



# **ALLIANCE SCHOOL BEVERAGE GUIDELINES FINAL PROGRESS REPORT**

**MARCH 8, 2010**



# Alliance School Beverage Guidelines Final Progress Report

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## **Alliance School Beverage Guidelines Progress Report**

### **Executive Summary**

This Alliance School Beverage Guidelines Progress Report marks the third and final assessment of the impact and status of the Alliance School Beverage Guidelines. In May 2006, the Alliance for a Healthier Generation (a joint initiative of the William J. Clinton Foundation and the American Heart Association) worked with representatives of The Coca-Cola Company, Dr Pepper Snapple Group, PepsiCo and the American Beverage Association (ABA) to establish the Alliance School Beverage Guidelines that limit portion sizes and reduce the number of beverage calories available to children during the school day. As a result of the guidelines, which are embodied in a Memorandum of Understanding with the Alliance for a Healthier Generation, the industry committed to changing the beverage mix in schools across America by removing full-calorie soft drinks and providing for lower-calorie, nutritious beverage options in age-appropriate portions by the beginning of the 2009-2010 school year.

This Progress Report marks the end of the three-year implementation period. It builds on the previous two Progress Reports for the years 2006-07 and 2007-08, respectively, available on ABA's Website.<sup>1</sup>

As with the previous Reports, it measures:

- The volumes of different products sold in schools at the elementary, middle and high school levels; and
- The percentage of school contracts complying with the MOU guidelines, broken down for the different categories of schools.

In addition, this Report also provides extended data on schools and school districts without contracts to the extent such data is available.

This Report was prepared by Keybridge Research LLC, an independent policy research firm that performed the data analysis, in conjunction with ABA.<sup>2</sup> The Report has been reviewed by

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<sup>1</sup> Available at <http://www.ameribev.org/nutrition--science/school-beverage-guidelines/progress-reports/>

<sup>2</sup> More information on Keybridge Research LLC and the project team is available in Appendix B.

representatives of the Alliance for a Healthier Generation and ABA members, including the three MOU signatories and their principal bottlers.

This current report demonstrates that the beverage producers and their bottlers have succeeded in changing the beverage landscape in America's schools:

- ***Calories have come out of the schools:*** The removal of full-calorie soft drinks and other beverages not permitted under the guidelines, coupled with a major swing toward lower-calorie beverages, has resulted in an 88% percent decrease in total beverage calories shipped to schools between the first half of the 2004-05 school year and the first half of the 2009-10 school year.<sup>3</sup>
- ***The school beverage landscape has changed:*** There has been a dramatic shift toward lower-calorie and higher nutrient beverages in schools, including waters, 100% juices, and portion-controlled sports drinks, as envisioned under the guidelines. In addition, shipment volumes of full-calorie CSDs to schools (total ounces basis) were 95 percent lower in the first half of the 2009-10 school year than they were in the first half of the 2004-05 school year, before the guidelines went into effect.
- ***Nearly all school and school districts are in compliance:*** In this third and final year of implementation, the industry has made remarkable strides: at the beginning of the 2009-10 school year, 98.8% of all measured schools and school districts were in compliance<sup>4</sup>.

These results demonstrate that the beverage companies and their bottlers succeeded in bringing these Guidelines to fruition nationwide and have helped promote a healthy school environment. This commitment was significant, given the challenges associated with educating and training bottlers and schools alike, revising contracts between bottlers and schools, and reconfiguring product lines and equipment.<sup>5</sup> This commitment is one with lasting implications and the participating companies along with the American Beverage Association and the Alliance for a Healthier Generation will work together to ensure these changes will be permanent. The Alliance School Beverage Guidelines will continue to make a difference every day for schoolchildren across the country.

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<sup>3</sup> In 2005, Dr. Robert Wescott, an independent economist with Keybridge Research LLC, conducted a study for ABA of beverage shipments to schools in 2004. This study, which is cited in the MOU as an example of the type of product analysis necessary to determine the impact of the guidelines, is used as the basis for comparison of the school product mix and shipments levels in 2004, 2006-07, and 2007-08. Beverage volumes for full years were adjusted by a factor of 4/9 for the sake of comparisons with the 2009-10 school year data, which represents a 6-month period (July 1, 2009-Dec. 31, 2009), containing roughly 4/9 of the school days in a school year.

<sup>4</sup> For measurement of contracts, ABA surveyed 12 bottlers representing nearly 90 percent of the market. To the extent possible, these bottlers also reported on schools and school districts without contracts.

<sup>5</sup> For a full discussion of the challenges associated with implementation of the guidelines, please review the 2006-2007 Progress report, available on ABA's website.



## **Alliance School Beverage Guidelines Final Progress Report**

In accordance with the MOU, this Progress Report analyzes the impact and status of the Alliance School Beverage Guidelines after the third and final year of implementation. As set forth below, the data demonstrates that the bottlers have changed the landscape of beverages sold in schools.

With about 135,000 schools and more than 53 million students in the United States, implementation of the guidelines has been a monumental undertaking. As detailed in previous Progress Reports, the changes in product mix are far-reaching, extending not just to removal from all schools of certain beverages including full-calorie carbonated soft drinks, many juice drinks and teas, but to myriad adjustments in the caloric contents and package sizes of various products. In order for these changes in the product mix to be implemented in schools, the bottlers and the schools have had to amend the existing financial and legal relationships (*i.e.*, contracts), which is often not an easy task. These relationships are complex, and cannot be changed overnight or without the agreement of both parties—the bottler and the school. While the bottlers can use (and are using) their best efforts to renegotiate contracts, schools ultimately have the right to insist the original contract be honored in full if the parties cannot come to an agreement.

From the start, meeting the letter and spirit of the Alliance School Beverage Guidelines has been a top priority for the beverage companies and their bottlers. Reflecting this commitment, the beverage industry has invested thousands of hours and millions of dollars in implementation. The results, set forth below, are a reflection of this full-bodied effort.

### **I. *Impact of the Alliance School Beverage Guidelines—Changes in the Volume of Beverages and the Product Mix Sold in Schools***

In order to measure the impact of the Alliance School Beverage Guidelines, the MOU requires that the progress reports measure the volumes of different beverages sold in elementary, middle and high schools. This information is important to evaluate whether the school beverage mix is changing in the direction that the parties to the Alliance School Beverage Guidelines envisioned.

