LEAF
Linking Education, Activity, and Food

Fiscal Impact Report

CENTER FOR WEIGHT & HEALTH
College of Natural Resources
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University of California, Berkeley
April 2005
I. Background

In response to California’s child obesity epidemic and its link to poor eating and physical activity habits in school-aged children, the California legislature passed Senate Bills 19 and 56, titled the Pupil Nutrition, Health and Achievement Act of 2001. The cornerstone of SB 19/56 is the establishment of nutrition standards for competitive foods and beverages sold on school campuses during the school day (Table 1). Competitive foods and beverages are those items that are not sold as part of the school meal program, but rather are sold as individual items by various campus venues such as student stores, vending machines and snack bars. They also include items sold à la carte by school food service departments. Various school entities such as student groups, athletics departments, other school-based programs, and food service departments have come to depend upon these revenues to support their programs. Since these competitive foods and beverages had only been subject to minimal nutrition standards previously, they often include sweetened beverages and high fat/high sugar snack foods as opposed to school meals that are subject to regulation by United States Department of Agriculture (USDA) and the California Department of Education.

<table>
<thead>
<tr>
<th>Table 1: Summary of SB 19/56 Nutrition Standards for competitive foods and beverages sold on LEAF school campuses from ½ hour before the start until ½ hour after the end of the school day</th>
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</thead>
<tbody>
<tr>
<td><strong>Allowable food items:</strong></td>
</tr>
<tr>
<td>a.</td>
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<tr>
<td>b.</td>
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<tr>
<td>c.</td>
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<td>d.</td>
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<td>e.</td>
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<tr>
<td><strong>Allowable beverages:</strong></td>
</tr>
<tr>
<td>a.</td>
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<tr>
<td>b.</td>
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<td>c.</td>
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In order to pilot test the implementation of SB 19/56, the California Department of Education (CDE), Nutrition Services Division with funding from the California Department of Food and Agriculture (CDFA), established the Linking Education, Activity and Food (LEAF) program that awarded grants to 16 middle and high schools in 9 California school districts (Table 2). In addition to implementing SB 19/56, the schools were instructed to implement policies to promote the consumption of California grown fresh produce in accordance with the Buy California initiative of 2002. The schools also were encouraged to develop and implement an array of related policies to improve student nutrition and fitness.
Specifically, the 16 pilot schools were required to develop and implement policies to address the following:

- SB 19/56 nutrition standards for competitive foods
- Increased availability, access to, and consumption of California grown fruits and vegetables
- Nutrition education supporting the link between food choices, health, and physical activity
- Healthy fundraisers
- Ensuring that students do not go hungry
- Sufficient levels of vigorous physical activity

Each school was awarded approximately $200,000 for a total ranging from $197,000 to $740,000 per district to cover a 21 month implementation period from January 2003 through September 2004.

The California Department of Education contracted with the Center for Weight and Health (CWH) at the University of California, Berkeley to conduct a multi-component, cross-site evaluation of the LEAF program. The current report is the first in a series of reports to describe the findings of that evaluation. It presents an analysis of the fiscal impacts experienced by the 16 LEAF schools as a result of the implementation of SB 19/56.

Table 2: LEAF School Characteristics

<table>
<thead>
<tr>
<th>District/School</th>
<th># of students¹</th>
<th>% FRP² enrollment 2002-2003</th>
<th>Student Ethnic Breakdown</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>District A</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Middle School 1</td>
<td>515</td>
<td>48.6%</td>
<td>4.8% 46.0% 23.5% 12.2%</td>
<td>No Cal / Urban</td>
</tr>
<tr>
<td>Middle School 2</td>
<td>630</td>
<td>48.0%</td>
<td>8.0% 40.0% 10.0% 28-30%</td>
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<tr>
<td><strong>District B</strong></td>
<td>3050</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle School 3</td>
<td>690</td>
<td>34.7%</td>
<td>1.8% 1.1% 62.0% 33.7%</td>
<td>So Cal / Semi-Rural</td>
</tr>
<tr>
<td><strong>District C</strong></td>
<td>10,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle School 4</td>
<td>965</td>
<td>83.6%</td>
<td>3.0% 45.0% 45.0% 1.0%</td>
<td>So Cal / Urban</td>
</tr>
<tr>
<td>Middle School 5</td>
<td>928</td>
<td>84.9%</td>
<td>2.0% 27.0% 58.0% 7.0%</td>
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</tr>
<tr>
<td><strong>District D</strong></td>
<td>944</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle School 6</td>
<td>310</td>
<td>66.3%</td>
<td>0.7% 1.3% 7.2% 87.5%</td>
<td>Central Inland / Rural</td>
</tr>
<tr>
<td><strong>District E</strong></td>
<td>746,610</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle School 7</td>
<td>2386</td>
<td>77.4%</td>
<td>0.5% 6.0% 93.3% -</td>
<td>So Cal / Urban</td>
</tr>
<tr>
<td>High School 1</td>
<td>4897</td>
<td>69.5%</td>
<td>2.9% 4.7% 82.9% 4.1%</td>
<td></td>
</tr>
<tr>
<td>High School 2</td>
<td>3103</td>
<td>51.8%</td>
<td>7.0% 9.0% 67.0% 14.0%</td>
<td></td>
</tr>
<tr>
<td><strong>District F</strong></td>
<td>4800</td>
<td></td>
<td></td>
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<tr>
<td>Junior High 1</td>
<td>673</td>
<td>22.9%</td>
<td>3.0% 2.0% 33.0% 57.9%</td>
<td>Central Coast / Semi-Rural</td>
</tr>
<tr>
<td>Junior High 2</td>
<td>581</td>
<td>20.1%</td>
<td>2.9% 2.0% 24.0% 68.9%</td>
<td></td>
</tr>
<tr>
<td><strong>District G</strong></td>
<td>52,850</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>High School 3</td>
<td>2726</td>
<td>56.4%</td>
<td>23.6% 21.7% 24.1% 24.1%</td>
<td>No Cal / Urban</td>
</tr>
<tr>
<td><strong>District H</strong></td>
<td>136,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior High 3</td>
<td>1743</td>
<td>100.0%</td>
<td>0.1% 6.9% 89.1% 3.0%</td>
<td>So Cal / Urban</td>
</tr>
<tr>
<td>Middle School 8</td>
<td>1156</td>
<td>77.9%</td>
<td>1.3% 18.9% 56.6% 18.5%</td>
<td></td>
</tr>
<tr>
<td><strong>District J</strong></td>
<td>57,805</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School 4</td>
<td>2576</td>
<td>27.5%</td>
<td>62.7% 2.2% 4.2% 17.4%</td>
<td>No Cal / Urban</td>
</tr>
<tr>
<td>High School 5</td>
<td>922</td>
<td>67.9%</td>
<td>19.0% 22.7% 44.5% 5.9%</td>
<td></td>
</tr>
</tbody>
</table>

