

Section III: Strategies for Scaling up Healthy, Climate-Friendly Foodservice

In this section, we reflect on the above case studies and the wisdom from the 18 districts we interviewed to present key strategies and examples for successfully scaling up climate-friendly school food. First, we show how school districts have **boosted participation** while serving more plant-based meals; second, we offer key **operational strategies** pertaining to staff training and engagement, upgrading kitchen facilities, creating context-appropriate, climate-friendly recipes and implementing plant-forward procurement; and third, we outline the vital role of **leadership** from multiple school food stakeholders, including foodservice directors, students, parents, school boards, industry leaders and advocacy organizations.

“The key changemaker is the student. As a service provider, your number one measurement is how many students you’re feeding.”

—Stephen O’Brien of New York City’s Office of School Food

A. Boosting participation rates and the image of school food

Since participation rates drive school foodservice profitability, the key to expanding plant-based meals in districts across the country is to ensure that kids love and want more of these healthy and climate-friendly foods. While our research uncovered several challenges to participation, two strategies were key in establishing trust and appreciation for plant-based meals: 1) the need to transform the fast food model that dominates school food culture by implementing a hospitality model and mindset (e.g., a friendly dining

environment like food courts, food trucks and serving more local, fresh ingredients) and 2) the importance of shifting cultural preference for meat-based foods and eliminating stigma of vegan/vegetarian items through marketing and nutrition education. Key impactful engagement activities include taste tests, compelling messaging that emphasizes flavor over health and other fun, educational activities that bring kids into the culinary experience. Serving delicious meals based on good recipes is also a critical factor for boosting participation covered in Section III, (B) p. 24. The need for cultural shift underpins all of these strategies.

Strategy 1. Transform fast food culture by implementing a hospitality model and mindset

Most school foodservices operate within a food culture that is dominated by a corporate, fast-food model. “Big Food has dictated that ‘kid’s food’ is bite-sized and pre-packaged,” explains Bertrand Weber, Minneapolis Public Schools foodservice director in Minnesota. “Which is why many just assume that kids only like fried chicken nuggets, pepperoni and hot-dogs—all highly processed meat products that are known to be bad for our health and even worse for the climate.”^{51,52} Jim Stuart, foodservice director of Ukiah Unified School District in California, adds that foodservice “was set up in the 1980’s to make it cheap and fast. McDonald’s style. That was what kids wanted. It is really difficult for families to shop, cook and clean, so kids are accustomed to fast food and other convenience foods.” Across the country, fast food restaurants like Domino’s and Chick-fil-A have squarely established themselves and their products in school food culture, securing multimillion dollar contracts with school districts.⁵³ This predominant fast food influence, coupled with tight budgets and subsidized animal products in USDA-sponsored commodity foods, has led to an overabundance of highly processed meats and heat and serve foodservice in schools.

A systemic transformation toward healthy, climate-friendly choices requires a mindset switch — and a policy shift — away from the factory model of fast food culture. It also requires implementation of friendly dining environments and a focus on culinary traditions, fresh ingredients and better cooking facilities. Many interviewees developed student and community trust in plant-based menus by first shifting their foodservice away from the dominant fast food culture. We heard overwhelmingly that these shifts and implementation strategies evolve and take time.

“When the food respects the kid, the kids respects the food.”

—Bertrand Weber, Minneapolis Public Schools



Source: San Diego Unified School District

a. Create a friendly dining environment: By shifting to a hospitality model characterized by fresh, local and seasonal ingredients — plus more scratch and speed-scratch cooking and an inviting, fun dining environment — many districts were able to maintain high participation rates crucial for success. Several districts mentioned that good meals made with fresh ingredients can demonstrate to students (their customers) that they are important and valued. Several districts re-arranged their cafeterias to mimic the fast-casual dining environments that students experience outside of school, to provide more diversity of food options and create a space that supports the social atmosphere of mealtime. Here are examples of how districts are transforming the school food experience:

- Chef Ann in Boulder was hired for her culinary vision that embraces seasonal foods and plant-based recipes.
- In Minneapolis, success is driven by the mindset that “we’re a restaurant in a school food environment,” incorporating protein bowls and food courts.
- Riverside Unified highlights global themes and transformed its high school cafeterias into food court-style environments by displaying banners over each line and installing additional checkout screens.
- In Lee County, each high school has 10 lines in a food court environment, which give students a diversity of food choices (Lee county is piloting a plant-based line this coming school year).
- At San Luis Coastal, California Erin Primer “serves food as it’s meant to be seen in the ‘real world.’”

“Vegan is becoming more and more popular. Next year we will roll out ready-to-eat packs with different fruits and vegetables, sun butters, and other plant-proteins like hummus. Just like at Starbucks.”

—Althea Albert-Santiago, St. Louis Public Schools



Hip school food truck. Source: Austin Independent School District

Many schools serve plant-forward menus in a friendly dining environment

- **Food trucks:** Boulder, CO; Ukiah and Santa Barbara, CA
- **Food courts:** Lee County, FL; Minneapolis, MN; Riverside and San Diego, CA
- **Build-a-bowl stations or plant-based bowl entrees:** Minneapolis, MN; Dallas, TX; Lee County, FL; and San Luis Coastal and Riverside, CA
- **Grab and go carts:** St. Louis, MO and Ukiah, CA
- **Vegan pop-up “restaurants”:** Riverside, CA
- **Ready-to-eat, power packs:** St. Louis, MO

b. Incorporate fresh and new ingredients: For most interviewees, serving more climate-friendly, plant-forward food is a natural evolution from farm to school meals. Most of the case study districts began by sourcing from local producers, using grant funding and enthusiasm for fresher ingredients to set up the infrastructure and staff to process veggies with speed-scratch and scratch cooking. Plant-based meals, featuring farm-fresh ingredients can be more affordable, illustrating the synergy between farm to school and climate-friendly foods.

