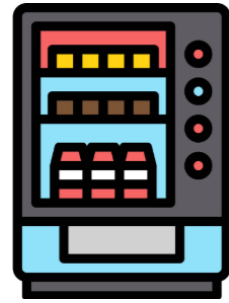# Optimizing Vending Machines:
## *Key Considerations and Best Practices for Effective Implementation*

There is growing interest in using vending machines to provide reimbursable school meals. While they have appealing potential to increase student participation, it's important to consider a variety of factors before adding a vending machine to your school meals program.

This resource will help assess whether adding vending machines is a good fit for your school meals program. It details:

- Financial flags & considerations
- Successful vending machine scenarios
- Staffing needs
- Meal storage & temperature
- Engaging students & staff
- Use for one or multiple meal programs
- Other considerations

At the end of the resource, you'll find five key questions to ask when considering adding a vending machine to your school meals program.

*This resource was informed by conversations with school nutrition directors and industry experts who have utilized vending machines in their school meals programs and who are familiar with the wide breadth of vending machine options and experiences.*

### Financial Flags & Considerations

- <u>Upfront costs</u>: On average, vending machines cost approximately $15,000 each and offer 5-7 years of use before needing to be replaced. Given the financial investment, adding a vending machine to your school meals program should be a well-thought-out decision that includes a long-term vision for operation and strategic plan for growing student participation.

- <u>Ongoing costs</u>: POS licenses, the electricity used to keep the machine running, and maintenance all contribute to ongoing costs. If the vending machine is under warranty (a 3-year warranty is typical), there are generally no costs for maintenance and repairs. For maintenance and repairs out of warranty, a cost-effective long-term practice is to utilize school district maintenance staff. Vendors sometimes offer technician training for district staff, which is highly recommended. Additionally, be sure to request a quote from your software vendor as part of your informed decision-making.

## Successful Vending Machine Scenarios

Vending machines have shown to be more successful in some scenarios than in others at increasing student participation in school meals. Reported successes include:

- **Using a vending machine when there's only one lunch period or a lunch period that's too short.** If a school is struggling with lunch participation due to there being only one lunch period or a lunch period that's too short, participation may be negatively impacted because students don't have enough time to get through the line and then eat their meal. Adding a vending machine can create another line and expand options for time-strapped students.

- **Placing a vending machine in a high-traffic area.** Vending machines that are conveniently accessible to a large number of students in a high-traffic area are more likely to be utilized. Depending on the school layout, this may be inside or outside of the cafeteria.

- **Utilizing vending machines for afterschool snack and supper programs.** Vending machines that provide food to students involved in afterschool programs, such as athletics, clubs, or weekend activities, can increase participation. However, some vending machine software does not allow meal access during weekends and evenings. Be sure to research point of sale system software to ensure it meets your needs.
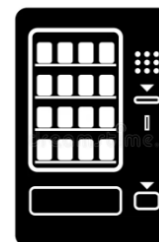
## Staffing Impacts

Utilizing a vending machine to dispense school meals does not eliminate the need for staffing. In fact, quite the opposite. Staff are needed before, during, and after meal service to prepare meals, stock and clean the vending machine, rotate products, service the line, and maintain the machine.

Support During Meal Service: Many schools opt to have a staff member near the vending machine during meal service in case errors with the POS system occur that necessitate a system reset (e.g., a student's number was not recognized, the system stalled, etc.). Having a school nutrition staff member or even a teacher assigned to the vending machine to address troubleshooting needs can help keep the line moving. If dedicating a staff member solely to the vending machine is not possible, another option is to place the vending machine near an existing service line so the staff member operating that line can also troubleshoot the vending machine as needed. Another option is to implement a notification system, such as a wireless doorbell, that students can activate if they need help using the vending machine.

Staff Training: Vendors provide demos to help school staff orient themselves to the vending machine, and there are built-in automations that make operating and maintaining the machine simple, such as temperature notifications. Still, the district's on-site technicians and maintenance crew will need time to familiarize themselves with the vending machine. Some vendors provide technical training to school staff, which can be incredibly helpful for long-term maintenance. Teachers who are tasked to support the vending machine operations during lunch duty *(e.g., pushing the reset button if POS system errors occur during service)* will also need education on the new system. Lastly, there may be a new POS operating system as part of the vending machine, which will require training for school nutrition staff.

Food Prep and Maintenance: Outside of meal service, food service staff must prep the meals that will be stocked in the vending machine, load the machine prior to mealtimes and rotate products.

**Engaging Students**

To maximize the successful use of a vending machine, students should be engaged and onboarded. Their buy-in and support is essential. Vending machine use for school meals is not intuitive. Students need to be engaged and have their own training and onboarding process. Here are a few engagement and onboarding suggestions:

> **Offer vs. Serve (OVS)**
> *Because OVS is required in high schools, it's helpful to have a cafeteria worker at the vending machine to help guide students with menu options, and ensure students are taking ALL reimbursable meal components if the components are not already in one container.*

- Market the vending machine before implementation to get students excited via word of mouth, posting on TikTok or Snapchat, or putting up "coming soon" posters.

- Hold kick-off celebrations with fun themes, including giveaways, such as a $10 general gift card.

- Enlist student clubs to post about the vending machines, from how to use them to favorite items being offered.

- Post easy-to-read instructions on or near the vending machine.

- Utilize social media to continually promote the vending machine and share how-to videos and menu items.