ABA commissioned Keybridge Research LLC, an independent Washington, DC-based economic analysis and public policy research company, to collect and analyze data on school beverage shipments and contracts.<sup>6</sup>

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<sup>6</sup> See Appendix B for a description of the Keybridge Research project team.

Keybridge quantified “school channel” sales of beverages to all schools, public and private, broken down into three school categories—high schools, middle schools and elementary schools. Shipments included sales made through vending machines, fountains, lunch lines, school stores, or any other outlets at schools that were accessible by students during the normal or extended school day, and all were converted to total ounces of consumable beverage. The product universe encompassed full-calorie and diet carbonated soft drinks, juices, waters, sports drinks, teas and milks, broken down with sufficient detail to measure compliance with the product categories. Using the results of the 2005 study (based upon 2004 data) to represent the “pre-Alliance School Beverage Guidelines” shipments, Keybridge compared school volumes and product mixes in 2004, in the 2006-07, 2007-08, 2008-09 school years, and in the first semester of the 2009-10 school year.<sup>7</sup>

The methodology employed by Keybridge is described in Appendix C and tables detailing the results are presented in Appendix D. Keybridge collected shipment information from 13 bottling companies representing almost 90 percent of industry sales. These shipments data were scaled up to account for 100 percent of bottler shipments to schools. As explained further in Appendix C, data was refined to exclude shipments to three locations within schools that are not deemed to be student accessible during the regular or extended school day—faculty lounges, sports complexes<sup>8</sup>, and fundraisers—thus permitted under the guidelines.

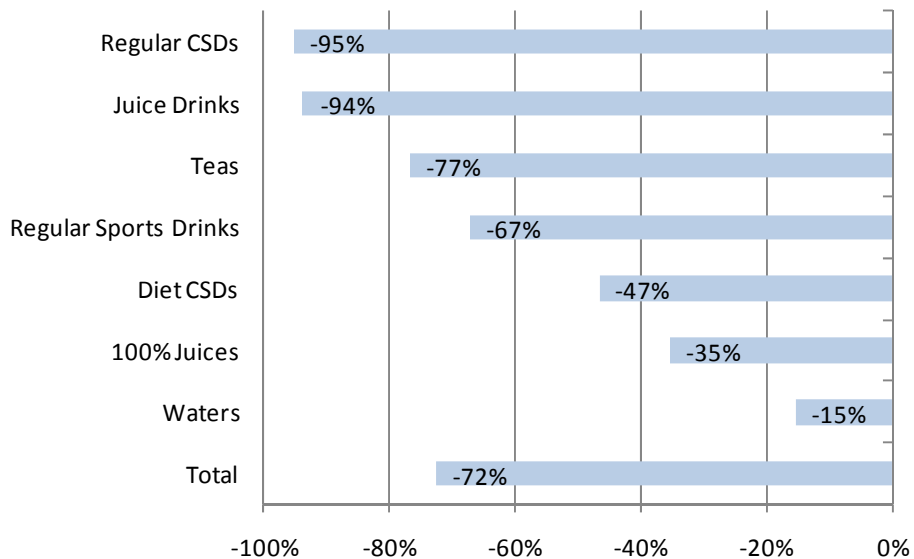
The data observed for the first half of the 2009-10 school year demonstrate an unmistakable transformation of the school beverage landscape compared to the pre-Alliance School Beverage Guidelines era. Although the school shipment volumes are down for almost all beverage types, there is a clear difference between the volume changes among beverages that are not permitted in any schools under the guidelines (*i.e.* full-calorie CSDs), those that are permitted but restricted subject to package size limitations (*e.g.* sports drinks), and those that are unrestricted by the guidelines (*e.g.* water). Chart 1 and Appendix Tables D5-D8 show the volumes of different beverage types and the magnitude of the volume changes.

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<sup>7</sup> The 2005 study was based on data for the 2004 calendar year. While it would be desirable to compare shipments for the full 2004-05 and 2005-06 school years, comprehensive data to make this comparison was not available. Shipment volumes for the full 2009-10 school year will not be available until after June 30, 2010. In order to get an earlier look at the school beverage landscape in the 2009-10 school year, shipment data was collected for the July 1, 2009 –December 31, 2009 period. Shipment volumes for 12 month periods were adjusted by a factor of 4/9 for the sake of comparisons with the 2009-10 school year data. This adjustment factor was chosen because roughly 4/9 of school days occur in the July-December timeframe. Product mix percentages were unaffected by this adjustment and the data provided in the appendix tables are unadjusted.

<sup>8</sup> Sports complexes include sports stadiums and fields which host sporting events attended by the community at large during non-school hours.

**Chart 1: Total Volume of Beverage Shipments  
All Schools, Percent Change, 2004 to 2009-10**

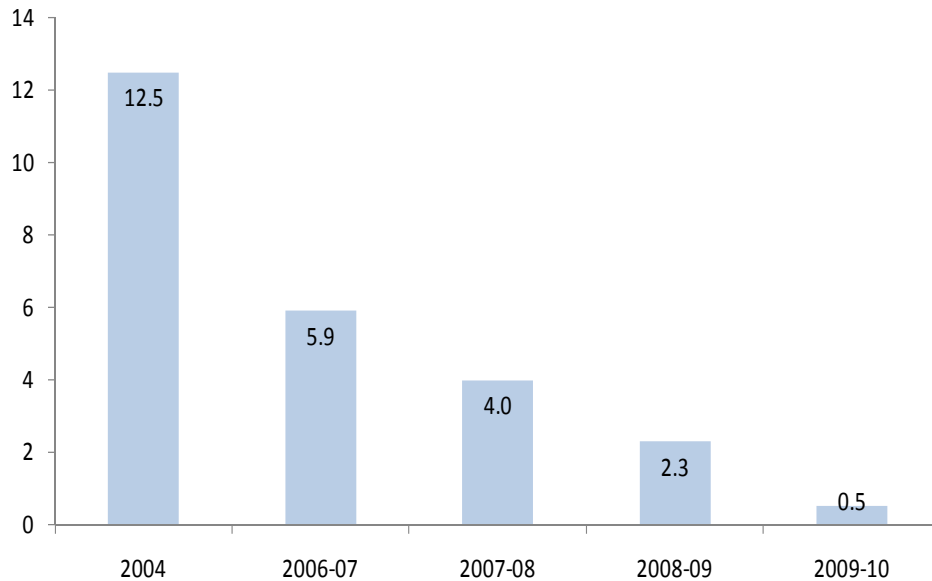


Bottler shipments to all schools (total ounces basis) have fallen by 72% compared to pre-Alliance School Beverage Guidelines levels. The volume of full-calorie CSD shipments—not permitted in any schools--fell the most sharply, by 95%. Shipments of products only permitted subject to package size restrictions (*i.e.*, sports drinks, 100% juices, juice drinks and teas) are also down, though not unexpectedly in smaller percentages. Similarly, shipments of diet CSDs, permitted only in high schools, dropped by 47% -- not nearly as sharply as their full-calorie counterparts. Waters – for the most part permitted under the guidelines--are the only beverages that have not experienced a significant shipment volume reduction since the guidelines were put in place.

