.

## Integrate Scratch-Cooking

A growing number of schools are moving away from prepackaged and processed items and incorporating scratch-cooking with fresh ingredients into their school meals. Transitioning to scratch-cooking requires careful planning and an assessment of the district's kitchens. Incorporating scratch-cooking largely depends on the district's kitchen and staff capacity because it requires a well-equipped kitchen and cafeteria staff to perform basic culinary skills and techniques. There are several training programs through local community colleges or technical schools and grants available to help food service staff obtain the culinary skills necessary for scratch-cooking kitchens. To ease the transition, school districts can start with scratch-cooking meals a few times a week and grow from there.

- Minneapolis Public Schools (Minnesota) invested in its staff by offering culinary classes and prep-cook training on knife skills and other culinary techniques to support its move to scratch-cooking. The school district shares some of these [recipes](#) here.
- Austin Independent School District (Texas) employs a full-time executive chef to develop recipes, which are carried out by staff who are skilled in preparing dishes from scratch.

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## Improve Meal Quality and Presentation

Serving high-quality meals is an important way to increase consumption in the school meals programs. Schools can improve the quality of meals they serve by incorporating fresh, ripe seasonal fruits and vegetables. Research has shown that salad bars in particular are an effective way to increase consumption of fruits and vegetables in schools.<sup>6</sup> Schools can display high-quality, seasonal fruit in attractive baskets or bowls in the serving line as an appealing way to increase consumption, or offer pre-sliced or sectioned fresh fruit and vegetables to ease consumption. Smoothies are a nutritious, fast breakfast option that work well with school breakfast “grab and go” carts and are a great way to increase consumption of fruits, vegetables, and milk. Find creative [marketing resources and recipes](#) for smoothies that include fresh fruits and milk.

To maintain the high-quality of their meals, schools should ensure they have appropriate equipment to keep meals hot or cold in food service lines and salad bars, or when transporting breakfast items to the classroom or on kiosks. Studies have shown that students prefer the colder temperature of milk available from the higher quality refrigeration of milk-dispensing machines, which operate similarly to a soda fountain machine.<sup>7</sup> Schools should reach out to their dairy provider to see if they are able to offer bulk milk purchasing for these dispensers. New England Dairy and Food Council shares additional creative [tips](#) to encourage the consumption of milk in schools.

- Orange County Public Schools (Florida) is piloting milk-dispensing machines at some of its high schools, which offer a selection of fresh, cold low-fat milk. Students favor these machines over milk cartons because it keeps the milk more chilled and students enjoy independently filling their cups.
- Cincinnati Public Schools (Ohio) offers a salad bar in each of its schools, something that the district phased-in

over time. Salad bars have become a way to introduce students to new vegetables, and as an ongoing way to improve selections, students provide their feedback on what new vegetables they would like to have included.

## Use Farm-to-School and Locally Sourced Items

Purchasing locally affords schools an opportunity to enhance their meals program with farm-fresh foods, develop and reinforce healthy eating habits through farm-to-school activities, and build important relationships within the community through local farmers and producers. Using locally sourced foods boosts the quality of a school’s meals programs, and participation in farm-to-school activities has been linked to increased fruit and vegetable consumption and a willingness among students to try new, healthier foods.<sup>8</sup> School nutrition departments have flexibility in sourcing where their food comes from and many are participating in farm-to-school programs — in 2015, over 42,000 schools nationwide had implemented programs. Milk is one of the most commonly locally sourced products in school meals, and farm-to-school programs offer opportunities for students to visit local dairy farms to learn about the milk provided to the school district. For more information on how to incorporate local foods, check out FRAC and the American Federation of Teacher’s [Breakfast Blueprint](#), as well as [resources](#) from the National Farm to School Network.

- Austin Independent School District (Texas) purchases 47 percent of its food from within the state of Texas, which allows it to offer at least three local menu items every day as part of its seasonal menus. The district also partners with Johnson’s Backyard Garden, an Austin-based farm, to provide vegetables for the entire district.
- Minneapolis Public Schools (Minnesota) serves an entirely locally sourced meal one Thursday each month. The district saw a 15 percent increase in participation on these Thursdays when it first began in 2004.

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<sup>6</sup> U.S. Department of Agriculture. (2019). Salad Bars in the National School Lunch Program and School Breakfast Program (memo). Available at: <https://fns-prod.azureedge.net/sites/default/files/resource-files/SP41-2019os.pdf>. Accessed on October 9, 2019.