¹ number of students in 2002-2003 school year by school, 2004-2005 school year by district
² Free and Reduced Price Meal Program
II. Methodology

The following types of quantitative data were collected as measures of fiscal impact:

1) School food service:
   • Lunch and breakfast total and per capita unit sales by category (free, reduced, and full price)
   • Total and per capita gross revenues by category (meal and à la carte)
   • Total and per capita operating expenditures
   • Total and per capita net income

2) Other (non-food service) food and beverage sales venues:
   • Total and per capita gross revenues by venue
   • Total and per capita operating expenditures by venue
   • Total and per capita net income by venue

3) LEAF grant expenditures by category

Data were collected between August and October 2004 and covered monthly food and beverage sales and expenditures for the various venues at each school for the 2002-2003 and 2003-2004 school years (September-June only). School district personnel gathered the financial data that then was entered onto the forms by CWH evaluation staff and/or the district personnel. The forms were developed by CWH evaluation staff and reviewed by LEAF site team members and CDE staff and revised prior to use. The appropriateness and accuracy of the data were confirmed at site visits conducted by CWH evaluation staff.

Additional forms were developed and used at the site visits to gather qualitative data in order to clarify the nature of expenditures and determine the relative impact and importance of the various LEAF strategies. Stakeholder interviews at the site visits were conducted with several LEAF team members at each site including a food service director or site supervisor, the LEAF project coordinator and one or 2 additional LEAF team members. Additional clarification of both quantitative and qualitative data was obtained through follow-up phone interviews and review of LEAF progress reports and other supporting documents.

The revenue, expenditure and meal unit sales data for each school are analyzed and presented in 2 formats: a comparison of totals for year 1 (Sep 02–Jun 03) versus year 2 (Sep 03–Jun 04), and graphical representations of monthly figures covering September through May of the same 2 years. The year to year comparisons include both total unadjusted figures and figures that are adjusted for number of operating days and student attendance, i.e. per capita, per day. The adjusted year 1 versus year 2 comparisons provide the basis for the conclusions regarding the fiscal impact of implementing SB 19. Although the unadjusted figures provide the bottom line experienced by these schools, they are confounded by fluctuations in student

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1 Vending machines, snack bars, student stores, etc.
2 Food service directors are also referred to as child nutrition directors. The term food service director will be used throughout this document for consistency purposes.
enrollment and number of operating days and therefore reflect less accurately the impact of implementing SB 19. The graphical representations of adjusted monthly trends include notations regarding the timing of the implementation of key LEAF strategies. These graphs facilitated the interpretation of the relative impact of these key strategies on fiscal trends. Physical activity-related strategies are not included in the graphs, nor are they addressed to a significant degree in this analysis because they were less likely to have influenced the fiscal trends described in this report.

It must be kept in mind that the year 1 versus year 2 comparisons do not conform to time periods that are exclusively pre and post SB 19 implementation. Each school began the project at a different baseline in terms of SB 19 adherence and other LEAF grant objectives. Furthermore, each site implemented a unique set of strategies according to a distinct timeline. Therefore, year 1 and year 2 represent 2 time periods on a continuum of increasing adherence to SB 19 and the other LEAF objectives. Although a 4-month pre/post analysis was also conducted, only the year 1 to year 2 comparisons are presented in this report because they: (a) were less confounded by non-LEAF related month-to-month variations, (b) more accurately reflected the effect of compliance efforts that were “phased-in” over a period of time rather than being implemented all at once, and (c) provide for comparison of a more complete data set, as some venues could only provide annual figures.

The food service revenue figures presented in this report include only income from meal and à la carte sales and reimbursements, and not other potential sources of income such as catering services. Likewise, the figures in this report do not include revenues or expenditures that occurred during the summer months. For consistency purposes, data from summer months are not presented for the year-round schools, either. The food service revenue figures, therefore, may be somewhat lower than the actual totals. School food service operating expenditures include only ongoing expenses and do not include the one-time expenditure of LEAF grant funds that were made primarily for facilities and equipment purchases and upgrades. The food service revenue figures do not include the extra 10 cents per meal reimbursement that was provided to LEAF high schools (but not to junior highs or middle schools) during the 21 month grant period. Although expenditure of these funds is included as part of the operating expenditures, the revenue is not, because the schools did not continue to receive this revenue once the grant was over and therefore it does not represent a sustainable source of income. It must be noted, however, that this additional funding did contribute to the schools’ ability to meet the LEAF objectives. Data that were either inconsistent or incomplete were not included in the analysis. Adequate data were not always available from all competitive food and beverage venues on campus, and thus totals for any given school may not represent the total for all venues.

Data regarding the expenditure of LEAF grant funds were based primarily on the districts’ quarterly financial reports to CDE. A more detailed breakdown and explanation of expenditures was provided directly to CWH from the respective districts. Specific expenses were categorized and placed into broad program-based classifications; subcategories also were established. Every effort was taken to correctly categorize each expenditure, although variations in accounting and reporting methods used by the different schools and the use of broadly defined expenditure categories may have introduced some error into their
classification. Data from one district were not included because it was not possible to obtain sufficient detail to categorize the expenditures accurately.

III. Cross-site Findings and Discussion

A. FOOD SERVICE REVENUES AND EXPENDITURES (Table 4)

Revenues
The following conclusions are based on monthly revenue data collected from school district food service records for the 2002-03 (year 1) and 2003-04 (year 2) school years. All conclusions are based on figures that are adjusted for student attendance and number of operating days (i.e. per capita, per day).

- Thirteen out of the 16 sites (81%) achieved increases in food service per capita gross revenues (reimbursable meals plus à la carte) from year 1 to year 2.

These revenue gains, which ranged from approximately 1% to 38%, resulted primarily from increases in reimbursable meal sales. Eleven of the 13 sites (85%) that reported increases in gross revenues did so despite a decline in à la carte revenues. In these cases, increased meal sales were associated with reduced availability of à la carte offerings and increased appeal and accessibility of meals. Of the remaining 3 sites, 2 experienced losses in gross revenues of 8% and 15%, and one had virtually no change in gross revenues.

- Fourteen out of the 16 sites (88%) experienced decreased food service à la carte revenues from year 1 to year 2.

Decreases in à la carte revenues of 43% to 89% in 8 of the 14 sites resulted from the complete elimination of student à la carte food offerings. Some sales of SB 19 compliant beverages and/or adult à la carte items continued at these sites. The other 6 sites that did not completely eliminate student à la carte foods also experienced decreases in à la carte sales of 29% to 56%, reportedly due to a combination of lower profit margins for SB 19 compliant items, and fewer per capita purchases due to reduced product appeal, increased cost, and/or a more limited selection. Stakeholders reported that it was particularly difficult to find SB-19 compliant entrée items that were low enough in fat. Given that entrée items tend to be among the most popular à la carte items, their reduced availability also was a large contributor to reduced à la carte revenues.