As has been the case in all previous years, about 80% of all beverages delivered to schools were delivered to high schools. Shipments to high schools fell by a slightly lower percentage (70%) than shipments to all schools. The current high school shipment levels mean that the average high school student purchased less than 8 ounces of beverage product per week at school in the first half of the 2009-10 school year. Furthermore, the average high school student purchased just half an ounce of full-calorie CSDs per week. This is down from more than 12 ounces per week in 2004, as demonstrated in the chart below:



**Chart 2: Full-Calorie CSDs Shipped to High Schools, Ounces per Student per Week**



Middle and elementary school students are now purchasing less than one tenth of an ounce of full-calorie CSDs on average.

Table 1 shows how these varying levels of percentage volume reductions have affected the product mix in high schools.

Beverage Type	2004	2006-07	2007-08	2008-09	1st Half 2009-10
Full-calorie CSD	46.9%	32.1%	26.5%	19.3%	6.6%
Diet CSD	7.3%	7.2%	8.1%	10.0%	15.7%
Waters	11.5%	21.5%	26.2%	28.6%	39.0%
Regular Sports Drinks	12.8%	18.7%	20.3%	19.8%	18.3%
Diet Sports Drinks		2.3%	1.7%	5.2%	5.5%
Juice Drinks	14.3%	9.9%	8.7%	7.1%	3.6%
100% Juice	2.6%	2.8%	2.6%	3.1%	5.1%
Teas	4.2%	4.7%	4.8%	5.6%	3.9%
All Other Non-CSD	0.3%	0.8%	1.1%	1.4%	2.4%
<b>Total**</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

\*Comparisons include data from 13 bottlers representing nearly 90 percent of the market and estimates of shipments from the remaining bottlers by scaling up estimates from the same bottling systems as the missing bottlers.

\*\*Percentages may not sum to 100% due to rounding.

The table shows that the bottlers made steady and significant progress in bringing their shipments in line with the guidelines throughout the three-year implementation period. The changes in the school beverage landscape were particularly sharp in the last year, with full-calorie CSDs falling to less than 7 percent of the product mix and other beverage types that are not permitted by the high school guidelines falling to just 8 percent of the product mix.

Meanwhile, the shares of waters, diet CSDs, diet sports drinks and low-calorie teas all experienced significant increases.

The combination of fewer beverages being shipped to schools, the shift in the product mix toward lower-calorie options and the reduction of package sizes has resulted in a dramatic decrease in total beverage calories shipped to schools. Calories from all beverages delivered to schools declined by 88% between the first half of the 2004-05 school year and the first half of the 2009-10 school year. For perspective, for the average high school student, calories from all beverages shipped to schools now represent 15 hundredths of one percent of the annual dietary reference calorie intake for high school students, assuming a sedentary lifestyle.<sup>9</sup> The percentages are even lower for middle and elementary school students.

## **II. Status of the Alliance School Beverage Guidelines—School Compliance**

This Progress Report also provides information on the total number of schools and school districts that are compliant with the Alliance School Beverage Guidelines. Reporting includes new contracts executed after the signing of the MOU, contracts executed before the signing of the MOU that have been amended to comply with the guidelines<sup>10</sup>, as well as information (to the extent available) on schools and school districts who have relationships with bottlers that are not formalized in contracts.

To prepare this portion of the report, ABA surveyed 12 bottlers representing nearly 90 percent of industry sales. This is the same number of bottlers that were surveyed for the previous Reports.

ABA and the bottlers made every effort to capture school data as of September 1, 2009. It should be noted that in measuring school compliance, the package size limitations set forth in the guidelines have been taken into account.

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<sup>9</sup> The average high school student purchased beverages containing a total of 494 calories—or, 1,112 calories at an annualized rate during the first half of the 2009-10 school year. The dietary reference intakes published by the Institutes of Medicine and the U.S. Department of Agriculture cite calorie requirements of 1,800 per day for the average sedentary girl aged 14-18 and 2,200 calories per day for the average sedentary boy aged 14-18. See Dietary Guidelines for Americans:

<http://www.health.gov/dietaryguidelines/dga2005/document/html/chapter2.htm#table3>

<sup>10</sup> Most contracts do not specify the product mix that the bottler must provide to the school and therefore allow the bottler to implement the guidelines without changing the contract. In these instances, the bottler and school may enter into an understanding that only beverages complying with the guidelines will be supplied (and may in fact adjust their financial arrangements to reflect this change in product mix) but the parties may not formally amend the written contract. For purposes of this Progress Report, instances where the contract has been amended in practice (by converting the product mix to conform to the guidelines) are treated as “complying” contracts. Formal, written amendments of existing contracts have been relatively infrequent, and have been limited to contracts that are unusually large in scope and contain complex financial terms.

Table 2 shows that the overall level of compliance for schools (including both schools with and without contracts) is 98.8%<sup>11</sup>:

<b>Table 2: Total Number of Schools in Compliance in 2009-10 School Year</b>			
<b>Type of School/Entity</b>	<b>Total Number of Schools/Districts Served</b>	<b>Total Number that are in Compliance</b>	<b>Percent in Compliance</b>
School Districts	2042	2005	98.2%
Elementary Schools	19414	19358	99.7%
Middle Schools	7744	7596	98.1%
High Schools	13969	13690	98.0%
Middle/High Schools	232	230	99.1%
<b>Total</b>	<b>43,401</b>	<b>42,879</b>	<b>98.8%</b>

This table demonstrates that the bottlers have achieved remarkable results: nearly all of the schools that they serve nationwide are in compliance with the Alliance School Beverage Guidelines.