<sup>7</sup> National Dairy Council. (2019). *Nourish to Flourish: A Progress Report*. Available at: <https://n2fddata.org/wp-content/uploads/2019/05/switching-from-milk-cartons-to-bulk-milk-at-bluestone-elementary-school-final-report.pdf>. Accessed on October 9, 2019.

<sup>8</sup> National Farm to School Network. (2017). *The Benefits of Farm to School*. Available at <http://www.farmtoschool.org/Resources/BenefitsFactSheet.pdf>. Accessed on October 14, 2019.



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## Engage Students to Determine Menu Preferences

Student taste tests, surveys, culinary competitions, school meals-related art contests, and student-run gardens are just a few ways to get students excited about school meals. Taste tests are a great way to expose students to new foods and help establish new preferences, and research shows taste tests correlate with increased fruit and vegetable intake. To make sure taste tests do not take away from a student's time to eat lunch, schools can place sample cups for students to grab on their way into the cafeteria or as they wait in line for lunch. Staff should welcome students as they enter the taste test and explain the purpose of the event and how students can provide feedback. For more information on how schools can set up a fun, successful taste test with students, check out FRAC and the National Association of Secondary School Principals' [Secondary School Principals' Breakfast after the Bell Toolkit](#) for step-by-step instructions. More strategies and best practices for engaging students can be found in [Ingredients for Increased Student Engagement](#), a resource developed in collaboration with students by the National Dairy Council, School Nutrition Association, and [Fuel Up to Play 60](#).

- The Dallas Independent School District (Texas) holds an annual food festival where vendors and school chefs share samples of their products to students. Students record their input on electronic tablets at the festival so their feedback can be passed along immediately.

- In a recent consumption study, the District of Columbia Public Schools (Washington, D.C.) prepared a new vegetable item three different ways for students to sample to gauge student preference before the new vegetable dish was placed on the menu.

## Run Student Contests

Engaging students to get them excited about consuming school meals can go beyond gathering input on menu items. Student contests create an opportunity for school nutrition staff to collaborate with classroom teachers or school clubs. Students can enter friendly competitions to produce breakfast or lunch-themed student artwork for the cafeteria or logos for hallway kiosks. Another way to get students excited about school meals is to hold student culinary contests that feature student-developed and tested recipes on upcoming menus. The U.S. Department of Agriculture (USDA) provides a [how-to-guide](#) on setting up a student cooking competition.

- Students at Dallas Independent School District (Texas) are given the opportunity to come up with meal ideas through two student competitions. The district's Breakfast Battle is a marketing competition for students to develop the most effective advertising strategies to increase breakfast participation in their high schools. Students also participate in the [Cooking Up Change](#) challenge, a national competition where students create new recipes using a set budget. The winner's recipe is then added to the menu for the upcoming school year.

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# Enhance the Cafeteria Environment

**T**he cafeteria is an extension of the classroom where students have the opportunity to develop healthy eating habits and socialization skills, and the cafeteria environment can really make a difference in what and how much students eat. Changing the layout of the cafeteria and the presentation of vegetables and fruits can help increase consumption of healthier options. Overcrowding, loud noises, and chaotic lunch lines can make the environment of the cafeteria uncomfortable for some students, while well-lit spaces with bright colors, clean tables, and ample seating contribute to a more enjoyable experience. Schools do not have to break the bank when modifying the physical elements of their cafeterias to enhance the overall environment; many of these changes can be small-scale. When participation in breakfast and lunch increases, schools generally see additional federal reimbursements that can be used for larger-scale cafeteria improvements.



## Manage Cafeteria Traffic Flow

Well-designed school dining spaces ensure students get through lines efficiently so they have more time to eat. Schools can make simple changes to speed up the lunch lines by creating clear traffic patterns in the cafeteria, expanding the number of available entrée lines, or have multiple “build-your-own” stations. Strategically placing menu boards listing available meal options using short, catchy names or color-coding helps remind students of their options and speeds up the process. Cashless point of sale systems also can help reduce the time spent in line while eliminating any stigma associated with differing eligibility statuses.