- In Novato, California, Miguel’s first step was to incorporate more local produce. The same is true for Chef Ann in Boulder and Nancy in Santa Barbara.
- Riverside began its journey into plant-based with a salad bar in all schools, each serving as much local produce as possible.
- In Minneapolis, Bertrand combines farm fresh produce and commodity beans to make plant-forward entrees.
- Vancouver Public Schools in Washington recently incorporated three new vegetarian options based on three different legumes the staff learned about during culinary trainings and local farm visits.
- Austin Independent School District in Texas is shifting to make fresh vegetables the center of the plate. During the 2016-17 school year, they served over 5.8 million plant-based entrees.

Strategy 2. Shift cultural preference toward plant-forward meals

Despite the growing popularity of plant-based eating,⁵⁴ school food professionals must confront misinformation and misunderstandings about good nutrition — in particular the misguided belief that plant-based meals do not provide sufficient protein.^{55,56} This is a particular concern among parents in districts where students rely on the school meal for a large

portion of their daily nutrition. “We need to make sure they don’t think they are starving because they didn’t get any meat protein,” says Jordan Gordon, director of child nutrition for Kansas City Public Schools in Missouri. In some school districts like St. Louis (also in Missouri) that provide 100 percent free meals, many students are afraid to try the plant-based protein. Althea Albert-Santiago, director of food and nutrition services there, says, “A lot of times students don’t take the vegan or vegetarian option because there’s a risk they won’t like it in case it’s their only meal. They don’t want to go home hungry.” This speaks to the need for prioritizing plant-based nutrition education in order to dispel common myths.

Many school food experts we interviewed noted that sometimes students aren’t familiar with or used to eating plant-based proteins at home. Lauren Heumann, of San Francisco Unified in California says, “Mission High School kids said they don’t trust the food because it doesn’t look like what they’re used to. So, they go to 7-11 and get nachos, which they do trust.” Due to this lack of familiarity, participation dropped during Meatless Mondays at Novato Unified in California, but later improved once it became normalized and other strategies like taste tests were put in place. As Miguel explains, “When we picked out a day, like Meatless Monday, to get the message out, we saw a decline. Slowly participation inched back up when it became the norm. Now, we don’t see a decline in any given day in terms of meals.” Erin Primer, foodservice director at San Luis Coastal in California observes, “We saw this stigma with an Asian Noodle Bowl. When we called it vegan, we saw a decline in participation. When we didn’t call it vegan, there was an increase in participation.” This statement aligns with recent consumer data that shows that “vegan” is the least appealing food label, and “fresh” the most appealing.⁵⁷

Hollie Greene, program director for California Wellness in Schools Programs, says, “Children are open to the plant-based replacement. But adults put the hate of plant-based into their minds. We make up so many excuses for why kids won’t like something. But we don’t teach kids how to like them.” Creating opportunities to teach kids to like healthy, plant-based options must be a priority to ensure this eating pattern multiplies in schools and beyond. Schools reported taste tests as the top strategy for improving participation with plant-based menus. Messaging highlighting the flavors and deliciousness of plant-forward items while never using the words “vegan” or “vegetarian” came in a close second. Deploying staff as ambassadors and implementing classroom nutrition education and cafeteria marketing are other successful strategies.

a. Taste tests are crucial: Nearly all the schools we interviewed found that testing plant-based recipes with students is the most effective way to increase

participation and trust. These schools conduct tastings in a variety of creative ways:

- **Try it days:** St. Louis, Missouri features a “Try it Tuesday” program that introduces students to a new menu item that is vegetarian or plant-based 30 percent of the time. Promo flyers in advance help get the students and parents excited. Vancouver Public Schools also implements “Try It” days. “It treats the kids like a customer,” says Melissa Martin, chronic disease prevention program manager with the Clark County Health Department, who works directly with VPS in Washington state.
- **Competitions:** School districts in Boulder, Charlotte-Mecklenburg and San Diego Unified engage students in celebrity chef show-style contests. By giving students the opportunity to learn about ingredients and cook what they want to eat for lunch, this approach engages students in nutrition education and helps increase participation. Chef Ann conducts Iron Chef competitions. “Kids come up with the menu and the winner will be served in schools.” (Austin Independent School District does something like this too.) In 2018, the theme was “plant-forward.” The winning item was a traditional tomato soup with pureed chickpeas. In Charlotte-Mecklenburg, the first competition resulted in a vegetarian recipe, a salad made with local greens and chickpeas. This event helped get more plant-based recipes on the menu. San Diego’ student recipe, Ava’s Avocado Salad, made with beans and corn, has become a favorite.
- **Compare products:** At Ukiah Unified School District, Jim says the students sampled different types of burritos with the help of dietetic interns to help decide the menu.
- **Build-a-meal concepts:** In Dallas, Texas: “At one event this year, we had a ‘Build your Own Bento’ event,” says Julie Ferris, director of Food and Child Nutrition Services. “We gave out a multi-compartment container and asked them to put in their own favorite fruits, vegetables and proteins.”
- **Pilot a new concept:** Next year, Lee County, Florida will pilot a solely vegetarian line in their high school food court. At Riverside, California, they tested vegan entrees with a “pop-up restaurant,” which was so popular they are expanding it to more schools next year.
- **Volunteer committees and focus groups:** In a “Food Fellowship” at San Francisco Unified, high school students meet regularly to help develop the menu and learn about school food. “Our first cohort was last spring. It was a big impetus for shifting to one meat, one plant-based entrée,”

Lauren says. In San Diego, a pilot program of student groups in six schools “do focus groups, they sample food, tell us which options would be best, then participate in the marketing,” says Tara McNamara, the districts’ marketing coordinator.