As a further breakdown, Table 3 displays the compliance level for schools and school districts with contracts (both new and amended):

<b>Table 3: Schools with Contracts in Effect for the 2009-10 School Year</b>			
<b>Type of School/Entity</b>	<b>Total Number of Schools/Districts with Contracts</b>	<b>Total Number that are in Compliance</b>	<b>Percent in Compliance</b>
School Districts	1838	1815	98.7%
Elementary Schools	2229	2225	99.8%
Middle Schools	2416	2349	97.3%
High Schools	10071	9914	98.4%
Middle/High Schools	167	165	98.8%
<b>Total</b>	<b>16,721</b>	<b>16,468</b>	<b>98.5%</b>

Similarly, Table 4 shows the compliance level for schools without contracts<sup>12</sup>:

<sup>11</sup> Some bottlers reported the number of contracts and some reported the number of schools under contract. The totals in this table reflect the sum of both without any adjustment to reflect the difference. Nevertheless, even when aggregated separately, more than 98% of schools that were reported individually are compliant and more than 98% of contracts that represent multiple schools are compliant.

<sup>12</sup> It should be noted that although the majority of bottlers were able to provide data on schools without contracts, a few were not able to track such data. The numbers provided reflect the available data to the greatest extent possible.

**Table 4: Schools without Contracts in Effect for the 2009-10 School Year**

Type of School/Entity	Total Number of Schools/Districts without Contracts	Total Number that are in Compliance	Percent in Compliance
School Districts	204	190	93.1%
Elementary Schools	17185	17133	99.7%
Middle Schools	5328	5247	98.5%
High Schools	3898	3776	96.9%
Middle/High Schools	65	65	100.0%
Total	26,680	26,411	99.0%

### **III. Conclusion**

This report demonstrates that the beverage industry succeeded in changing the beverage landscape for our country's schoolchildren. America's schools now contain lower-calorie, smaller portion, nutritious beverages. There are rare exceptions to this dramatic change caused by schools that did not want to renegotiate contracts or the rare vendor or school that simply chose not to comply. Shipments of full-calorie CSDs and other beverages not compliant with the guidelines have dropped sharply (in the case of full-calorie CSDs, by 95%). Overall, the beverage industry has reduced the beverage calories shipped to schools by a remarkable 88%. Of significance, the vast majority of the country's schools and school districts are in compliance with the guidelines. This success is due to the massive nationwide effort by the beverage industry, in concert with their school partners, to overhaul the beverage choices available in schools.

## **Appendix A: Alliance School Beverage Guidelines**

### **Elementary School**

- Bottled Water
- Up to 8 ounce servings of milk and 100% juice
  - Fat-free or low fat regular and flavored milk and nutritionally equivalent (per USDA) milk alternatives with up to 150 calories / 8 ounces
  - 100% juice with no added sweeteners, up to 120 calories / 8 ounces, and with at least 10 percent of the recommended daily value for three or more vitamins and minerals

### **Middle School**

- Same as elementary school, except juice and milk may be sold in 10 ounce servings
- As a practical matter, if middle school and high school students have shared access to areas on a common campus or in common buildings, then the school community has the option to adopt the high school standard

### **High School**

- Bottled water
- No- or low-calorie beverages with up to 10 calories / 8 ounces
- Up to 12 ounce servings of milk, 100% juice, and certain other drinks
  - Fat-free or low fat regular and flavored milk and nutritionally equivalent (per USDA) milk alternatives with up to 150 calories / 8 ounces
  - 100% juice with no added sweeteners, up to 120 calories / 8 ounces, and with at least 10 percent of the recommended daily value for three or more vitamins and minerals
  - Other drinks with no more than 66 calories / 8 ounces
- At least 50 percent of non-milk beverages must be water and no- or low-calorie options

These guidelines apply to beverages sold on school grounds during the regular **and** extended school day. (The extended school day includes before and after school activities like clubs, band, student government, drama, and childcare/latchkey programs.) These guidelines do not apply to school-related events where parents and other adults are part of an audience or are selling beverages as boosters during intermission, as well as immediately before or after an event. Examples of these events include sporting events, school plays and band concerts.

## Appendix B: Project Team

**Keybridge Research LLC** is a Washington-DC based economic and public policy research firm. Since 2001 the firm has served corporate clients, governments, major financial institutions, and non-governmental organizations. Among the firm's clients are well-known international financial-sector firms, and leading energy, service-sector, and consumer product companies in the U.S., Europe, and Asia. Keybridge's staff includes highly respected economists, public policy experts, and statisticians. The firm is particularly well known for its economic research, quantitative analysis, and statistical capabilities.

**Dr. Robert Wescott, Principal Investigator**, is president of Keybridge Research LLC. He has nearly 30 years of experience with macroeconomic, industry, and financial data and analysis. Previously Dr. Wescott served as Chief Economist at the Council of Economic Advisers and as Special Assistant to the President for Economic Policy at the White House. He also spent four years in the Research Department at the International Monetary Fund. Between 1982 and 1993 Wescott was Senior Vice President and Chief Economist at WEFA Group (Wharton Econometric Forecasting Associates), the Philadelphia-based economic forecasting and consulting firm, where he oversaw all data analysis, forecasting, economic modeling, consulting, and research activities for the U.S. Group. Wescott holds a Ph.D. in Economics from the University of Pennsylvania.

**Brendan Fitzpatrick, Senior Economist**, specializes in international economics, environment, and public policy. Prior to joining Keybridge, Mr. Fitzpatrick worked in the Office of the Chief Economist of the World Bank where he focused on development finance, aid effectiveness, environment, and production of the 2006-08 Global Monitoring Reports. He also worked with USAID's Agriculture and Rural Enterprise Development team in Rwanda and worked in education and community development with Fundacion Rostro de Cristo in Ecuador. Fitzpatrick holds a Master's degree in Public Administration in International Development from Harvard University's Kennedy School of Government and Bachelor's degrees in Bioengineering and Economics from the University of Illinois at Urbana-Champaign.

**Karen Wise, Data Analyst and Statistician** has 25 years experience as a data analyst and statistician. She has worked on a range of projects for financial institutions, corporations, and Washington, D.C.-based industry associations. These projects include the development of databases and statistical analysis of economic outlook surveys and other surveys for Fortune 500 companies. For a number of years, she was a programmer/analyst for the Office of Administrative Computing at American University in Washington, D.C., and did similar work for Arcadia University in Glenside, Pennsylvania, customizing data management software. She has experience with a wide range of applications, including economic and industry databases, financial databases, scientific model building, and computer simulations. She has taught at the university level in the fields of mathematics and computer science. Ms. Wise holds a Master's degree in Applied Mathematics from Drexel University and a Bachelor's degree in Mathematics from Bucknell University, cum laude.