## Reform the Cafeteria Space

Welcoming cafeteria spaces foster a strong sense of community within the school and can encourage school meals participation and consumption. Cafeterias can be painted in school colors or age-appropriate murals that encourage healthy eating, incorporate nutrition themes, and feature school mascots. Students can get involved by helping to paint murals or decorate walls in the cafeterias with their own artwork and posters. Schools can improve cafeteria spaces to make them more inviting by emulating food courts or cafés with booths and round tables. Find more information and tips in [\*Nourish to Flourish— A Guide to Redesigning Your Cafeteria\*](#).

- Houston County Schools (Georgia) decorated one elementary school cafeteria (nicknamed the “Rocketeria”) with space-themed graphics based on the school’s mascot, the Rockets.
- Minneapolis Public Schools (Minnesota) is redesigning its cafeterias with the goal of creating pleasant dining environments for its students. New cafeteria spaces are bright with natural light and include wall graphics, open space, and a mix of round and square tables.

# Market and Brand the School Meals Program

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**S**trong school nutrition programs are supported by effective marketing and branding. Incorporating creative strategies to elevate the school district's nutrition programs can help change the perception of school food by showing parents and students it is committed to providing fresh, healthy, satisfying meals. Developmentally appropriate, colorful, and consistently branded marketing can increase student meal consumption and encourage students to participate in the school meals program. Marketing can be done in numerous ways, from simply getting vocal on social media and mimicking the marketing techniques of local fast-casual restaurants, to bigger initiatives, like investing in a mobile food truck.

## Create Awareness Through Marketing

Creating awareness around the program and promoting positive messaging are successful marketing strategies. In addition to traditional press releases and written communication, digital marketing is a fast, easy, and free way to bring awareness to new breakfast after the bell programs or changes to meals being served. It's also a great way to receive feedback from parents and an avenue for local vending groups or farms to reach out to schools. Maintaining a user-friendly website with updated menus and information is another way school districts can market their program and reach parents. Schools can develop creative logos to brand the program as the district or school's own that can be placed on all promotional materials, signs, notices in school newsletters, stickers, and staff uniforms. To engage students, hold a contest or ask student groups to submit a logo to be used to promote the program.

- Orange County Public Schools (Florida) offers a coffee-flavored, low-fat milk beverage as a component of a reimbursable breakfast or lunch that is marketed

as a coffee drink to high school students. The drink is designed to offer a healthier and more appealing version of the lattes served at coffee chains that are popular among students, and is an incentive to purchase a reimbursable meal. It contains eight ounces of low-fat milk, two ounces of coffee, and an optional two ounces of sugar-free flavoring. These milk drinks are marketed with descriptions like "Caribbean Getaway."

- Houston County Schools (Georgia) worked with an online company and held a logo design contest, landing on a "Revved" logo for its breakfast after the bell program. Menus, breakfast carts, and staff uniforms are branded with the Revved logo. The school district also advertises its "grab and go" breakfast smoothies by using a short, catchy logo that resonates with students: "SIPS: Fresh, Fast, Fun."

## Think Outside the Box

To grow support for school meals and increase consumption, districts have found success in coming up with creative solutions to encourage students to eat more of their meals. Some schools have mimicked the way fast-casual restaurants package breakfast sandwiches or serve lattes for morning meals. A growing marketing trend among school districts is the use of food trucks. Food trucks can offer a reimbursable meal just as the cafeteria does, and does so in a way that's a fun alternative to the way students normally receive their meals.

- Austin Independent School District (Texas) uses two food trucks, named by the students "Nacho Average Food Truck" and "Food 4 Thought," to generate excitement, which helps increase overall consumption at breakfast and lunch.

## Provide Robust Nutrition Education

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**N**utrition education is an effective way to promote school meals, increase consumption, encourage students to develop healthy eating habits, and connect students with the source of the food and milk provided at breakfast and lunch. Nutrition education can simply come in the form of displaying posters in the cafeteria that promote healthy eating, integrated into classroom math and science lessons, take place during student taste tests in the cafeteria, or through samplings and recipes shared with families at parent nights. School gardens give students a hands-on learning experience to learn about the importance of healthy, nutritious food. See USDA's Team Nutrition page for [free materials](#) to help schools integrate nutrition education into classroom learning.

Farm-to-school programs provide a convenient opportunity to include nutrition instruction on the sourcing and health benefits of fruits, vegetables, and milk included in school meals. Schools can invite local dairy farmers to schools or have students visit nearby farms to encourage milk consumption as students learn about the nutritious benefits of drinking milk. For schools who are unable to make a physical visit to a dairy farm, the National Dairy Council provides [resources and a virtual farm tour](#) that schools can use as ways to provide nutrition education from the convenience of the classroom.