Stakeholders reported that à la carte sales could increase, given adequate time for students to adjust to compliant offerings and for vendors to improve the appeal of compliant food items. However, in this case the data suggest that these items would compete once again with the reimbursable meals and potentially reduce the observed favorable impact on food service revenues.
Increases in reimbursable meal sales compensated for losses in à la carte sales in 11 of the 14 schools that experienced such losses (79%).

Fourteen of the 16 sites (88%) posted gains in lunch sales of 1% to 122% over the period of the grant (Table 4). Twelve of those 14 (86%) experienced these gains concurrent with decreases in à la carte sales. Of the 2 sites that reported lunch sale losses ranging from 10% to 24%, one had not yet made the “Grab N’Go” lunches sold at the remote stations available at free or reduced price, and the other had instituted a campus-wide free breakfast program that had resulted in tremendous gains in breakfast revenues (160% and 173%) at its 2 sites.

In fact, 12 of the 15 sites (80%) that had a reimbursable breakfast program reported increased breakfast sales of 2% to 173% (Table 4). The other 3 sites posted decreases in breakfast sales of 11% to 13%. Of these 3, 2 sites greatly improved their lunch menu offerings and saw per capita unit lunch sales jump by 59% and 74%. This suggests that some students may have switched from breakfast to lunch purchases.

Nearly every LEAF district undertook ambitious food service-related upgrades in order to improve accessibility and enhance appeal of the food service facilities and the meals. Twenty-eight percent of project funds, or an average of $52,915 per school, was spent on food service-related strategies. Only one district spent less than 15% on food service upgrades (data not shown).

Closed campuses might be expected to fare better under these circumstances than open campuses because of reduced competition from local food and beverage outlets. While the number of LEAF schools (3) that were open or partially open during the lunch hour was too small to form a definitive conclusion, those 3 did experience an average increase in food service per capita gross revenues of just 5% as compared to 13% for the closed campuses. High School 4, the only completely open campus of the 16 sites, experienced some of the highest post-SB 19 compliance à la carte revenue losses (51%) (Table 4) of those sites that did not eliminate à la carte food entirely. Although this high school was able to increase meal sales, this increase was not large enough to offset the à la carte losses. Therefore, it was one of only 2 sites that experienced a decrease in total gross revenues from year 1 to year 2. The other 2 semi-open campuses were able to increase meal revenues to a degree that more than compensated for à la carte losses. While open campus status cannot be singled out as the primary or sole explanation for this finding, it does appear to be a contributing factor (Table 6).

Increased breakfast sales were enough, in one district, to offset decreased lunch and à la carte sales, resulting in an increase in overall revenues.

The 2 sites at District C were able to increase overall per capita reimbursable meal revenues by 24% and 41%, respectively, despite lunch sales that decreased by 24% in the first school and stayed nearly constant (1% gain) in the other (Table 4). They accomplished this by instituting a campus-wide free meal program\(^3\) that took place each

\(^3\) This campus-wide program was not a Provision 2 or 3 program.
morning in the classroom. Breakfast revenue increases of 173% and 160% not only offset losses in lunch revenues, but, in the opinion of the food service director, may have been large enough to also offset the increases in expenditures associated with increased produce purchases and personnel hours. This approach had the added benefit of reducing the costs associated with the distribution and processing of meal program applications.

- **Increased purchases in the free meal category accounted for most of the increases in reimbursable breakfast and lunch revenues.**

Of the 14 sites that reported increased lunch sales, 64% were impacted the most by increases in the free meal category (one of which offered campus-wide free lunch), 21% were impacted the most by increases in full price meals, and 14% were impacted by approximately equally weighted increases in free and full price meals. Likewise, the 75% that reported increased breakfast sales were impacted the most by increases in the free meal category (3 of which involved campus-wide free breakfast programs). Increased breakfast sales for the remaining 3 sites were impacted the most by increases in reduced, full price, or full price plus free meals, respectively.

The increase in free meal sales indicates that there was increased participation in the meal program by the lower income students. The data suggest that that this trend was brought about by a combination of 2 interrelated factors: (a) a shift away from à la carte purchases by students who were enrolled, but not participating, in the free breakfast or lunch program, and (b) an increase in meal program enrollment by eligible, but previously unenrolled, students, e.g. 12 sites reported an increase in meal program enrollment. These trends were associated with: (a) decreased appeal, selection and/or affordability of à la carte items following SB 19 compliance, (b) increase in the appeal of the meal program that may have motivated enrolled students to participate and qualifying students to enroll in the meal program, and (c) other meal program promotion activities such as improved distribution of applications, direct certification, campus-wide provision of breakfast in the classroom, campus-wide free lunch, and implementation of payment procedures that decrease the stigma associated with participation in the free and reduced price meal program.

- **Elimination of student à la carte food sales by the food service was associated with the greatest increases in reimbursable meal sales.**

Of the 5 sites that experienced the greatest increases in reimbursable meal sales (63% - 103%), 4 of them completely eliminated student à la carte food sales (Tables 4 & 5). These 5 sites had initial free and reduced meal program (FRP) enrollment rates ranging

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4 "Free" meals are referred to as "purchases" and therefore contribute to revenues because the school receives payment in the form of federal and state reimbursements.
5 This was a Provision 2 program whereby all children are offered free meals and reimbursement is provided for 4 years based on the percentage of children that were enrolled in the baseline year.
6 School-specific information on distribution of free, reduced and paid meals available in site specific case summaries in the appendices.
from 20% to 68%. In 2 of these sites there were no additional non-food service venues on campus that could compete with the meal sales. At the other 2 sites, non-food service competitive food sales (student stores, vending machines) became SB 19 compliant at the same time that à la carte was removed, resulting in decreased net income for these venues. These findings suggest that if reimbursable meals are the only foods available on campus, then food service revenues will increase considerably provided that menu items meet a reasonable standard of quality and appeal. If meals must compete with non-food service sales, then food service can still experience increased revenues provided that: (a) it eliminates its own à la carte sales, (b) menu offerings are appealing, (c) facilities and time are adequate to meet student meal needs, and (d) all non-food service venues are SB 19 compliant.

- **Findings suggest that schools with free and reduced price meal enrollment rates as low as 20%-35% can be successful at increasing meal participation and food service revenues while implementing SB 19, however these schools may experience more of a challenge achieving these results.**

The 4 LEAF schools with relatively low initial rates of enrollment (20-35%) in free and reduced price meals (FRP) experienced increases in lunch sales ranging from 17-122%. The overall change in food service revenues from year 1 to year 2 ranged from -8% to +16% at these schools compared to the other LEAF schools whose total food service revenues changed by -15% to +38%. These findings suggest that schools with FRP enrollment rates within this range (20-35%) can be successful at increasing meal participation and overall food service revenues while implementing SB 19. On average, but not in all cases, these lower FRP schools tended to see a larger proportion of the increase in lunch participation due to increases in sales of full priced meals compared to schools with higher FRP enrollment rates. This trend was only seen, however, at the 2 schools that had closed campuses and that had eliminated all à la carte food sales to children. Therefore it may be especially important to reduce competition from outside vendors and à la carte venues at schools with low FRP enrollment.