- Include a QR code on the food containers or the vending machine itself that students can use to provide feedback. Examples of survey questions include:

  ➢ Q: Did you like the meal today? A: Yes or No

  ➢ Q: What is your favorite vending machine meal? A: open answer

**Meal Storage & Temperature**

Storage: The capacity of a vending machine varies based on container size. Overall, vending machines cannot stock a significant number of meals. If food containers are large, a vending machine can typically store around 50-60 meals. If food containers are small, such as for parfaits, vending machines can store closer to 100 items. To maximize space in the vending machine for meals, a separate cooler may be used for milk.

Temperature: Vending machines are an option for cold meals like sandwiches, wraps, salads, and parfaits. Students often prefer a hot meal over a cold meal, so a vending machine meal will commonly be a student's second choice if a hot option is available. This can affect meal counts, menu forecasting, and overall vending machine usage. One option is to have a microwave next to the vending machine so students can heat their meals if preferred. Keep in mind that offering a microwavable meal changes the prep work for the cafeteria staff and the overall menu and adds another item to maintain and more time for students to go through the line.

> *Keep in mind, vending machines can be designed to meet the specific needs of a school. Vendors typically require three months to build a vending machine according to school specifications.*

## Use for One or Multiple Meal Programs

Vending machines can be used for one meal or multiple meal programs. Each option presents different details for machine management, e.g., staff time, food preparation, how often the machine must be loaded and unloaded, and the hours of operation of the vending machine. Vending machines can be programmed to allow POS system accessibility during certain times of the day, such as during breakfast or lunch service. Some schools opt to keep the machine on all day, but students seeking food outside of designated mealtimes may have to pay full price.

*Summer Meals considerations:*

- Cashless Machines: With cashless vending machines, the school's student roster is linked to the vending machine via the POS system. This is how students are able use their personal identification numbers to get meals and how meal counts are accurately tallied. During the summer months, the students receiving meals may not be the same as during the school year, therefore, not all student identification numbers will be registered in the vending machines POS system, causing a rejection of meal access for some students. A work-around is the "free vend" mode that some machines offer. It turns off the POS system, but still counts the meals, allowing any student to obtain a meal. However, processing times may be slower in comparison.

- Student Enrollment: during the summer months student enrollment can dip tremendously, which means there may not be enough students to make operating the vending machine worthwhile.


## Other Considerations

- ***Software clashes:*** A lack of software compatibility between the school nutrition POS system and the vending machine will hinder all operations. Software compatibility is the first thing schools should pay attention to when ordering a vending machine. Software sync issues can also cause inaccurate student meal balances.

- ***Spotty Wi-Fi***: If the Wi-Fi connection is slow, it can interfere with POS system transactions. It's better to have a hardwired internet connection to ensure transitions are processed smoothly.

- ***Meal trends:*** School nutrition staff should observe student participation trends and adapt meal plans accordingly to minimize food waste. For example, if the cafeteria is serving a popular menu item, students may be more likely to go to the cafeteria to get their meal rather than the vending machine, so the number of meals in the vending machine on those days should be adjusted.

- ***Vandalism:*** An unfortunate risk of vending machines is vandalism. Meals should be removed from vending machines after meal service to reduce the risk of vandalism. Using student identification numbers, as opposed to cash, will reduce this risk.

- ***Food container spills***: Poor quality packaging, food items not fitting properly in containers, or containers fitting awkwardly in the machine can cause food spills. Separate packaging may be needed for the vending machines (as opposed to using the same packaging that is used for the cafeteria lines).

- ***Malfunctioning machines:*** Vending machine parts may break, which can cause a delay in service. Service restoration is dependent on whether a part can be repaired or if it needs to be replaced, and whether there is technical expertise on-site to make the repair. School staff may not automatically know how to repair vending machines. Therefore, staff need to be trained, which adds to the rollout timeline. For some repairs, vendor technicians may be necessary, which could delay the repair process.

## Top Five Questions to Ask When Considering Vending Machines

Finally, as you think through whether your school meals program could benefit from a vending machine, ask yourself the following questions to be sure:

**1. What is the ultimate goal of adding a vending machine?**
How might adding a vending machine help meet the goals or your school meals program or address a current challenge? What other options are to expand or improve the meal program instead of a vending machine? E.g., staff training, marketing, family engagement opportunities, a mobile food cart, or a new, less expensive piece of kitchen equipment, etc.

**2. Is there enough staff capacity to add another service line?**
Adding a vending machine is akin to adding another service line. The cafeteria must have enough staff to prepare the vended meals, load and unload the machine, supervise the machine while it's in use, and tend to the machine when issues arise. Rarely are vending machines as hands-off as some may believe.

**3. Where will the vending machine(s) be located?**
Vending machines can be placed inside or outside the cafeteria.
a) Inside the cafeteria - this is a high-traffic area during mealtimes and cafeteria staff are nearby so they can address any issues that may arise.
b) Outside the cafeteria - placement is relatively far from the cafeteria so students who wouldn't be able to easily access the cafeteria during mealtimes have a meal alternative. The selected location should still have a good amount of student traffic to increase the likelihood of usage.

**4. Is the internet connection powerful enough for a vending machine?**
The school's internet connection must be strong enough for minute-to-minute transactions to go through. Using a hardwired internet connection can help to ensure transactions are processed in real-time without issue.

**5. Are the software systems compatible?**
Is the vending machine software compatible with the cafeteria POS system software? This should be determined prior to the purchase of a vending machine! If the two systems aren't compatible, the vending machine will essentially be useless.

For more resources on school and summer meals, visit, visit No Kid Hungry's Center for Best Practices website.