## Conclusion

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**W**hen barriers get in the way of students being able to consume their school meals completely, schools miss out on the opportunity to reduce childhood hunger and improve nutrition among their students. These barriers can be addressed to encourage and promote the consumption of school breakfast and lunch, as highlighted throughout this guide, by restructuring lunch periods; expanding

accessibility to school meals, increasing appeal, marketing and branding the school meals program, providing robust nutrition education programs, and enhancing the cafeteria environment. Schools can begin with implementing one or more of these strategies to maximize consumption of school meals so students are able to learn and thrive throughout the school day.

# Appendix

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## Case Studies Highlighting Best Practices for Reducing Barriers to School Meals Consumption

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### Austin Independent School District

#### At a Glance

- Located in Austin, Texas
- 80,013 students in 113 schools
- Meals served in 2018–2019: 6.96 million meals

#### Expand Accessibility

Austin Independent School District (AISD) serves free breakfast and lunch to all students in 82 of its 113 schools through community eligibility, and an additional 10 schools offer breakfast at no charge to all students under Provision 2. Fifty-three of its schools use breakfast after the bell models to increase participation.

#### Increase the Appeal of School Meals

##### *Reflect Students' Cultural Backgrounds*

AISD works with locally and regionally recognized chefs to create global dishes that accommodate the diverse student body. The district places a focus on introducing students to more global flavors to increase awareness of different cultures reflected within the school district — students recently were excited to try baba ghanoush. Its food trucks have served items from Mexican street tacos to Vietnamese banh mi sandwiches.

##### *Use Farm-to-School and Locally Sourced Items*

The district strongly believes in growing close relationships with local farms and vendors to expand its local menu options and reduce logistical challenges. Forty-seven percent of menu items are sourced from within Texas. Items include local sandwich bread and hot dog buns from a nearby bakery, custom-made tortillas from Austin's Fiesta Tortilla, and in-season vegetables from Johnson's Backyard Garden, an Austin-based farm. Johnson's Backyard Garden and AISD have partnered to provide

students with different seasonal organic produce once a week as part of Texas' Farm Fresh Friday initiative and for student taste tests. AISD is also piloting organic bulk milk at some of its schools that is sourced locally.

AISD has teamed up with the Clean Label Project to eliminate the inclusion of harmful ingredients commonly found in recipes, such as high fructose corn syrup and bleached flour. To date, 96 percent of AISD's recipes meet the Project's standards.

#### Engage Students to Determine Menu Preferences

Along with annual surveys and frequent taste tests, AISD encourages students to explore the culinary arts through their Diced & Sliced Student Culinary Competition, which allows middle school students to create unique recipes and present their recipes in front of a panel of judges. Winning creations are included on the following school year's menu.

#### Market and Brand the School Meals Program

AISD creates simple, consistent graphics and messaging to be displayed in each cafeteria to create their "brand." The district disseminates consistent messaging and marketing toolkits to school nutrition staff and administrators at each school. A well-designed, colorful menu captures the attention of students and their parents, so AISD ensures monthly menus at each school are branded with the same logos to keep things visually consistent.

To reach the greater school community, the district uses social media as an easy tool to promote school meals to students, parents, and the greater school community at no cost. Using social media has been a great way to connect with local organizations, who have reached out to the

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district about supporting its school meals programs after seeing social media posts.

Since food trucks are a large part of Austin’s culture, the district operates two of their own to get the word out about its school meals program — named “Nacho Average Food Truck” and “Food 4 Thought” by AISD’s students. Both trucks offer reimbursable meals that are not featured in the cafeteria, which generates excitement around school lunch and helps increase consumption. Food 4 Thought regularly make appearances on high school campuses, and elementary and middle school campuses may request visits for special events.

## Provide Robust Nutrition Education

To teach and get students excited about vegetables and fruits used in school meals from local farms, AISD holds an annual art contest for students during October to acknowledge the use of local produce in school meals. Selected fruit or vegetable artwork is used as promotional signage during its Farm Fresh Fridays initiative throughout the school year.