- **Walk around:** In San Diego, the staff, recognizing that kids want to socialize at lunch, walk around giving out samples.
- **Food festivals:** In Dallas, schools hosted a food festival that attracted 100 to 150 students to taste test about 60 items on their menu.

It is important to taste test where the meals will be served. Miguel in Novato, California says, “We do not sample at every site, which makes it difficult when we launch a product that has been student approved. We have experienced many problems with students not taking the ‘student approved’ meal in schools where we did not sample the meal.”

“Everyone gets excited about our taste-tasting. It’s new, exciting, and they get a say in it so they get to participate in the decision-making.”

—Jordan Gordon, Kansas City Public Schools, Missouri

b. Compelling and informative messaging: emphasize flavor over health: All districts interviewed agreed that to gain acceptance, messaging is of paramount importance — from the way food is presented to how it’s described. For plant-based entrees, it’s even more critical to appeal to students’ need for flavor over labeling a dish “vegetarian” or “vegan.”

- In Santa Barbara, for two years in a row, Nancy sampled her plant-based recipes with her food truck at a very popular Earth Day festival. She used her food truck and this community event to introduce her Hungry Planet™ creations, brand her school food vision as approachable and engage students, parents and the community in her efforts.
- In Minneapolis, Bertrand says, “We never talk about nutrition. We talk about good food. We have a ‘true food’ campaign which is all about how we don’t serve school food. We serve lunch, we serve food. We don’t showcase food as vegetarian. There is a vegetable lasagna, a bean burrito; no bad food, just good, whole food.”
- Tammy Yarmon, foodservice director for Omaha Public Schools, Nebraska, says, “We make sure not to frame these dishes as vegan or vegetarian, but instead talk about adding plant-based protein to the menu.”



Plants are Powerful Food for better grades and mood!

Source: Lean and Green Kids

- Jennifer LeBarre, formerly of Oakland Unified, California, says shifting perception through presentation is critical. “Something served on a tray or in a bowl doesn’t have the same perception as something served pre-packaged. Pre-packaged is seen as throw-away.”
- “Positive framing is really important,” notes Tara, in San Diego. “By calling it vegetarian, it makes it sound like it’s just for vegetarians, but it’s really just for everyone.”

c. Teachers and principals as ambassadors: We heard from a few districts that teachers and principals who eat with students in the cafeteria can make a big difference with participation, especially in elementary school. For example, in both Novato and Austin, they have outreach efforts in place to ask teachers and principals to eat plant-based school lunch to encourage the kids. “It’s important to create a positive attitude around the food,” says Ryan Cengel with Austin Independent Schools. Lauren in San Francisco adds, “Teachers are the front-line and can have a huge impact on students’ decision to eat at school or what they eat, period. They have relationships with the students. Principals can lead by example and encourage kids to eat plant-based.” Tara in San Diego concurs, “If the message is coming from the principal, it is more effective since they are an authority figure.”

d. Class-based and parent-focused nutrition education: All interviewees highlighted the need to make plant-based nutrition education accessible to all students and parents. The importance and efficacy of nutrition education for increasing student lunch participation rates and student acceptance of healthy foods is echoed by academic research.⁵⁸ Many

mentioned that the cafeteria should not be the only place to do that education, and believe it must happen in the classroom and via parent outreach as well.

- In Novato, teachers work with student services to change the culture of the school, using the menu as part of the education process. Teachers speak about the menu every day and collaborate with Wellness in Schools to teach kids how to make hummus and cook with kale, for example.
- Riverside and other districts communicate with parents as part of the food shift education process.
- San Diego schools conduct outreach to parents about plant-forward additions. In one school, foodservice staff coordinate with teachers to speak to three classes about their “Grow, Go, Glow Foods” featured in the salad bar. In another three district schools, Lean and Green Kids, a nutrition education nonprofit, coordinates with teachers, principals and foodservice staff to teach k-5 students about the cultural and nutritional value of beans in the salad bar. The founder dresses as Queen Bean and her assistant is Princess Pea Pod.
- In New York, the Coalition for Healthy School Food works with schools to introduce plant-based foods and nutrition education for the whole school community.
- While not mentioned in the interviews, schools with on-site gardens have an excellent opportunity to use the garden to reinforce plant-based eating,

connecting students to what they grow with what they eat at lunch.

“Education is key. That’s why Lean and Green Kids focus is very much on changing the nutrition education message to emphasize beans, ‘the lean and green protein,’ and to include consideration for animals and the planet. I believe that is the formula for change.”

– Barbara Cole Gates, founder of Lean and Green Kids



Plant-based marketing poster.
Source: Lean & Green Kids

No Chard Left Behind: Nutrition Education is Key to Making Healthier Choices

By The Laurie M. Tisch Center for Food, Education & Policy Program in Nutrition, Teachers College, Columbia University

Growing lettuce, making a salad, visiting a farm, comparing the nutritional value of processed meat to lean and plant-based protein, exploring cultural foods, advocating for universal free school meals — these are all forms of nutrition education that make a difference. They can all increase student acceptance of delicious, nutritious, plant-forward meals in the cafeteria.