A larger percentage (83% vs. 50%) of the schools with higher FRP enrollment was successful at increasing food service revenues by more than 5%. Furthermore, the 2 LEAF schools with low FRP enrollment rates that were most successful at increasing food service revenues were also 2 of the schools with relatively high levels of LEAF effort (Table 6). These findings suggest, but can not definitively conclude, that it may require more effort to switch student purchases away from à la carte toward reimbursable meals in schools that serve larger proportions of students that do not qualify for FRP. Closed campus status may facilitate this transition by eliminating competition from outside vendors and thereby encouraging participation in the meal program.

**Expenditures**

Five of the 16 sites (31%), representing 3 districts, provided quantitative data regarding food service expenditures (Table 4). The remaining 11 sites, from 6 districts, were unable to
provide this information due primarily to their practice of tracking expenditures on a district-wide basis rather than by site. In these cases, information was collected qualitatively.

- Of the 5 sites that provided quantitative expenditure data, changes in per capita food service operating expenditures varied from a reduction of 2% to an increase of 34%.

  Only 2 schools reported changes in expenditures of more than +/- 6% (Table 4). In one of those, costs increased by 34% due to increased food costs, wages, salaries and benefits. The other site experienced a 23% increase in expenditures associated primarily with the higher cost of fresh versus processed fruits and vegetables, and the addition of an extra delivery day.

- All districts reported that LEAF-related food service changes resulted in increased ongoing expenditures related to fresh fruit and vegetable purchases, packaging and food storage.

  The cost of food and beverages increased from 5% to 44% at the 5 schools that reported operating expenditure figures (Appendix A: Figures 3, 6, 7, 12, 13), primarily due to the increased use of fresh fruits and vegetables in reimbursable meal programs and, to a lesser degree, in à la carte sales. This approach represented a key LEAF strategy that was observed in each district, based on the LEAF objective specifying the need to increase availability, access to, and consumption of California grown fruits and vegetables.

  In each case, the relative change in food/beverage purchases from year 1 to year 2 exerted a considerable impact on overall operating expenditures. In most cases, food service directors reported that the increased costs associated with the purchase and storage of fresh produce were partially offset by the improved efficiency that resulted from students taking only what they would consume at the fruit and salad bars. In their opinion, this efficiency also offset some of the costs associated with the inability to reuse, repackage or reserve fresh produce. Additional costs for new or improved storage, food preparation and serving equipment were covered by LEAF grant funds and therefore are not included in the operating expenditures. Therefore, other districts attempting to shift student purchases from à la carte to reimbursable meals might also need additional funding to cover these types of expenses.

- Increases in labor expenditures that outpaced increases in reimbursement rates were of central concern to food service directors. Although most reported keeping these costs under control, some reported having to make compromises in their staffing practices in order to address this discrepancy.

  School food service directors identified escalating benefit payments of existing staff as a source of concern, as well as the cost of additional staff required to handle fresh fruit and vegetables (usually between 0.5 and 1 additional FTE). Food-related LEAF strategies, therefore, may have exacerbated increases in labor costs that were occurring
independently. Still, most food service directors reported that they could accommodate these LEAF-related changes. The quantitative data, while based on a small sample size, support this assumption.

While 4 out of the 5 sites that reported quantitative expenditure data were able to control their labor costs from year 1 to year 2, at least 3 did so by modifying their staffing practices such that benefit payments to employees were minimized. Changes in per capita salary expenses from year 1 to year 2 for these 4 sites ranged from -10% to +2%, while changes in benefit expenses ranged from -8% to +13% (Appendix A: Figures 6, 7, 12, 13). One additional site (for which quantitative expenditure data was not available) also reported controlling personnel expenses through the reallocation of labor in order to maximize output for the benefits paid.

The fifth site that provided quantitative expenditure data was unable to keep costs in line with revenues, due at least in part to the loss of an entire grade and hence 1/3 of the student population. Food service in this case was not able reduce personnel expenditures during the study period, and thus did not offset the corresponding reduction in revenues.

**Net Income (Table 4)**

- **Net income increased by 17-37% in 3 of the 5 sites that reported quantitative data on food service operating expenditures. In absolute terms these gains ranged from $19,496 to $132,918.**

  All 3 of these sites were in the same district where the improved fiscal performance was observed, due to: (a) a reallocation of labor, which kept personnel costs under control, and (b) increased gross revenues that compensated for moderate increases in the cost of goods and supplies.

- **Net income decreased by 127% and 3375% in the other 2 sites that reported quantitative expenditure data, equivalent to losses of $6,542 and $17,280, respectively.**

  In the first case ($6,542), gross revenue gains from year 1 to year 2 were not able to keep pace with increased expenditures. In the second case ($17,280), the restructuring of the school and subsequent loss of an entire grade resulted in a large decrease in gross revenues from year 1 to year 2, without a proportionate decrease in expenditures.

  In both cases, school districts were able to cover some of the costs associated with increased personnel needs and/or produce purchases. In one case the district plans to continue its support. No information was obtained regarding the intentions of the other district.
Interviews with food service directors from the districts that could not provide quantitative expenditure data indicated that increased revenues generally offset increased ongoing costs associated with LEAF/SB-19 compliance.

Costs associated with food and non-food related supplies and materials were considered to be the most manageable. However, numerous stakeholders expressed concern over their ability to manage increased labor expenses that may or may not be the result of LEAF or SB 19 compliance.

**B. COMPETITIVE FOOD AND BEVERAGE SALES FROM OTHER (NON-FOOD SERVICE) ENTITIES**

Ten sites provided fiscal data for non-food service competitive food and beverage venues, including student stores, vending machines, and ongoing athletic fundraisers. The following trends were observed:

- Seven out of the 10 sites (70%) reported declines of 21% to 64% in non-food service per capita net income between year 1 and year 2 (Table 5). In dollar terms, these declines in revenue ranged from $1,274 to $6,900 per school.

  The other 3 schools either experienced very small declines (0.5%, 4.1%) or increases in revenues from year 1 to year 2. It must be kept in mind, however, that data were not available from all venues at all schools; the actual overall total for the school, therefore, could not be calculated in some cases. Furthermore, this analysis includes only venues that were operational in both years, and so does not account for several SB 19 compliant venues that were introduced in year 2. For example, High School 5 installed a “healthy” vending machine in April 2004 that generated enough income that, had it been in place for the entire year, might have offset the losses reported for the Seven Up vending machine (Table 5). Actual declines at the school level therefore may be less than what is presented here.