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## Cincinnati Public Schools

### At a Glance

- Located in Cincinnati, Ohio
- 35,337 students in 65 schools
- Meals served in 2018–2019: 6.95 million meals

### Restructure School Lunch Time

Moving recess before lunch has helped Cincinnati Public Schools (CPS) increase the consumption of fruits, vegetables, and milk. Administrators were on board to flip the schedule once they heard about its proven benefits for calmer lunchrooms and classrooms in the afternoon and increased food consumption.<sup>9</sup>

### Expand Accessibility

Breakfast and lunch are offered at no charge to all CPS students at 52 schools. Breakfast is offered at no charge

to all students through Provision 2 in nine schools and nonpricing in four schools. CPS has also eliminated the reduced-price copayments for breakfast and lunch in schools with traditional claiming. The school district also offers “grab and go” breakfast in 11 of its schools.

## Increase the Appeal of School Meals

The school district adopts a number of best practices to increase appeal, including the four listed below.

### Customize Entrée Options

The nutrition department prioritizes giving students more choices and options to customize their own meals. School cafeterias feature a “flavor station” that allows students to add spices, like crushed red pepper or cumin, to their meals. This lets students enhance their meals with additional flavors based on their preferences, allowing students to feel empowered and more likely to consume their school meals.

### Integrate Scratch-Cooking

CPS’ chef provides additional culinary training to nutrition department staff so they are prepared to make as many menu items in-house as possible, like steamed and roasted vegetables that are sourced locally. This requires staff to properly learn knife skills, something the chef has helped staff become trained on. The chef tests recipes a number of times prior to sending them out to school kitchen managers at each school to ensure they are “fail proof.” Having a chef provide advanced culinary training has boosted morale among staff, who have developed a sense of pride about their work.

### Improve Meal Quality and Presentation

CPS offers a salad bar in each of its schools, something that the district phased in over time. Salad bars have become a way to introduce students to new vegetables, and as an ongoing way to improve selections, students provide their feedback on what new vegetables they would like to have included.

### Use Farm-to-School and Locally Sourced Items

The district is focusing on local sourcing and recently adopted the Good Food Purchasing Program. Along with that, CPS is in the beginning stages of implementing a

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<sup>9</sup> Montana Office of Public Instruction. (2018). *Recess Before Lunch Guide*. Available at: <http://www.montana.edu/teamnutrition/documents/RBL%20Entire%20Guide%202018.pdf>. Accessed on October 10, 2019.

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clean label initiative and has a three-year plan to replace items with soy, artificial coloring, and preservatives. The biggest changes have been to provide breakfast cereals that no longer contain artificial coloring or flavors.

## Provide Robust Nutrition Education

In order to accommodate so many requests for salad bars, the school nutrition department prioritized implementation in schools that integrated strong nutrition education programs, started school gardens, and incorporated lessons from [USDA's Team Nutrition page](#). All schools now have a salad bar and have maintained strong nutrition education programs as a result.

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## Dallas Independent School District

### At a Glance

- Located in Dallas, Texas
- 154,169 students in 224 schools
- Meals served in 2018–2019: 33.1 million meals

### Expand Accessibility

Dallas Independent School District (DISD) participates in community eligibility districtwide, and 109 schools use a variety of breakfast after the bell models.

### Increase the Appeal of School Meals

The school district adopts a number of best practices to increase appeal, including the three below.

#### *Use Farm-to-School and Locally Sourced Items*

DISD is one of the original school districts to join the Urban School Food Alliance, which has set a goal to increase its local food purchases by at least 5 percent in the next two years. Around 20 percent of food purchased for the district already comes from within the state, including butter lettuce, black-eyed peas, apples, and fresh milk.

#### *Engage Students to Determine Menu Preferences*

Students are able to sample diverse items from as many as 14 different vendors, as well as chefs from the district's own nutrition staff during its annual food festival. All vendors remain anonymous during the event. Students

record their input on electronic tablets so that feedback can be passed along to school chefs as they develop menus for the following school year. The district added four new dishes to its menu this school year based on results from its different events, including a spicy golden chicken quinoa quesadilla its culinary students created during the Cooking Up Change competition, and chicken jambalaya showcased by one of DISD's own chefs at the food festival.

#### *Run Student Contests*

Students at DISD are given the opportunity to come up with meal ideas through two student competitions. One is its Breakfast Battle, a marketing competition for students to develop the most effective advertising strategies to increase breakfast participation in their high schools. DISD also participates in the [Cooking Up Change](#) challenge, a national competition where students create new recipes using a set budget. The winner's recipe is then added to the menu for the upcoming school year.