What does good nutrition education look like in practice? The following are evidence-based nutrition education strategies:⁵⁹

Get students inspired!

- Include opportunities to eat fruits and vegetables through tastings and cooking
- Create positive social norms that make fruits and vegetables cool, while decreasing fears of trying new foods
- Focus on health benefits of eating fruits and vegetables
- Include activities that build cultural appreciation
- Have students work with plants in the garden; harvest, cook and eat what is grown
- Introduce the concept of composting and provide opportunities to compost

Give students tools to eat well.

- Compare the nutritional value of healthful and less healthful snacks
- Use [MyPlate visuals](#) to encourage students to make half their plate fruits and vegetables
- Help students set goals and monitor progress toward eating more fruits, vegetables and plant-based proteins
- Share recipes for students to take home to prepare with their family

Empower students to advocate for good food.

- Teach students how our “farm to plate” food system works
- Focus on inequity in access to healthy foods and resources and strategies that build toward equity

B. Investing in kitchen facilities, staff, recipes and procurement strategies for plant-forward meals

To win students' support, climate-friendly food needs to be delicious. And delicious food requires good ingredients, good cooks, good equipment and good recipes. Our research uncovered several challenges and four overarching strategies that make it easier to offer fresh, delicious, climate-friendly school food. 1) Schools must invest in staff training and continue to empower staff to take ownership around creating good food. 2) Cooking facilities need to be upgraded so that trained staff can prepare healthy, climate-friendly food from scratch. 3) Foodservice professionals need access to culturally- and context-appropriate recipes and products. 4) Foodservice professionals need to work toward cost-effective procurement of plant-based products. These are many of the same strategies that have been successful at districts that have worked for years to shift toward fresh, nutritious, and less processed animal and plant-based foods. Underlying all of these efforts, however, is the difficult reality of a policy environment that restricts school food budgets, orients regulations and subsidies toward meat-heavy meals and limits the number of plant-based foods that USDA recognizes as having a protein equivalency (known as meat or meat alternative or M/MA) in the National School Lunch Program (see Policy section, p. 32).

Strategy 1. Investing in staff training and appreciation pays off.

Insufficient investment in qualified staff and training may translate into less inspired cooks, less inspired eaters, less participation and less money for the district. Without training, cooking options are limited, often necessitating the use of highly processed, pre-made products. It also reduces the likelihood of kitchen staff engagement with the students. Some school districts face labor shortages because they cannot compete with other foodservice jobs that pay higher wages. A related challenge is that foodservice staff typically get paid the same amount for speed-scratch and scratch cooking, even though scratch cooking takes more work and skill. Investment of both time and money to properly train and value staff reaps huge benefits. (See Appendix A, p. 35 for resources for staff engagement and training).

Many interviewees said that hiring quality staff and training foodservice workers substantially enhanced food quality and student participation. Training staff to cook better food and help them understand why they are serving plant-forward meals translates into more enthusiastic and engaged employees. This results in more student appreciation and food knowledge. Here are just a few examples of that success:

- “We want to empower staff to take ownership over the food,” says Lauren Heumann, project manager for the San Francisco Unified School District’s [Future Dining Experience program](#). “You need to approach them as chefs, not just cooks. Historically, it’s been following directions and going through the motions. We’re trying to get them to taste what they’re serving and add spices if needed, or make sure the beans aren’t hard. Treating your staff with respect is key. Make them feel appreciated and provide perks.”
- Oakland Unified School District’s former executive director of Nutrition Services, Jennifer LeBarre, attributes much of OUSD’s success to an increase in staff engagement and training focused on building culinary skills, introducing small wares, food safety, new recipes, tastings, seasonality and team dynamics. OUSD increased staff professional development hours by 90 percent since 2013, thanks to grants from the [USDA](#) and [California Department of Food and Agriculture](#).
- In Minneapolis, Food and Nutrition Services Director Bertrand Weber says, “I had to convince the staff that what they were doing for 20 years was wrong.” He used various resources to help educate staff, including [materials from the Center for Ecoliteracy](#). “I lost some management level workers, who were entrenched. We now have professional cooks and prep cooks.” To afford this, he invested in better food, which increased participation.
- In St. Louis, Southwest Foodservice Excellence brought in chefs to educate the foodservice team and teach them to cook. “Now they understand basic culinary principles. The difference is day and night,” says Althea Albert-Santiago, Nutrition Services Director for St. Louis Public Schools.
- Investing in staff includes showing appreciation and gratitude for foodservice workers, who work tirelessly to feed students nutritious meals. “The fine men and women that show up every day and do this hard work and care deeply about students and their well-being, they deserve our respect and our support,” says Hollie Greene, program director for California Wellness in the Schools programs.

Strategy 2. Making plant-based possible in any school kitchen.

For schools that already have adequate staffing and facilities, scratch cooking is the most affordable way to serve plant-based protein, because pre-made products or meat alternatives are more expensive than raw plant-based ingredients such as beans and pulses. Scratch cooking also lends itself to using local and fresh ingredients, which can make meals

more delicious and appealing to students and thus can help boost participation rates. In the long-term, increasing investments in better cooking facilities and staff training would make it far easier and affordable to serve delicious, fresh, healthy, climate-friendly food every day, on a larger scale.