  Likewise, at the venue level most individual venues reported declines in net income from year 1 to year 2 ranging from $145 to $6,000. The exceptions were the vending machines and student store at High School 1 and the student store at High School 2, both in District E (Table 5). Increases in net income for these venues ranged from $1,969 to $11,841, resulting in a total gain at the school level of $22,255 for High School 1. This demonstrates that SB 19 compliant foods and beverages can be marketed successfully at the high school level.

  Declines in net income were observed for both snack and beverage sales, sold through both vending machines and student stores. Seven sites reported that the decline in profits from their beverage vending machines were due to lower profit margins for some of the more popular compliant drinks, as opposed to decreased sales volume. This assertion, however, could not be objectively confirmed because volume and gross sales data could not be obtained. However, as demand for “healthy” products increases and vendor product lines expand, schools may be able to negotiate for a larger percentage of widening profit margins.
For snacks, both lower profit margins and decreased sales volume were reported, potentially due to the decreased selection and appeal of SB 19 compliant offerings. Compliant beverages, according to those interviewed, were better received by students than compliant snack foods.

- All but one of the sites that reported per capita declines in non-food service food and beverage sales reported increases in reimbursable meal sales (Tables 5 & 7).

The increase in meal sales appears to be due, at least in part, to the change by non-food service venues to SB 19 compliant snack items that were less familiar, less varied, more expensive, and/or less appealing to students. Students therefore resorted more often to purchasing reimbursable meals. Improvements in the menu offerings and/or eating facilities at these sites also may have drawn students away from the non-food service venues.

This group includes the 3 schools with open or partially open campuses, although the small sample size makes it difficult to form definitive conclusions about the effect of this variable.

Data indicate that the one exception to this result was a site for which some meals were still only available on a cash basis at remote stations, resulting in a lower than expected meal count.

- One site reported a per capita gain of 31% in combined non-food service food and beverage sales (Table 5), corresponding to $22,255 in net income, that did not negatively impact the meal program participation.

Several factors may account for the relative success of this school, located in District E. To begin it should be noted that, because expenditure data were not available, the District E student stores were the only entities for which net income numbers had to be estimated using a reported gross margin of 25%. Also, costs associated with the renovation of their sales areas were charged against the LEAF grant, and thus not charged against operating expenditures.

Nonetheless, student store revenues increased dramatically by 40%, likely propelled by a wide selection of SB 19 compliant snack items and the concurrent elimination of à la carte food sales by the food service. Also, students were consistently involved in the selection and promotion of the student store items. For example the students, in partnership with the manufacturer, developed an SB 19 compliant snack and beverage product line, i.e. developed product names and helped design the labels. Finally, it was reported that this store sold to “overflow” students whose needs could not be met by the school meal program alone due to time and space limitations. As such, this venue did not negatively impact revenues or net income for the corresponding food service operation (Table 4).
C. LEAF ACTIVITIES THAT LIKELY CONTRIBUTED TO THE OBSERVED FISCAL IMPACTS

Stakeholder interviews, quarterly reports and analysis of the timing of interventions relative to fiscal trends (Table 6) pointed to the following LEAF activities as key contributors to, and potential determinants of, *increased food service gross revenues*:

- **Improvements in menu choices** that increased the variety, freshness, appearance and overall quality of the food offerings. Most often, this involved a free-standing fruit and/or salad bar or an add-on salad. In some instances more substantive menu changes were made, such as the introduction of an international marketplace or food court theme. In one school, improvements were made primarily to the breakfast program. A trend in terms of fiscal impact could not be established with regard to this factor because every LEAF school pursued improvements in this area, albeit to very different degrees.

- **Improvements to the serving and eating areas.** This included adding or improving serving stations, salad bars, points-of-sale, tables, chairs, signage, decorations, and/or newly painted walls. These types of improvements were made to varying degrees by 7 of the 12 sites (58%) where per capita food service revenues increased considerably, and by 2 of the 4 (50%) where revenues decreased or did not change.

- **Elimination of à la carte food offerings to students.** Stakeholders reported that this influenced students to choose reimbursable meals more often, resulting in higher per capita revenues for the food service operations. Seven out of the 12 schools (58%) that posted substantive gains in per capita revenue pursued this strategy, as compared to just one of the 4 (25%) whose revenues decreased or did not change.

- **Integration of nutrition/garden/cooking themes into the mainstream curriculum**, including specialized instructors and a fully functional, on-site garden. Of the 12 schools posting substantive food service per capita revenue gains, 7 successfully implemented and maintained this strategy (58%), as compared to just one of the 4 schools (25%) whose revenues decreased or did not change.

- **Consistent support and effective coordination of LEAF goals** by the food service director and site cafeteria staff, strong leadership by the project coordinator, and unified teamwork within the LEAF Team. These qualities were assessed for each project based on stakeholder interviews, progress reports, and site visits. Of the 12 schools posting substantive food service per capita revenue gains, 5 were considered strong in this area (42%), compared to just one of the 4 (25%) whose revenues decreased or did not change.

- **Increased efforts to promote enrollment in free/reduced price NSLP**, including mailing applications to parents, providing prepaid envelopes and incentives for their return, establishing application processing centers for parents, and increasing direct certification of eligible students. Six of the 7 sites that reported increased efforts to promote enrollment posted substantive gains in per capita revenue. All 6 were among...
the top 7 that experienced the greatest increases in enrollment from year 1 to year 2 (5%, 6%, 7%, 8%, 20%, 26%) of the 16 sites (Table 7). Three of these sites experienced among the highest increases in meal revenues (63%, 75% and 80%) (Table 4). Stakeholders from each district felt that this strategy contributed to the improved meal sales.

- Improvements in kitchen (food preparation and storage) facilities. Almost all of the LEAF schools made some kitchen improvements with regard to increases in storage space for fresh produce and purchases of food preparation equipment. Two schools did more substantive remodeling (Table 6). Since few schools made major renovations to their kitchens during the grant period, it was not possible to determine the impact of such changes on meal sales (at least 3 LEAF sites remodeled their kitchen and/or cafeteria facilities in fall 2004). Many food service directors mentioned that centralized kitchens designed primarily for heat-and-serve meals limited their ability to offer a wider variety of freshly prepared offerings.

- Direct involvement of students in suggesting reimbursable and à la carte menu items. Student involvement most often involved taste tests held throughout the year. While this strategy was employed by a greater percentage of the schools that did not experience increased per capita food service revenues than those that did (75% vs. 58%) (Table 6), it should be noted that in 2 of those 3 schools, few of the other key LEAF interventions listed above were accomplished. Therefore, while student involvement is likely useful, this strategy was not sufficient by itself to increase meal sales.

- Additionally, the undertaking of a multi-faceted effort was associated with substantive per capita increases in school food service revenues. Specifically, 8 of the 12 schools (67%) posting gains in food service revenues implemented at least 5 of the activities mentioned above, as compared to one of the other 4 schools (25%) (Table 6). It appears that multifaceted interventions work synergistically to create excitement and ultimately change student purchasing behavior.