## Appendix C: Methodology

Altogether 13 bottling companies representing nearly 90 percent of the national shipments of the MOU partners (The Coca-Cola Company, Dr Pepper Snapple Group, and PepsiCo, Inc.) provided beverage shipment data to Keybridge Research LLC. These same bottlers reported school shipments data to Keybridge in 2004 and have reported school shipments and contract data during and after each of the past four school years as part of their commitment to the Alliance School Beverage Guidelines. During the nearly 4 years since the guidelines were adopted, Keybridge Research staff has held scores of conference calls with company data system experts, and exchanged hundreds of emails with company representatives to confirm data details, corroborate data processing methods, and provide guidance to bottlers as they have worked to improve their data systems.

Bottlers reported “school channel” sales of beverages to all schools, public and private, broken down into three school categories—high schools, middle schools, and elementary schools. Shipments included sales made through vending machines, fountains, lunch lines, school stores, or any other outlets at schools that were accessible by students during the normal or extended school day. Beverage shipment data were converted to “total student accessible ounces” to allow results to be presented in a unified format and to support trend analysis.<sup>13</sup>

Based upon independently published industry shipments data, all shipments data from study participants was scaled up to approximate 100 percent of shipments for the whole bottling industry.<sup>14</sup> All bottlers made multiple data submissions during the course of the school year. In particular, reports on shipments in the first half of each school year allowed Keybridge to analyze and validate results and also allowed data reporting procedures to be tested and honed.<sup>15</sup>

A four-step data collection and validation process was employed. The first step was to develop a beverage classification system that would allow the key requirements of the MOU to be measured and tracked. As in the 2006-07 annual report, bottlers reported their shipments in the 22 product categories needed to allow full measurement of compliance with the MOU, including but not limited to:

- Full-calorie carbonated soft drinks

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<sup>13</sup> Any shipments of beverages made by so-called third party vendors, such as food contractors, were not included in this study because such vendors are not signatories to the MOU. Any beverage bought by a student or his or her parents outside of school or packed in a lunch from home was not included in this study, as it is not within the control of MOU signatories.

<sup>14</sup> Data collection systems for some of the smaller bottlers are still being improved. Some have begun reporting current year data, for example, but are still not able to report complete historical data. The small missing market share of Coca Cola bottlers was assumed to mirror the product shipments of reporting Coca Cola bottlers and the small missing market share of Pepsi bottlers was assumed to mirror the product shipments of reporting Pepsi bottlers. Bottlers that reported data but whose data were not included in this analysis represent about 3 percent of the national market. Bottlers who do not report any data represent about 9 percent of the market.

<sup>15</sup> The 2009-10 school year is the first in which data for the first half of the school year has been published separately. This was done because the bottlers and the MOU partners felt that it was important to assess and report on full guideline implementation as soon as possible. Shipments data for the full 2009-10 school year will not be available until July 2010.

- Diet carbonated soft drinks
- Waters (no flavors, no fortification, no sweeteners)
- Waters (flavored, fortified, or fitness with less than 10 calories per 8 ounces)
- Waters (flavored, fortified, or fitness with between 10 and 66 calories per 8 ounces)
- Waters (flavored, fortified, or fitness with more than 66 calories per 8 ounces)

The second step was to update package size/container count configurations used by bottlers. Bottlers reported shipments in 30 to 50 configurations, including, for example: 8 ounce/40 pack, 10 ounce/24 pack, 0.30 liter/24 pack, 12 ounce/24 pack, 0.50 liter/24 pack, etc. Bottlers also reported all fountain shipments to schools with appropriate pre-mix and post-mix conversion factors.

The third step was to account for shipments not deemed to be student accessible during the normal or extended school day. Because bottlers are not able to track purchases by time of day, the only adjustment possible was to exclude shipments to certain locations/functions that were determined to be non-student accessible during the normal or extended school day. These included shipments to three specific locations/functions: faculty lounges, sports complexes, and fundraisers, all of which are outside the scope of the MOU<sup>16</sup>. Over the three plus years since the adoption of the guidelines, the bottlers have had steadily improving abilities to separate the school shipment data based on location and function. Nearly all of the 13 bottlers who have been reporting data since 2004 now have the ability to distinguish school beverage shipments that are accessible to students from those that are not accessible in the data that they report to Keybridge.

In past data, larger bottlers that did not have data systems with this capability were asked to supply sample-based estimates of the portion of their shipments that went to these three locations. These bottlers were asked to provide estimates of these shipments based upon a sample of either their 35 largest school district customers or 5-10 percent of their school channel volume. School shipments data of these latter bottlers were then adjusted downward by estimated percentages so they could then be aggregated with the shipments of the bottlers that did net out non-student accessible shipments.

For other bottlers' data, if they lacked the ability to separate school shipments data based on student accessibility, Keybridge used student access percentage estimates that were based on a series of industry surveys. These percentages are the same ones that were used for the 2005 report and all of the Alliance School Beverage Guidelines reports and are listed below.

- At the high school level, 25 percent of CSD shipments and 15 percent of other beverage shipments were well supported downward adjustments for beverage shipments to faculty lounges, sports complexes, or fundraisers.<sup>17</sup>

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<sup>16</sup> Sports complexes include sports stadiums and fields which host sporting events attended by the community at large during non-school hours.

<sup>17</sup> These estimates were deemed reasonable in light of a 2004 survey of vending machine locations in 16,000 middle schools and high schools by a leading market research company that found that 13 percent of all vending machines in high schools were in faculty lounges. They also appeared to be confirmed by a detailed field survey in 2005 of more than 12,000 school beverage delivery personnel by one of the nation's largest bottlers that found that 27.5 percent of deliveries to high schools were not student accessible.



- For middle schools, 35 percent of CSD shipments and 15 percent of other beverage shipments were well supported downward adjustments for beverage shipments to faculty lounges, sports complexes, or fundraisers.<sup>18</sup>
- And for elementary schools, 70 percent of CSD shipments and 30 percent of other beverage shipments were well supported downward adjustments for beverage shipments to faculty lounges, sports complexes, or fundraisers.<sup>19</sup>

These assumptions are further documented in the 2005 school beverage report that is available on the American Beverage Association website. While they were applied to all of the bottlers' data in the 2005 report – because none of the bottlers had the ability to separate student accessible from non-student accessible shipments – these percentages were only applied to a very small portion of the 2009-10 data because the vast majority of bottlers now have the ability to directly provide data for student accessible shipments. For the small percentage of shipments that these assumptions are currently applied to, they are likely to understate both the percentage of shipments that go to non-student accessible sales outlets and the overall improvement in the product mix because School Beverage Guideline implementation is likely to have resulted in higher percentages of beverages going to non-student accessible sales outlets.