Most districts, however (including the majority of those interviewed), lack the required infrastructure for scratch cooking and instead rely on heat and serve recipes and/or pre-made items with some speed-scratch capability.

We interviewed districts with a range of cooking facilities: from well-equipped kitchen producing 100 percent scratch-cooked meals to those with some scratch and speed-scratch cooking capabilities (combining scratch cooking with a pre-made product), to those limited to heat and serve using pre-made products, which is the most common. While more challenging, schools without cooking facilities have also been successful in implementing plant-forward meals. For a list of scratch, speed-scratch and heat and serve plant-based recipes, Appendix A, p. 35.

- Despite having no capacity for scratch cooking, Lee County serves plant-based options every day and features a “Lean and Green Friday” (meat-free) every week.
- “There are lots of cool opportunities for plant-based with speed scratch,” says Jenn Gerard, former foodservice director in Monterey, California, now working with nonprofit The Center for Ecoliteracy — which offers programs to promote California farm products, such as California Thursdays. Jenn describes several innovative products, including lentil and black bean pasta or legume pesto,⁶¹ which can be counted toward meat alternatives. “The pasta itself is the meat alternative! Kids that are reluctant to eat beans can eat a high-protein bean pesto pizza and not know.” These products can be combined with scratch-cooked sauces or pizzas to create a plant-based meal that tastes fresh with limited cooking facilities.

- San Diego Unified uses speed-scratch cooking to serve a plant-forward option at every meal across the district. In the elementary schools, they have an entirely meat-free day every week. The middle and high schools feature up to four veggie options on a given day, including Ava’s Avocado Salad, a Cali veggie burger (Morning Star) and the Tater Eggurito, an egg and potato burrito (created by a third grader for a district-wide recipe contest).
- When Bertrand entered his large urban district in Minneapolis, all the food was pre-packed and processed at a central kitchen. Now Bertrand is able to serve over 80 percent scratch-cooked meals. Thirty-two of the district’s schools have kitchens and the district has committed to building kitchens in all the schools.

See Appendix A, p. 35 for equipment and infrastructure improvement grants.

Salad bars are an excellent and customizable way for districts to offer plant-based options every day. Salad bars can contain legumes and/or tofu, so students can receive a creditable meal with all the necessary food components. For support making a salad bar, check out the [Salad Bars 2 Schools Program](#).



Source: Boulder Valley School District

Labor shortage? Speed-scratch can be climate-friendly!

Ukiah Unified, a small rural district (just under 7,000 students) in northern California, struggles to keep and hire new staff. Ukiah recently lost its best cook to a higher-paying job. As a result, Jim Stuart, the foodservice director, was forced to decrease the amount of scratch cooking from 45 percent to 20 percent. However, he was still able to serve plant-based or vegetarian items every day, “in response to an increase in kids asking for those options,” Jim says. Like many districts, Ukiah offers basic, cold plant-forward options such as bean dip with chips, peanut butter and jelly sandwiches and salad bars that feature plant-based proteins. Jim also serves some hot veggie options using pre-made [tamales](#) and [pupusas](#) from Del Real, “popular items amongst the large Latino community.” For districts that don’t have the staff time for scratch cooking, there are a growing number of companies producing [pre-made plant-based products](#).

Got Milk: Unnecessary and Unjust Milk Requirements Must Change

Current regulations—which make milk a mandatory component of a reimbursable school meal— encourage waste and unnecessary consumption of milk products. This requirement is also unjust, given the high rates of lactose intolerance among students of color, who make up the majority of students who receive free and reduced-price school meals.

Unless elementary and middle schools voluntarily elect to be an Offer Versus Serve (OVS) site, USDA regulations assert that milk is not an optional, but a required component of a reimbursable school meal. In other words, serve means students are expected to take the milk (that has already been purchased) as part of a fully composed meal. High schools, on the other hand, are required to participate in Offer Versus Serve which means that students are allowed to decline the milk and at least one other meal component without causing food service to lose the reimbursement for the meal. According to the OVS manual⁶² schools can easily become an OVS site by simply filling out a form to indicate this preference. The OVS approach is better because students don't have to take the milk. However, some school sites interpret this confusing policy to mean that students are required to take milk all the time, disregarding lactose intolerance and cultural sensitivities. The current requirements also contribute to higher food waste and unnecessary food costs.

In order to address food waste specifically, some districts in Oregon and Washington have installed milk dispensers to replace milk cartons. Two schools in Clackamas County, Oregon have reduced milk consumption by 130 gallons per month, per school, mostly because students drink more of what they take and waste less. Districts with dispensers fulfill nutrition requirements without the milk, making clear that milk is an option, not a requirement. The dispensers also eliminate the massive waste stream of single-use milk cartons. If dispensers become widely adopted and milk bags become cheaper, it could provide significant yearly cost-savings for districts. The Oregon Department of Environmental Quality and the Washington Department of Ecology are hoping to offer consistent grants to support the installation of these dispensers.

New policies and simple solutions are needed. First, USDA should automatically make every school OVS as a default. Second, all districts should provide daily alternatives to cow's milk, such as non-GMO soy or another nutritionally-equivalent non-dairy beverage, without a required note. Third, Congress should make dairy an optional, rather than mandatory meal component. And fourth, USDA should provide grants to replace single carton use with milk dispensers.

Strategy 3. Ensure access to culturally- and context-appropriate foods.

Foodservice directors consistently cite a lack of good recipes and delicious, pre-made plant-based products as major challenges. Many highlight the need for recipes that consider the cultural context of the student body and region.