## Provide Robust Nutrition Education

To encourage consumption, DISD selects a different fruit or vegetable each month to serve in schools and incorporate into nutrition education as part of its Harvest of the Month program. Students learn about the local farm and farmer the item was grown by, the growing process, and the nutritional value of the selected fruit or vegetable.

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## District of Columbia Public Schools

### At a Glance

- Located in Washington, D.C.
- 49,056 students in 115 schools
- Meals served in 2018-2019: 7.97 million meals

### Expand Accessibility

All schools in the District of Columbia Public Schools offer breakfast for free to all students, with 85 offering free breakfast and lunch to all students through community eligibility. To increase access, the school district offers breakfast in the classroom in 52 of its schools.

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## Increase the Appeal of School Meals

The school district's Food and Nutrition Services (FNS) adopts a number of best practices to increase appeal, including the three listed below.

### **Customize Entrée Options**

At some of its high schools, FNS has started a new fusion bar that serves culturally relevant, made-to-order rice-based bowls inspired by a local fast-casual restaurant.

### **Use Farm-to-School and Locally Sourced Items**

The school district recently adopted the Good Food Purchasing Program, which leads the school district to improve their food procurement practices to provide more local, healthy, and sustainably sourced options — at least 20 percent of all produce or food products used in its school meals must be grown or processed in the Mid-Atlantic region. In recent years, apples, greens (such as collards and kale), peaches, corn, and sweet potatoes have been locally sourced. The school district already featured fresh salad greens at lunch from local farmers from Virginia or Maryland, paired with locally sourced strawberries, to improve vegetable and fruit consumption among students.

### **Engage Students to Determine Menu Preferences**

FNS has conducted taste tests with students for many years, which is used to guide menu development, particularly for new vegetable recipes. In a recent consumption study, students were able to try a new vegetable cooked three different ways before voting on their favorite option. Responding to students' requests, FNS added five new vegetarian and vegan options through its vendor that serves a majority of its schools. The school district also engages parents through its School Food Collaborative because they are a huge component of participation and can encourage their children to try school meals. The School Food Collaborative is made up of parents, students, food service staff, teachers, and nonprofit partners and meets quarterly throughout the school year. It also invites the public to partake in a collaborative process with the school district's food service providers. The meetings are popular in the community — there have typically been between 80 and 150 participants at each one.

## Enhance the Cafeteria Environment

FNS has maximized its partnerships by using a nearby university to look at the cafeteria environment and how this affects consumption. This included an environmental study to look at traffic patterns within the cafeterias. FNS is continuing to look at reconfiguring school cafeteria lunch lines so students can quickly move through the line and spend more time eating, not waiting.

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## Houston County Public Schools

### At a Glance

- Located in Perry, Georgia
- 29,770 students in 37 schools
- Meals served in 2018–2019: 5.7 million meals

### Expand Accessibility

Nineteen of Houston County Schools (HCBOE) offer free meals to all students through community eligibility. The school district has implemented breakfast in the classroom in 21 of its schools.

## Increase the Appeal of School Meals

The school district operates a seasonal two-week menu and is moving toward more scratch-cooking, including hiring a skilled chef. It is using versatile products and test kitchens for recipe development, which has allowed it to even make spice blends in house. The next step is educating students on new offerings, and boasting about items that are on trend for students, such as homemade pico de gallo for burrito bowls.

## Market and Brand the School Meals Program

HCBOE maintains a strong social media platform to get the word out about its school meals, and to communicate with parents and the community on the food it's offering students. As part of their ongoing customer service initiative, parents are able to submit a message or post a



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comment and receive an immediate response regarding their question or concern. The nutrition department gathers feedback from parents and the community, which plays an important role in marketing some of its initiatives, like its “Revved” (“grab and go”) breakfast program and “SIPS,” a quick-serve breakfast where students can easily grab smoothies from carts in the hallway. Both of these programs are branded with catchy and fun logos that the district developed through an online company.