Additionally, some purchases from school vending machines in student accessible areas would have been made by adult members of the community who use schools at nights or on weekends. To the extent that adults from the community make purchases at schools, actual shipments to students may be lower than reported in this study. This is particularly likely to have been true for elementary schools, where machines in hallways are typically on timers and are turned off during the school day.

The fourth step was to perform a series of consistency checks and validation tests on the data. Keybridge has performed detailed analyses of the same bottlers' school shipments data for five separate school years since 2005 and has matched up newer data to the data from these earlier periods. Also because all bottlers made multiple data submissions (first half school year data, second half school year data, full year, prior year, etc.), data submissions were scrutinized for consistency, adding up constraints, and unusual patterns. Over the time that Keybridge has collected this data, many data processing errors have been detected, brought to the attention of the relevant bottler, and corrected. Keybridge also calculates each bottler's theoretical share of total industry shipments (school and non-school) based upon data published by independent beverage industry sources.<sup>20</sup> The bottlers' reported school shipment shares were then compared to these theoretical total industry shares. All of the major bottling companies' school shipments were within a few percentage points of their theoretical shares in the initial set of data collected and they have not deviated significantly since, suggesting that the data aggregates reported here are robust and of the proper order of magnitude.

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<sup>18</sup> A 2004 survey by a leading market research firm of 16,000 high schools and middle schools determined that 29 percent of vending machines in middle schools were located in faculty areas, and a 2005 survey of 12,000 school beverage delivery personnel found that 49.5 percent of beverages delivered to middle schools were not student accessible.

<sup>19</sup> The 2005 survey of 12,000 school beverage delivery personnel found that 76 percent of beverages delivered to elementary schools were not student accessible.

<sup>20</sup> The 2006 annual data books and reports of *Beverage Digest* were important sources of information, for example.

### *Data Reliability and Robustness*

The quality of the school shipments data in this report appears to have continually improved since data was first collected for the 2005 study. In 2005, some bottlers could not offer a split between their elementary and middle school shipments, or between their middle and high school shipments, and had to supply rule of thumb formulas for breaking these data into school categories. In the current study nearly all bottling companies were able to provide actual school category breakdowns.<sup>21</sup> All bottlers were able to report data with a high degree of granularity, including by detailed container size/package configuration. This reduced the chances of data processing errors at the bottler level. Finally Keybridge engaged in follow up discussions with management teams of all major bottling companies after each bottler's data had been processed. This allowed Keybridge to spot check results, to obtain management confirmation of any results that showed noticeable differences from typical bottler results, and to corroborate data patterns.

### *School Population Data*

U.S. student population data from the U.S. Census Bureau was used to determine the average number of ounces of beverages shipped per student and also calorie intake per student. The U.S. Census provides detailed public and private school enrollment data by grade level.<sup>22</sup> The most recent grade breakdown of school population is based upon the October 2008 Current Population Survey, released in November 2009. Data from that survey was used to estimate the 2008-09 and 2009-10 school years. In October 2008 there were 24,231,000 students in grades K-5; 12,160,000 students in grades 6-8; and 16,715,000 students in grades 9-12; or 53,106,000 U.S. students altogether. Although the number of school students would have changed from late 2008 to late 2010, the changes would not have been large enough to materially affect the per student calculations in this study.<sup>23</sup>

### *Beverage Calories*

In order to determine the likely calorie count of beverages, the simple unweighted average calorie content (per 8 ounces) of the three top selling brands/products in each soft drink category was used.

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<sup>21</sup> One medium-sized company was unable to separate their shipments to elementary and middle schools. The assumption was made that 64 percent of the total volume shipped to middle and elementary schools went to middle schools and 36 percent to elementary schools. These percentages are similar to what was observed for some of the bottlers that provided the breakdown.

<sup>22</sup> See Current Population Survey of October 2008, Table 1, released November 2009, available online at <http://www.census.gov/population/www/socdemo/school/cps2008.html>

<sup>23</sup> Per student calorie calculations for all periods (except the 2008-09 school year) are based on the previous school years' population data because the population data for the most recent school year completed has not been available at the time of publication of the School Beverage Guideline progress reports. Nevertheless, per student beverage and calorie consumption data would not have been materially affected had the updated data been available and used for those calculations.

## Appendix D: Data Tables & Charts

Table D1. High School Beverage Volume - 1st Half of 2009-10 School Year* (Enrollment: 16,715,000)						
Beverage Type	Total Student Accessible Ounces	Product Mix (Percent)	Ounces per Student per Year**	Ounces per Student per Week (36 Weeks per Year)	Average Calories per 8 Ounces	Calories per Student per Year
Carbonated soft drinks, full calorie	134,494,600	6.6%	18.1	0.5	99	224
Carbonated soft drinks, diet	322,422,666	15.7%	43.4	1.2	0	0
Sports drinks that are ≤ 10 cal/8 oz.	111,906,127	5.5%	15.1	0.4	10	19
Sports drinks that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	374,102,733	18.3%	50.4	1.4	57	359
Sports drinks that are greater than 66 cal/8 oz.	-	0.0%	0.0	0.0	72	0
Teas that are ≤ 10 cal/8 oz.	28,884,453	1.4%	3.9	0.1	2.6	1
Teas that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	2,701,874	0.1%	0.4	0.0	62.5	3
Teas that are greater than 66 cal/8 oz.	48,671,814	2.4%	6.6	0.2	83.3	68
100% juices with no added sweeteners, ≥ 10% DV for ≥ 3 micronutrients, that are ≤ 120 cal/8 oz.	91,846,200	4.5%	12.4	0.3	113.3	175
Other 100% juices (that do not meet above criteria)	12,137,008	0.6%	1.6	0.0	113.3	23
Juice drinks that are ≤ 10 cal/8 oz.	21,821,948	1.1%	2.9	0.1	6	2
Juice drinks that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	932,780	0.0%	0.1	0.0	38	1
Juice drinks that are greater than 66 cal/8 oz.	51,345,906	2.5%	6.9	0.2	123.3	107
Waters (no flavors, no fortification, no sweeteners)	525,904,602	25.7%	70.8	2.0	0	0
Waters, (flavored, fortified, or fitness waters that are ≤ 10 cal/8oz.)	200,008,320	9.8%	26.9	0.7	10	34
Waters (flavored, fortified, or fitness waters that are > 10 cal/8 oz. and ≤ 66 cal/8oz.)	70,333,931	3.4%	9.5	0.3	35	41
Waters (flavored, fortified, or fitness waters that are greater than 66 cal/ 8 oz.)	1,194,237	0.1%	0.2	0.0	66	1
Milks or milk alternatives, fat free or low fat, non-flavored	-	0.0%	0.0	0.0	90	0
Milks or milk alternatives, fat free or low fat, flavored (less than/equal 150 cal/8 oz.)	-	0.0%	0.0	0.0	140	0
Milks, other	26,741	0.0%	0.0	0.0	170	0
Other drinks that are ≤ 10 cal/8 oz.	4,010	0.0%	0.0	0.0	10	0
Other drinks that are > 10 cal/8 oz. and ≤ 66 cal/ 8 oz.	-	0.0%	0.0	0.0	38	0
Other drinks that are greater than 66 cal/ 8 oz.	48,468,167	2.4%	6.5	0.2	66	54
<b>Total</b>	<b>2,047,208,118</b>	<b>100%</b>	<b>275.6</b>	<b>7.7</b>	<b>NA</b>	<b>1112</b>