- School site buy-in. LEAF school administrators and food service staff, alike, played a pivotal role in the success or failure of SB 19 compliance efforts. Their inclusion in the decision-making process and buy-in to the general principles behind SB 19 were critical to ensuring a smooth transition. In cases where this collaboration did not occur, the results almost always were self-defeating. The fact that these 2 groups at times worked off of different agendas underscored the importance of bringing them together for ongoing efforts.

D. EXPENDITURE OF LEAF FUNDS

Each LEAF school received approximately $200,000 in grant funding. The total for each district therefore ranged from $197,000 to $740,000 depending on the number of funded schools. This funding helped the schools to successfully implement SB 19 and other LEAF objectives. However, not all of this funding necessarily influenced the fiscal impacts described in this report, nor was it necessarily essential to financially sustainable
implementation of SB 19. The analysis below describes how the LEAF grant funds were expended, and discusses the likelihood and extent to which these funds were critical for the financially sustainable implementation of SB 19.

How were LEAF funds spent?

1. **Food service and related custodial services**: Six of the 8 districts devoted between 23% and 56% of their LEAF funds to food service-related improvements and personnel. Of the remaining 2 districts, one spent approximately 16%, and the other spent the majority of its funds in other areas. Upgrades included food equipment purchases, on-site or central kitchen renovations, eating area upgrades, and modernization/expansion of the points-of-sale (POS). Personnel covered by LEAF grant funds included food service staff such as salad bar attendants and custodial staff responsible for cleaning and maintaining food service areas.

2. **Nutrition Education**: Of the 4 districts that spent a considerable amount of LEAF funds on gardening and nutrition education (15%-35%), the majority of those funds were used for personnel costs, and less for equipment, materials or supplies. Those districts that were effective in mainstreaming nutrition education into the curricula, and in particular those who incorporated gardening and cooking components, tended to spend more in this area compared to those that had less intensive and interactive approaches. Therefore, it appears that this additional expense is required to ensure the effectiveness and sustainability of this component. In some cases where considerable accomplishments were made, no LEAF funds were expended in this area because other sources of funding paid for these efforts.

3. **Physical Education**: The amount of LEAF funds dedicated to physical education-based strategies varied greatly (1%-31%). The greatest expenses were incurred by those districts that built or renovated a fitness center or campus gym with a portion of their LEAF funds. For several districts, these expenditures and/or the actual renovations occurred late in the grant period.

4. **Project Coordination**: Project coordination expenses consisted primarily of salary for the LEAF project coordinator and stipends paid to other team members for attending meetings and other coordination-related activities. The amount of funds devoted to LEAF project coordination (3%-29%) depended upon: (a) the extent to which existing district personnel assumed the coordination responsibilities, and (b) the number of team members who attended meetings. Four of the 9 districts had project coordinators who already worked for the district and whose salaries were not charged to LEAF. Two districts had project coordinators who already were district employees, but received additional reimbursement with LEAF funds to partially cover salary and/or benefits. Three districts used LEAF funds to pay for project coordinators who were not previously district employees.
• **Administration and promotion:** Minimal LEAF funds were used for either administrative or promotional purposes (0%-7%). Many of the costs associated with newsletter, photo journal or video production were absorbed by the pilot site.

• **Evaluation:** The professional fees paid to the district evaluators varied greatly (8%-17%) depending upon the individual fees negotiated within each district.

What does the pattern of LEAF expenditures tell us about the financial inputs that are necessary to implement SB 19 in a fiscally sustainable manner?

Given the observational nature of the analysis, it is not possible to determine conclusively which LEAF expenditures contributed to the fiscal impact of implementing SB 19 as described in this report. Particularly problematic is the fact that other sources of funding contributed to LEAF activities in many cases, and therefore the reported LEAF expenditures do not represent the total cost involved. Outside funding was used more commonly for activities related to nutrition education, school gardens, and physical education. It therefore was particularly difficult to assess the amount of funds required to implement a LEAF strategy that fell into one of these categories. Food service-related interventions, on the other hand, rarely were funded by an outside source.

Many of the expenses were incurred in the last quarter of the project that started mid-April of 2004, and therefore could not have influenced the student purchasing behavior that occurred before that time. This introduced an additional confounding factor. Despite these limitations, however, some conclusions can be drawn regarding which types of expenditures would likely be incurred by other schools attempting to implement SB 19 in a fiscally sustainable manner. For a more detailed discussion of LEAF activities that likely contributed to the observed fiscal impacts, please refer to section III-C above.

Much of the food service-related LEAF grant expenditures probably were necessary and directly impacted food service revenues. Large one-time expenditures associated with major food equipment purchases, on-site or central kitchen renovations, eating area upgrades, and modernization of the points-of-sale (POS) represented the most costly aspects of LEAF-related strategies that showed a positive fiscal impact. While food service directors felt that all of these changes were critical to the success of their operation, the fiscal impact of menu-related versus equipment/infrastructure-related changes could not be discerned. The fiscal impact of one-time upgrades in the physical facility or technological equipment clearly could be observed in instances where the changes were made well within the grant period (Districts A, F). In other cases, however, the upgrades were made so late in the grant that their impact could not be measured for the purposes of this analysis (Districts D, B, C). It appears that some capital investment that enables the implementation of changes in the food service operations is necessary and could not be easily absorbed without external funding such as LEAF. On the other hand, ongoing increases in food service expenditures associated with LEAF were not paid for with LEAF funds, but rather (as described previously) were absorbed by most of the food service departments, reportedly without negatively impacting the solvency of their operation.
It is particularly difficult to assess the contribution of the nutrition education expenditures to the changes that were observed in student purchasing behaviors, and hence on food service revenues. The opinions of team members were mixed with regards to the importance of this aspect of LEAF to achieve the fiscal impacts described in this report. This link also is less direct than changes, for example, in the food service operation itself. The intensity of the nutrition education effort appeared to be related to increases in food service revenues. Furthermore, there are many other benefits to effective nutrition education in addition to the potential impact on student purchasing behavior on campus, not the least of which is improved student health. The nutrition education-related costs were primarily for personnel and probably represent primarily ongoing (as opposed to one-time) expenses. These expenses might decline slightly once programs are in place but would still require on-going additional personnel to teach classes, arrange and supervise field trips, and maintain the gardens. It is worth noting that the schools that were most successful in institutionalizing the nutrition education component tended to be those that incorporated substantive content, usually in the form of complete courses on nutrition, gardening and/or cooking. The most effective programs also tended to be the most staff intensive. The cost to a school, therefore, would depend on the extent to which the existing personnel could assume these job responsibilities, and/or other funding could cover their salaries.