To generate positive results, recipes must be accepted by students and viable for production within the district's kitchen facilities. Following are examples of plant-based and plant-forward recipes that work for districts with a range of cultural contexts and cooking capacities. For certain districts, offering plant-based recipes is imperative to respect cultural sensitivities and religious traditions. (See Appendix A, p. 35 for an extensive list and links to popular plant-based and plant-forward recipes for school foodservice and additional resources for recipes).



*Hungry Planet™ pure plant protein “chicken” chile verde burrito.
Source: Santa Barbara Unified*

a. Scratch-cooked climate-friendly entrees: Although still a minority, an increasing number of school districts are incorporating more scratch-cooked meals with fresh ingredients that are also climate-friendly and help reduce food-based emissions. Scratch-cooked meals, local purchasing and plant-forward menu planning are a mutually supportive trifecta. Scratch cooking enables fresh and delicious farm to school meals, and buying mostly veggies and plant-proteins such as legumes makes those local ingredients more affordable.



*The chickpea masala is a 100 percent plant-based recipe that has been successful at Boulder Valley and Minneapolis school districts.
Source: Boulder Valley School District*



*Lentil Chili Frito Pie has been highly successful at Austin Independent School District.
Source: Austin Independent School*

b. Speed-scratch climate-friendly entrees: Utilizing speed-scratch (combining scratch cooking with a pre-made product) for plant-forward menus is a cost-effective way to provide more fresh, healthy, climate-friendly meals.



*Hungry Planet™ plant-based Italian meatball sub.
Source: Santa Barbara Unified School District*



*Ava's Avocado Salad is a popular item at San Diego Unified School District, California.
Source: San Diego Unified School District*

c. Pre-made products and heat and serve climate-friendly entrees: While more expensive than scratch-cooked options, pre-made plant-based protein products are becoming more available to K-12 foodservice and come recommended by staff we interviewed.

» **Hot pre-made plant-based options:**



*Beyond Meat Pasta Spirals.
Source: Lee County*

» **Cold plant-based options: If a district does not offer any plant-based options, cold options are a great and affordable way to start:**

- Peanut butter and jelly sandwich (a very popular 100 percent plant-based option)
- Sunbutter and jelly sandwich
- Sunbutter and honey sandwich
- Salad Bar with beans and/or tofu
- Southwestern bean dip
- Hummus wraps
- Hummus and cracker

The debate: processed plant-based vs. fresh plant-based

There is a robust debate among foodservice professionals about using pre-made, mostly processed plant-based products versus fresh, whole, plant-based recipes. For some, plant-forward, climate-friendly menus are part of a movement away from resource-intensive animal products and highly processed foods — including highly processed plant-based foods. For others, pre-made products are the key to plant-forward menus that kids love. “They allow you to create classic, recognizable dishes by just swapping the plant-protein for the meat-protein,” says Nancy Weiss, who is transforming Santa Barbara Unified menus with Hungry Planet™ non-GMO plant-based meats. Although Nancy is cooking mostly from scratch, she credits these plant-protein substitutes as essential to creating plant-based meals that students love. These foods also allow her to dramatically reduce the carbon footprint of her operation.

Chef Ann Cooper in Boulder, Colorado believes that using processed plant-based products means losing an important educational opportunity. She explains “to make a chicken nugget that’s plant-based isn’t teaching kids how to eat vegetables. It’s not about highly processed. It’s about how to use whole foods as a plant-based answer.” Chef Ann admitted that this is more difficult in K-12 foodservice, “because the USDA’s guidelines for a meat/meat alternate are limiting, and don’t credit quinoa as protein, for example.” Lack of cooking facilities is another big hurdle, she acknowledges.

Many other foodservice directors see a place for both. Some see pre-made products as the gateway to plant-forward eating habits — a helpful step for students learning that they don’t need to eat meat to have a satisfying, nutritious and delicious meal. Dallas plans to blend both approaches: “We want students to know what the whole food looks like and some will want the meat alternative,” says Julie Ferris. “There’s a place for all the options in a school nutrition program so kids can choose.”

It’s clear that schools face many limitations within the foodservice environment. Some schools have more barriers than others when it comes to using fresh ingredients with scratch cooking. Certainly, increasing fresh plant-based meals is ideal; but it is still a win if schools use processed plant-based products instead of resource intensive meat.

d. Blended and reduced meat recipes: it’s not all or nothing.

Climate-friendly menus are not just about vegetarian and vegan — they also include reduced-meat recipes. By blending products, districts can steadily shift menu cycles to reduce overall meat and add more plant-based proteins that credit as M/MA. Blended burgers, now featured in San Diego and San Luis Coastal school districts in California, have become increasingly popular. San Diego sources a pre-made blended burger from Don Lee, while San Luis Coastal makes its own patties with 50 percent mushrooms and 50 percent local, grass-fed beef. For districts located in large ranching communities, this can be an excellent way to engage ranchers in less and better meat recipe strategies.