\*Data is based on reports from bottlers representing 91% of industry shipments, but has been scaled upwards to reflect 100% of bottler shipments to schools.

\*\*Data from the 1st half of the school year was scaled up by a factor of 9/4 in order to approximate what shipments would be in the full school year.

**Table D2. Middle School Beverage Volume - 1st Half of 2009-10 School Year\***  
(Enrollment: 12,160,000)

Beverage Type	Total Student Accessible Ounces	Product Mix (Percent)	Ounces per Student per Year**	Ounces per Student per Week (36 Weeks per Year)	Average Calories per 8 Ounces	Calories per Student per Year
Carbonated soft drinks, full calorie	19,450,995	6.2%	3.6	0.1	99	45
Carbonated soft drinks, diet	10,178,171	3.2%	1.9	0.1	0	0
Sports drinks that are ≤ 10 cal/8 oz.	854,032	0.3%	0.2	0.0	10	0
Sports drinks that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	38,327,110	12.2%	7.1	0.2	57	51
Sports drinks that are greater than 66 cal/8 oz.	-	0.0%	0.0	0.0	72	0
Teas that are ≤ 10 cal/8 oz.	927,268	0.3%	0.2	0.0	2.6	0
Teas that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	63,898	0.0%	0.0	0.0	62.5	0
Teas that are greater than 66 cal/8 oz.	11,055,846	3.5%	2.0	0.1	83.3	21
100% juices with no added sweeteners, ≥ 10% DV for ≥ 3 micronutrients, that are ≤ 120 cal/8 oz.	45,115,607	14.4%	8.3	0.2	113.3	118
Other 100% juices (that do not meet above criteria)	5,328,024	1.7%	1.0	0.0	113.3	14
Juice drinks that are ≤ 10 cal/8 oz.	1,145,296	0.4%	0.2	0.0	6	0
Juice drinks that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	25,114	0.0%	0.0	0.0	38	0
Juice drinks that are greater than 66 cal/8 oz.	14,289,029	4.5%	2.6	0.1	123.3	41
Waters (no flavors, no fortification, no sweeteners)	143,527,073	45.7%	26.6	0.7	0	0
Waters, (flavored, fortified, or fitness waters that are ≤ 10 cal/8oz.)	14,102,421	4.5%	2.6	0.1	10	3
Waters (flavored, fortified, or fitness waters that are > 10 cal/8 oz. and ≤ 66 cal/8oz.)	2,055,419	0.7%	0.4	0.0	35	2
Waters (flavored, fortified, or fitness waters that are greater than 66 cal/ 8 oz.)	246,494	0.1%	0.0	0.0	66	0
Milks or milk alternatives, fat free or low fat, non-flavored	-	0.0%	0.0	0.0	90	0
Milks or milk alternatives, fat free or low fat, flavored (less than/equal 150 cal/8 oz.)	-	0.0%	0.0	0.0	140	0
Milks, other	8,889	0.0%	0.0	0.0	170	0
Other drinks that are ≤ 10 cal/8 oz.	-	0.0%	0.0	0.0	10	0
Other drinks that are > 10 cal/8 oz. and ≤ 66 cal/ 8 oz.	-	0.0%	0.0	0.0	38	0
Other drinks that are greater than 66 cal/ 8 oz.	7,513,320	2.4%	1.4	0.0	66	11
<b>Total</b>	<b>314,214,003</b>	<b>100%</b>	<b>58.1</b>	<b>1.6</b>	<b>NA</b>	<b>307</b>

\*Data is based on reports from bottlers representing 91% of industry shipments, but has been scaled upwards to reflect 100% of bottler shipments to schools.

\*\*Data from the 1st half of the school year was scaled up by a factor of 9/4 in order to approximate what shipments would be in the full school year.