It is less likely that physical education and physical activity (PE/PA) promotion-related expenditures had a substantive impact on food and beverage revenues at most schools over the time period covered by this report. Although increases in physical activity levels and enthusiasm for fitness theoretically could impact both student appetites and interest in healthy eating, it was not possible to independently measure that effect given the evaluation design. At one school, however, a new fitness center attracted students in the morning before school and hence was probably a factor in the increased breakfast program participation that was observed. Most of the PE/PA-related expenditures were one-time capital costs to renovate or construct fitness centers or gyms, and therefore would not represent substantive increases in ongoing expenses except as needed to maintain equipment. Stakeholders felt that the latter could be absorbed by the school district. Other changes to the content of PE classes and integration of PA themes into promotional activities did not involve the expenditure of LEAF funds, except perhaps in terms of project coordination and teacher attendance at meetings and trainings. Therefore, it appears that one-time capital investments in PE equipment and facilities may be an important component of fiscally sound implementation of SB 19, but that any related ongoing costs could be absorbed by the schools.

Project coordination clearly was essential to effective implementation of LEAF, according to team member reports. However, LEAF was a multifaceted project some aspects of which, although important for other reasons, would have little direct fiscal impact on food and beverage sales. Although some project coordination probably would be required to achieve a similar impact on food and beverage revenues in other districts, it probably would be to a lesser degree than for a comprehensive project such as LEAF. Furthermore, sustaining the fiscal effects probably would require less coordination than the initial implementation phase. The critical nature of at least some level of coordination should not, however be underestimated; LEAF team members from virtually every pilot site voiced the need for continuing coordination of LEAF-initiated efforts. In the absence of such mainstream
coordination, they posited, pilot activities more likely would falter due to their dependence on a few championing individuals. How much this actually would cost the districts initially and in the long run would depend on the availability of existing staff to assume project coordination responsibilities, and/or the availability of other funding to cover these costs.

Although *evaluation costs* were specific to the LEAF project, most team members agreed that some level of ongoing evaluation would be desirable and the results would be valuable for monitoring improvements and justifying ongoing support. Once again, however, these costs would be lower if the evaluation was limited to assessing impacts on food and beverage revenues, and would be less on an ongoing basis versus initially.

**Conclusion**

LEAF grant funds were spent primarily on (a) capital expenditures for food service and physical activity-related facilities and equipment, and (b) personnel for nutrition education, coordination of LEAF activities, and evaluation. It is not possible to discern conclusively which of these expenditures were necessary for fiscally sustainable implementation of SB 19. *However, it appears likely that at least some of the one-time food service expenditures and some initial and ongoing coordination and evaluation costs would be required in order to improve the meal service and attract students to the meal program.* The one-time investments in physical activity facilities, related equipment and ongoing nutrition education expenditures provided multiple benefits to students. It is less clear, however, what impact they had on the student food and beverage purchasing behavior that supported fiscally sound implementation of SB 19. Furthermore, a substantial amount of LEAF funds were expended in the last quarter, and therefore that portion of total expenditures was not critical to achieve the fiscal impacts described in this report. *In general, schools aiming to implement SB 19 in a fiscally sustainable manner probably could do so with less than the approximately $200,000 provided to each LEAF pilot site, particularly if they focus on implementing SB 19 and not the broader LEAF objectives.* The benefits of achieving the broader LEAF objectives, however, may well be worth the additional investment.

**E. CONDITIONS THAT MAY HAVE AFFECTED THE SCHOOLS’ ABILITY TO IMPLEMENT SB 19 IN A FISCALLY SUSTAINABLE FASHION**

- **District size**
  The data presented here (Table 6) as well as interviews with LEAF team members suggest that larger campuses experience more challenges in terms of making the switch to SB 19 compliance. This is likely due to the following characteristics of larger school districts: (a) larger number of competing food and beverage sales venues and hence more sources of resistance to change, (b) larger number of vendors and hence more complex negotiations, and (c) larger number of students and hence a dependence on competitive foods to meet meal needs of students, coupled with challenges in finding compliant and healthy à la carte entrees.
• **Closed versus open campus**
  According to stakeholders, it is difficult for food service departments to make health-conscious changes to their operations and still continue to operate in the black at schools where students are free to leave campus during the lunch hour and take their spending dollars elsewhere. Given the limited number of open LEAF campuses, we were unable to observe an association between fiscal impact and open versus closed campus status.

• **Sufficient time to eat**
  Although our data (Table 6) do not suggest an association between meal time and increased meal revenues, LEAF team members frequently commented on the constraints inherent in serving large numbers of students over a short time period. Short meal times reportedly drive student purchases toward easier and quicker à la carte and snack bar options.

• **Free and reduced price meal program (FRP) enrollment rates**
  Enrollment in the free and reduced price meal program ranged from 20 to 100% at the LEAF schools, and 4 schools had initial enrollment rates of less than 35%. These 4 schools experienced changes in food service gross revenues of 14%, -0.2%, 16% and -8%, whereas the other schools experienced changes in revenues ranging from -15% to 38%. This suggests that SB 19 compliance can be accommodated by food services with FRP eligibility rates ranging from 20 to 100%. However, a much larger percentage of the LEAF schools with higher FRP enrollment rates were successful at increasing their food service revenues by more than 5%, which suggests that shifting student purchases away from à la carte and toward meal sales may present a greater challenge to schools with lower FRP enrollment rates.

F. BARRIERS TO FISCALLY SUSTAINABLE IMPLEMENTATION OF SB 19

Several barriers were identified by stakeholders during the implementation of SB 19 and the various LEAF strategies. These are not specifically attributable to LEAF or SB 19, but rather are barriers that currently exist at schools and influence their ability to comply with the letter and intent of SB 19 in a way which is financially sustainable.

• **Reimbursement rates that do not balance the rising cost of labor**
  According to those interviewed, the federal and state reimbursement rates do not adequately take into account yearly increases in wages, salaries and benefits. This represents a particular challenge for implementing SB 19 and the Buy California initiative, as both improving meal quality in order to reduce dependency on à la carte sales and increasing the provision of fresh produce tend to be more labor-intensive than heat-and-serve approaches to meal service.

• **Relationship between school challenges and industry responses**
  It was observed that industry has responded to the school food service financial concerns by offering an array of packaged and processed foods that are attractive to
food service operations because of their low perishability, ease of storage and less labor intensive preparation. It was reported that this response has contributed to the trend toward less freshly prepared foods. Furthermore, contracts with food and beverage vendors have made it challenging for some districts to change product lines to comply with legislative mandates and health concerns. Many districts have not been able to negotiate contracts that ensure the provision of healthy foods with adequate rates of return.

- **Technology gap**
  The vast majority of districts that participated in LEAF cited the need to upgrade their technology in the following areas:

  - **Computerized/increased points-of-sale.** This would serve to: (a) increase the efficiency of the serving line, (b) document more accurately the type of sales transaction (reimbursable, à la carte), and (c) streamline the identification of students in the free and reduced meal program, in order to remove the stigma. A few districts allocated LEAF funds early in the grant period for this purpose, while others made end-of-grant technology upgrades. The schools cited the large amount of funds needed for this type of upgrade, as many sites are not “wired” for these changes and must modify the facility’s actual infrastructure according to building codes.