The plant-forward continuum is a framework to incrementally incorporate more plant-based protein that credits as M/MA, replacing some meat within a recipe by blending, or within the menu cycle by swapping. The Chef Ann Foundation developed a continuum approach as part of its [More Plants Please Initiative](#), which can be found on their Lunch Box website.⁶³

Strategy 4. Cost-effective plant-based procurement

Many foodservice directors are stymied by the high cost of most pre-made plant-based products and others are limited to buying products within their food bid, which is typically decided by foodservice management companies or state-run organizations that may not offer plant-based meat alternatives. In North Carolina, for example, Charlotte-Mecklenburg’s

Manager of Culinary Development, Jody Francisco, reported that the NC Procurement Alliance state bid severely limits their ability to purchase healthy, plant-forward products because they were not available on the bid. Our research uncovered a series of actions for making plant-forward meals cost-effective, including: a) menu-level budgeting; b) creative revenue generation (including serving more reimbursable meals); and c) leveraging joint purchasing. Professionals involved in the procurement process must apply careful thought and action to include more plant-based items. Also important is the need to change policies that favor industrial meat and dairy over plants, and perpetuate the under-resourced, highly processed, corporate school food environment. We explore the urgent need for policy shifts in Section IV.

a. Menu-level budgeting allows school districts to incorporate higher quality and higher cost products into the menu cycle. By balancing a product or recipe that is slightly above the budget allocation per meal with a lower cost product or recipe, it is possible to keep weekly menu-level expenditures within the budget. “We must be strategic to make ends meet,” says Nancy in Santa Barbara Unified School District.

Oakland Unified’s creative budget balancing strategies have allowed the district to buy higher quality local products, such as organic ground beef from Mindful Meats.⁶⁴ Recipes such as the bean and beef chili (where half of the M/MA comes from beans and half from beef) or bean and cheese veggie taco with avocado are made possible by balancing cheaper ingredients like USDA Foods beans with more expensive ones like avocados.

- SBUSD buys the higher-end and relatively expensive Hungry Planet™ meat substitute, which is made possible “by using every penny of entitlement money” to buy expensive USDA Foods like cheese and pork to offset those costs.
- Bertrand in Minneapolis has proven that it can be cost-effective to purchase farm fresh ingredients and mix them with USDA Foods to create plant-based entrees.

Cost-savings lessons from OUSD

Friends of the Earth’s two-year analysis of Oakland Unified School District’s food programs found that healthy, climate-friendly menus can work fiscally within the school environment by:

- Reshaping the menu with fewer animal foods and more protein-rich legumes and vegetables.
- Adding reduced meat recipes, such as beef and bean chili and a chicken and bean taco.
- These savings can be reinvested in higher quality fresh ingredients, employee training or facility improvements (see [full case study](#) in Friends of the Earth report).

b. Creative revenue generation

- Nancy at Santa Barbara Unified has developed supplemental programs (summer programs, mobile food trucks, after-school snacks, catering) that bring in revenue and help them afford healthy fresh ingredients while supporting local farmers. “In order to make money you have to promote yourself, promote the program and feed as many kids as possible,” she says.
- Bertrand at MPS has also used creative ways to tap into alternate revenue streams, with the ultimate goal of expanding the total food budget to afford higher quality produce. These include catering events, breakfast in the classroom and after-school snack programs.
- Chef Ann in Boulder runs a catering program for both classroom events and the community at large that expands her food budget.

c. Leveraging joint purchasing power to afford more plant-based food products

One of the significant deterrents to the widespread adoption of plant-based menus is the lack of affordable plant-based protein products that credit for USDA reimbursement in the National School Lunch Program. However, due to increasing student demand and assistance from advocacy organizations, there are now an increasing number of plant-based food companies working to create products targeting the K-12 foodservice sector (see Appendix A, p. 35 for a list of companies, products and contact information developed by Forward Food).

Many large districts working with the Urban School Food Alliance (the Alliance),ⁱ and School Food Focus,ⁱⁱ have pooled their purchasing power to secure better pricing or higher quality products (e.g., chicken raised without routine antibiotics). Recently the Alliance worked to create a joint bid for an affordable and reimbursable plant-based protein product. Although this effort has not yet resulted in a joint bid, the strategy has shown success with other products. More plant-based products are likely to come on the market soon with exciting initiatives like [Forum for the Future’s Protein Challenge 2040](#). The Forum for the Future has recently issued a [request for proposal](#) for plant-based proteins designed for the National School Lunch Program.

Role of plant-based food companies: Many foodservice directors agree that plant-based food companies play an important role in providing more affordable options for school foodservice. However, school districts must publicize their demand so that manufacturers are encouraged to make more delicious and affordable pre-made products. Danny O’Malley, president of Before the Butcher, says, “It’s just a matter of time before the scale of plant-based protein production expands to make products more affordable ... then it can become a staple on K-12 school menus, instead of a specialty item.”

ⁱ The [Urban School Food Alliance](#) is a group of some of the largest school districts in the country, uniting to “share best practices and use its collective purchasing power to drive quality up and costs down while incorporating sound environmental practices.”

ⁱⁱ FoodCorps has brought the work of School Food Focus into its existing operations connecting kids to healthy food in schools. This move boosts FoodCorps’ ability to support schools across the country in procuring more local, nutritious foods for their cafeterias, providing kids with access to healthier school meals.

C. Strong leadership is a key ingredient

In all 18 school districts we examined, interviewees said strong leadership and vision are critical ingredients for achieving healthy, climate-friendly foodservice. Change is never immediate within large systems, especially given the many structural and policy challenges. While the leadership and vision of foodservice directors and staff is most important, our interviews revealed changemaker roles for stakeholders throughout the system — including students, parents, school board members, NGOs and industry leaders. All have the power to transform school food. We found that many stakeholders are inspired by the profound nutritional and environmental benefits of climate-friendly foods and are working to galvanize support from the school community, build trust and transform foodservice.