## Enhance the Cafeteria Environment

HCBOE worked through its 37 school buildings to redesign its school cafeterias, redesigning on average about two schools each year as the budget allowed. The school district wanted each common eating place to be a sense of pride for students and staff, so giving a fresh facelift to the cafeterias at each school was a priority. These dining spaces were painted with vibrant, eye-catching designs, such as the transformation of one elementary school’s cafeteria into a “Rocketeria,” which features a fun space-related theme that is based on the school’s mascot and highlights the importance of healthy meals and physical activity. Each school features a different theme, as well as a variety of tables and seating arrangements that are based on the grade levels served (i.e., high-top tables or booths for high schools).

After principals expressed concerns over long wait-times, the district piloted a cashless point of sale system in its non-community eligibility schools to speed up lines at lunch and at “grab and go” kiosks during breakfast. To address other traffic-flow issues, HCBOE strategically places its popular items in different lines to control traffic in its high schools, while in its middle schools it offers the same choices in multiple lines.

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## Minneapolis Public Schools

### At a Glance

- Located in Minneapolis, Minnesota
- 35,546 students in 85 schools
- Meals served in 2018–2019: 5.6 million meals

## Restructure School Lunch Time

To increase consumption, Minneapolis Public Schools (MPS) encourages schools to provide enough time to eat lunch and has adopted a schoolwide policy to allow elementary students to have 50 minutes for lunch and recess combined. Previously, schools allotted only 30 minutes, resulting in students rushing through lunch to get to recess and consuming fewer components of their meals as a result. The district’s wellness policy also encourages schools to schedule recess before lunch, which has grown in popularity as a best practice across the district. Today, 70 percent of schools schedule recess before lunch, up from just 7 percent in 2007.

## Expand Accessibility

MPS participates in community eligibility in 38 of its schools. The school district offers free breakfast through Provision 2 in 25 of its schools and nonpricing in nine of its schools. The district has eliminated its reduced-price copayment fees in all of its schools for both breakfast and lunch to increase access to students. MPS implements a combination of breakfast after the bell models throughout the district in 33 of its schools.

## Increase the Appeal of School Meals

The school district adopts a number of best practices to increase appeal, including the four below.

### Customize Entrée Options

The district has noticed that many students enjoy customizing their own meals, and that when students have enticing options at the market carts, they are more likely to consume more of their meals. MPS first began installing self-service salad bars called “market carts” that allowed students to customize a healthy meal.

### Reflect Students’ Cultural Backgrounds

MPS taste-tested 50,000 samples of Korean kimchi, Moroccan freekeh, and Indian chana masala dishes at 46 schools before adding them to the menu to introduce its students to more global flavors.

### Integrate Scratch-Cooking

MPS began shifting to scratch-cooking in many of its schools as funds allowed, which resulted in 33 school

kitchens undergoing major renovations. The district plans to have on-site cooking in all schools by the 2025–2026 school year. The district is providing healthy, delicious meals to its students and has been able to reap savings by moving away from more costly prepackaged foods to bulk-purchasing of fresh ingredients, which has helped bolster the school nutrition department’s finances. To ease the transition to scratch-cooking for cafeteria staff, MPS invests in its staff by offering culinary classes and prep-cook training.

### **Engage Students to Determine Menu Preferences**

MPS exposes students to new flavors and foods to build more exploratory eating habits and encourage consumption. Three times each school year, the nutrition department hosts a “True Foods” taste test during lunch for over 20,000 students. The most recent taste test featured a ginger soy pasta salad — a flavorful and fresh pasta salad featuring carrots, peppers, edamame, and the district’s signature Sun Dragon Dressing — for students to try.

### **Market and Brand the School Meals Program**

MPS markets its school meals program with its “True Foods” logo to let students and their families know that the district is committed to increasing access to high-quality food that is locally sourced, and no longer contains high fructose corn syrup, trans fats, and artificial colors or preservatives going forward.



### **Provide Robust Nutrition Education**

The True Foods taste tests provide the perfect opportunity to incorporate the new foods into nutrition education components. The district provides a plethora of resources, including the recipe for parents to try at home, posters to hang up at school, outreach language for school staff to announce the upcoming taste test, and ideas for themed lesson plans that are tied to the taste-tested item.

### **Enhance the Cafeteria Environment**

MPS believes that creating a positive eating environment also is important for improving consumption. The district has looked at the results of lowering noise levels at one school: teachers have begun dimming the lights and requesting quiet during the last five minutes of each lunch period as a way to refocus students to concentrate on finishing their meal. The district also is looking at how to ease traffic flow and expedite lines in its cafeterias.