  - **Adequate software and training for menu planning, nutrient analysis, and accounting/inventory.** Both food service departments and other entities involved in the sale of foods and beverages on campus need to be able to determine the compliance of their products with nutrition standards, as well as monitor trends in expenditures, income and profits. In the absence of such tracking, effective decision-making cannot be accomplished; unprofitable sales can occur despite their negative impact on student health, and potentially profitable healthy alternative strategies can get overlooked. In the case of the LEAF districts, 6 of the 9 did their food service accounting manually. Most were unable to provide site-specific food service expenditure data; other competitive food venues had even more limited accounting systems.

- **Lack of personnel, technology and incentives for monitoring compliance with nutrition standards**
  The LEAF team members expressed concern over how to monitor compliance with SB 19 nutrition standards. In addition to a lack of software to determine the compliance of specific foods and beverages, schools were concerned about who would conduct these analyses and monitor the compliance of all campus foods and beverages. This presents a particular dilemma in cases where many different entities in addition to food service are providing foods and beverages to students.

- **Meeting the intent and not just the letter of the law**
  Many of the districts expressed concern regarding how to ensure that the foods and beverages sold at schools not only meet the letter of the law, but also the intent. Some
food and beverage items may technically comply with nutrition standards and still not be compatible with the goals of improving student health and preventing obesity. This is a particular challenge with the introduction of foods that are manufactured to adhere to standards, but which do not otherwise contribute to a healthy diet.

- **Competition for food and beverage profits**
  Perhaps one of the most complicated issues currently being addressed both in the LEAF districts and across the state’s campuses involves the interplay between food services and other campus entities who have a stake in fundraising. Food service departments continue to sell à la carte in order to compete with other venues such as student stores and vending machine sales. They must do this in spite of the irony that they actually are competing with themselves. Elimination of student-based food and beverage fundraisers will meet with much resistance as long as funds are needed for student programs, and acceptable alternate methods are not identified.

- **Emphasis on standardized testing**
  School districts, and the teachers and administrators that comprise their work force, are under intense pressure and scrutiny to produce high student standardized test scores. Stakeholders reported that until the benefits of LEAF or like programs are linked to higher standardized test scores, they will not receive full support or be seen as a priority in terms of funding or the mainstream curriculum.

### IV. Conclusions

1. **SB 19 compliance fiscally benefits school food service departments when reduced food service à la carte sales shift student purchases toward reimbursable meals.**

Stakeholders indicated that the following conditions appear necessary to support this shift in sales:

- Limited availability and selection of competitive foods and beverages from food service à la carte and other non-food service entities AND/OR complete elimination of food service à la carte foods.

- Improved variety, freshness and appeal of reimbursable meals

- Adequate facilities to ensure minimal waiting time to be served

- Adequate kitchen facilities to support preparation of fresh foods at each site

- Appealing serving and eating areas to attract student participation

- A system that ensures that free/reduced price eligible children are indistinguishable from full-price children
- Closed campuses to eliminate competition from off-campus vendors
- Adequate time for meal service (minimum 40 minutes for lunch)

2. All children, and low income children in particular, can benefit from a shift from à la carte to reimbursable meal purchases.
   - Improvements in access to and appeal of the reimbursable meals, combined with decreased access and/or appeal of competitive foods and beverages, results in increased general participation in the meal program and increased enrollment of eligible children in particular. A shift from consumption of snack foods and sweetened beverages to balanced meals was repeatedly observed.

3. SB 19 compliance, in combination with improvements in the meal program, tends to reduce net income from competitive food and beverage sales by non-food service entities.
   - This reduction in competitive sales may be necessary in order to improve meal sales.
   - Student organizations, therefore, may need to raise funds in ways other than food and beverage sales.
   - The profits from competitive food sales were relatively small in terms of absolute dollars. Declines in profits ranged from $145 to $6900 per school.
   - The school district with the highest volume of competitive food sales did not experience a decline in net income as a result of SB 19 compliance.

4. It is possible to increase both meal and competitive foods sales while complying with SB 19.
   - This occurred at 2 schools where competitive food offerings included a wide selection of SB 19 compliant items which served those student meal needs that could not be met by existing food service facilities within the time allotted. This observed effect may have been enhanced by the concurrent reduction or elimination of student à la carte food items.
   - These schools invested considerable resources in upgrading facilities, promotion activities, student involvement, and the selection of SB 19 compliant competitive food options that were appealing to students.
5. Most of the increases in food service ongoing expenditures appeared to be associated with the LEAF-related purchase, preparation and storage of fresh produce and not with SB 19 compliance per se.

- Food service directors reported that these fruit and vegetable-associated costs can be absorbed without detrimentally affecting fiscal solvency.

- The increase in provision of fresh produce and other menu changes may be essential to attract the increased meal participation which compensated for losses in à la carte sales.

6. Funding for one-time capital expenditures to upgrade food service areas and ongoing expenditures to fund coordination, monitoring and evaluation would likely be required for schools to implement SB 19 in a fiscally sustainable manner.

- The need for this type of funding would vary depending on the adequacy of a given school’s food service facilities and the ability of the school to absorb coordination, monitoring and evaluation costs.

- Improvements in nutrition education, PE, and other opportunities for physical activity may enhance a school’s ability to successfully implement SB 19, and would have other benefits, but may not be as essential as the food service upgrades, coordination and monitoring.

7. It will be difficult to monitor, comprehensively evaluate, and compare the success of interventions which impact food service operations as long as food service accounting systems and/or facilities are outdated or insufficient.

- A one-time investment in the improvement of these factors, including staff training, would have the added benefit of facilitating the move away from a dependency on à la carte through improved accounting of costs and improved reimbursable meal service/efficiency of the operation as a whole. Six out of 8 LEAF districts (75%) for which data are available identified this as a critical need, and spent a considerable portion of their LEAF funds in this area (Table 6).

8. It may require more than a 21 month period for each site to fully implement the LEAF program and adjust to shifts in revenues and expenditures associated with SB 19 compliance and related LEAF efforts.

- The LEAF timeframe was inadequate to institute all of the planned capital improvements and systems changes the LEAF teams felt were necessary to optimize the shift to higher reimbursable meal sales and healthier product mix.
➢ It was observed that most of the LEAF schools did not have enough time to adjust labor allocations and other costs, and thereby maximize net income, in response to the LEAF-associated changes to the campus food and beverage service.

➢ It will require time for students to accept the changes to the products and services offered, and to establish new (healthier) “favorites.”

9. School sites that implement multiple strategies for student health improvement that complement and promote improvements made to the food service operation are more likely to achieve changes in food and beverage purchasing behavior.

➢ A multifaceted approach that integrates SB 19 compliance, food service menu and eating area improvements, reduced competitive food offerings, and gardening/cooking education is more likely to gain student attention and support through the synergistic interaction of these strategies than any one strategy implemented alone.