“We’ve found that change happens when there’s strong leadership and commitment. It’s an element you can’t overlook”

—Jenn Gerard, Center for Ecoliteracy

1. Foodservice directors guiding the way

Leadership from foodservice directors and a clear vision and plan is paramount. Given the day-to-day operational challenges, those who lack strong vision will generally not make the time to create a clear plan for increasing plant-based menu options. And without time and vision, the road to transformation is much more difficult given the overpowering, cheap, fast-food mindset — and the difficult policy environment.

All of our case study participants are innovators, hired for their vision to transform their district’s food program. They expressed a commitment to a strategic plan, they educated the school community and made bold management and procurement decisions to usher in more plant-forward products and recipes. When faced with resistant staff, they found a way to train them or hire people who would execute the plan. At Charlotte-Mecklenburg in North Carolina, manager of culinary development Jody Francisco combined leadership and vision to sway a reluctant staff accustomed to saying “no.” He says “much of the administrative staff was against plant-based [in the form of salad bars]” “because of their concern for the several obstacles like food cost, labor, and local health department regulations.” With the superintendent’s support, he convinced them to give it a try. They will pilot salad bars in the 2018-2019 school year. Some school food directors lead by encouraging state procurement agencies to emphasize plant-based



Kids make a difference by recycling. Source: San Francisco Unified

products. Others are working with peer groups, like the Menus of Change School Food Collaborative, to create better recipes and to advocate within industry to get better plant-based protein products into the school food market.

2. Students as changemakers

Students are key drivers of plant-forward shifts on menus. Interviewees say that students are asking for more vegetarian and vegan options, including by sending emails and asking for in-person meetings. When they ask, school food directors listen. At San Luis Coastal School District in California, Dane, a fifth-grader, helped shift toward plant-forward food by writing a letter, leading Erin Primer to offer blended burgers with mushrooms. In Los Angeles Unified, the 2018 vegan pilot program was inspired by student activism. Student demand prompted Lee County School District, in Florida, to implement a meatless day. Foodservice can foster student leadership by creating focus groups that help with taste tests, generate ideas for recipes and other activities. San Francisco and Riverside districts in California and Minneapolis, Minnesota, among others, have employed this method. Districts have also sent out student surveys, though they found in-person polling and focus groups to be more effective.

“Texas is traditionally a beef state. We’re getting more requests for plant-based foods from our students. We’re looking to provide menu options to please every pallet”

—Julie Farris, Dallas Public Schools, Texas



*Schools for Climate Action holds a training summit in Sebastapol, CA with teachers, students and community members.
Source: Kari Hamerschlag*

3. Parents as advocates

As primary influencers of diet-related choices among kids, many parents are requesting more plant-based options in schools. Often these parents sit on schools' wellness, food or environmental committees or participate actively as school volunteers. In Boulder, Colorado and St. Louis Public Schools in Missouri, parent groups were strong advocates for plant-based foods. In schools without visionary leadership, the role of parents is even more important.

4. School boards and superintendents set standards

School boards and school district administrations play a key role in creating staff leadership and policies that help transform school food. They can hire innovative and visionary foodservice directors. They can also create and support strong institutional policies, such as wellness policies emphasizing plant-based foods or adopting the [Good Food Purchasing Program](#) that requires healthier foods and more plant-based options. Most foodservice directors we interviewed suggested that these healthy "real" food priorities be made an "essential" part of their job descriptions. Nancy Weiss and Ann Cooper were hired specifically to implement their real food visions. In St. Louis, Missouri, the school board encouraged more scratch cooking and fresh food in the cafeteria and replaced their old foodservice company with one that would execute their vision.

5. Industry leadership

Foodservice companies operating cafeterias and plant-based food manufacturers are also instrumental in ensuring that kids have full access to plant-based foods. Southwest Foodservice Excellence, which operates the St. Louis Public School district food

program in Missouri, is a strong advocate for adding more plant-based items to the menu. It also offers plant-based nutrition education to students and conducts staff trainings to convert heat and serve staff to scratch cooking methods. Hungry Planet™, a manufacturer of non-GMO soy-based protein foods, also leads by offering deeply discounted products to schools that meet certain criteria. Hungry Planet™ has committed 30 percent of its business operations to supplying K-12 requests.

6. NGOs as advocates and helpers

Our case studies and interviews have consistently revealed the importance of encouragement and support from outside organizations. In addition to Friends of the Earth, the following organizations provide leadership and technical support to help school districts transition toward more plant-based menus: [Forward Food](#), [The Chef Ann Foundation](#), [Center for Ecoliteracy](#), [Good Food Purchasing Program](#), [The Physicians Committee for Responsible Medicine](#), [Meatless Mondays](#), [One Meal a Day \(OMD\) for the Planet](#), [Wellness in the Schools](#), [Lean and Green Kids](#), [Coalition for Healthy School Food](#) and [Conscious Kitchen](#). (See Appendix B, p.36 for contact information). The growth of healthy, climate-friendly food is a natural evolution of highly successful school food movements including the [National Farm to School Network](#), [Green Schools](#) and Clean Labels in Schools that have been pioneered by NGOs.

Food is a powerful lever for fighting climate change. If every public school swapped out a beef burger for a protein-rich veggie burger just once a month, we would save 1.4 billion pounds of CO₂-eq —the equivalent of not burning 72 million gallons of gas or 700 million pounds of coal. And that is just one recipe swap 10 times a year!

Kari Hamerschlag, Deputy Director,
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