**Table D3. Elementary Beverage Volume - 1st Half of 2009-10 School Year\***  
(Enrollment: 24,231,000)

Beverage Type	Total Student Accessible Ounces	Product Mix (Percent)	Ounces per Student per Year**	Ounces per Student per Week (36 Weeks per Year)	Average Calories per 8 Ounces	Calories per Student per Year
Carbonated soft drinks, full calorie	20,338,026	14.3%	1.9	0.1	99	23
Carbonated soft drinks, diet	12,135,047	8.5%	1.1	0.0	0	0
Sports drinks that are ≤ 10 cal/8 oz.	481,693	0.3%	0.0	0.0	10	0
Sports drinks that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	17,669,148	12.4%	1.6	0.0	57	12
Sports drinks that are greater than 66 cal/8 oz.	-	0.0%	0.0	0.0	72	0
Teas that are ≤ 10 cal/8 oz.	793,045	0.6%	0.1	0.0	2.6	0
Teas that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	50,238	0.0%	0.0	0.0	62.5	0
Teas that are greater than 66 cal/8 oz.	3,806,566	2.7%	0.4	0.0	83.3	4
100% juices with no added sweeteners, ≥ 10% DV for ≥ 3 micronutrients, that are ≤ 120 cal/8 oz.	6,732,029	4.7%	0.6	0.0	113.3	9
Other 100% juices (that do not meet above criteria)	3,133,909	2.2%	0.3	0.0	113.3	4
Juice drinks that are ≤ 10 cal/8 oz.	499,711	0.4%	0.0	0.0	6	0
Juice drinks that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	12,030	0.0%	0.0	0.0	38	0
Juice drinks that are greater than 66 cal/8 oz.	3,242,209	2.3%	0.3	0.0	123.3	5
Waters (no flavors, no fortification, no sweeteners)	65,864,636	46.1%	6.1	0.2	0	0
Waters, (flavored, fortified, or fitness waters that are ≤ 10 cal/8oz.)	5,591,790	3.9%	0.5	0.0	10	1
Waters (flavored, fortified, or fitness waters that are > 10 cal/8 oz. and ≤ 66 cal/8oz.)	696,088	0.5%	0.1	0.0	35	0
Waters (flavored, fortified, or fitness waters that are greater than 66 cal/ 8 oz.)	59,086	0.0%	0.0	0.0	66	0
Milks or milk alternatives, fat free or low fat, non-flavored	-	0.0%	0.0	0.0	90	0
Milks or milk alternatives, fat free or low fat, flavored (less than/equal 150 cal/8 oz.)	-	0.0%	0.0	0.0	140	0
Milks, other	11,733	0.0%	0.0	0.0	170	0
Other drinks that are ≤ 10 cal/8 oz.	-	0.0%	0.0	0.0	10	0
Other drinks that are > 10 cal/8 oz. and ≤ 66 cal/ 8 oz.	-	0.0%	0.0	0.0	38	0
Other drinks that are greater than 66 cal/ 8 oz.	1,604,254	1.1%	0.1	0.0	66	1
<b>Total</b>	<b>142,721,238</b>	<b>100%</b>	<b>13.3</b>	<b>0.4</b>	<b>NA</b>	<b>59</b>

\*Data is based on reports from bottlers representing 91% of industry shipments, but has been scaled upwards to reflect 100% of bottler shipments to schools.

\*\*Data from the 1st half of the school year was scaled up by a factor of 9/4 in order to approximate what shipments would be in the full school year.

**Table D4. Total School Beverage Volume - 1st Half of 2009-10 School Year\***  
(Enrollment: 53,106,000)

Beverage Type	Total Student Accessible Ounces	Product Mix (Percent)	Ounces per Student per Year**	Ounces per Student per Week (36 Weeks per Year)	Average Calories per 8 Ounces	Calories per Student per Year
Carbonated soft drinks, full calorie	174,283,621	7.0%	7.4	0.2	99	91
Carbonated soft drinks, diet	344,735,884	13.8%	14.6	0.4	0	0
Sports drinks that are ≤ 10 cal/8 oz.	113,241,852	4.5%	4.8	0.1	10	6
Sports drinks that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	430,098,991	17.2%	18.2	0.5	57	130
Sports drinks that are greater than 66 cal/8 oz.	-	0.0%	0.0	0.0	72	0
Teas that are ≤ 10 cal/8 oz.	30,604,766	1.2%	1.3	0.0	2.6	0
Teas that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	2,816,010	0.1%	0.1	0.0	62.5	1
Teas that are greater than 66 cal/8 oz.	63,534,226	2.5%	2.7	0.1	83.3	28
100% juices with no added sweeteners, ≥ 10% DV for ≥ 3 micronutrients, that are ≤ 120 cal/8 oz.	143,693,835	5.7%	6.1	0.2	113.3	86
Other 100% juices (that do not meet above criteria)	20,598,941	0.8%	0.9	0.0	113.3	12
Juice drinks that are ≤ 10 cal/8 oz.	23,466,955	0.9%	1.0	0.0	6	1
Juice drinks that are > 10 cal/8 oz. and ≤ 66 cal/8 oz.	969,924	0.0%	0.0	0.0	38	0
Juice drinks that are greater than 66 cal/8 oz.	68,877,144	2.8%	2.9	0.1	123.3	45
Waters (no flavors, no fortification, no sweeteners)	735,296,312	29.4%	31.2	0.9	0	0
Waters, (flavored, fortified, or fitness waters that are ≤ 10 cal/8oz.)	219,702,531	8.8%	9.3	0.3	10	12
Waters (flavored, fortified, or fitness waters that are > 10 cal/8 oz. and ≤ 66 cal/8oz.)	73,085,437	2.9%	3.1	0.1	35	14
Waters (flavored, fortified, or fitness waters that are greater than 66 cal/ 8 oz.)	1,499,817	0.1%	0.1	0.0	66	1
Milks or milk alternatives, fat free or low fat, non-flavored	-	0.0%	0.0	0.0	90	0
Milks or milk alternatives, fat free or low fat, flavored (less than/equal 150 cal/8 oz.)	-	0.0%	0.0	0.0	140	0
Milks, other	47,363	0.0%	0.0	0.0	170	0
Other drinks that are ≤ 10 cal/8 oz.	4,010	0.0%	0.0	0.0	10	0
Other drinks that are > 10 cal/8 oz. and ≤ 66 cal/ 8 oz.	-	0.0%	0.0	0.0	38	0
Other drinks that are greater than 66 cal/ 8 oz.	57,585,740	2.3%	2.4	0.1	66	20
<b>Total</b>	<b>2,504,143,359</b>	<b>100%</b>	<b>106.1</b>	<b>2.9</b>	<b>NA</b>	<b>447</b>

\*Data is based on reports from bottlers representing 91% of industry shipments, but has been scaled upwards to reflect 100% of bottler shipments to schools.

\*\*Data from the 1st half of the school year was scaled up by a factor of 9/4 in order to approximate what shipments would be in the full school year.

**Table D5: Beverage Volume Comparison – 2004 (Pre-MOU) to 1st Half of 2009-10 School Year\***  
High School

Beverage Type	Total Student Accessible Ounces Pre-MOU - 2004	Total Student Accessible Ounces 2006-2007	Total Student Accessible Ounces 2007-2008	Total Student Accessible Ounces 2008-2009	Total Student Accessible Ounces 1st Half 2009-2010	Percent Change Since Adoption of MOU
Carbonated soft drinks, full calorie	6,023,588,820	3,256,999,323	2,112,130,869	1,241,448,731	116,967,640	-95.6%
Carbonated soft drinks, diet	931,130,300	723,103,601	644,458,197	659,440,494	287,863,832	-30.4%
Regular Sports Drinks	1,885,561,855	1,935,812,700	1,636,439,017	1,297,920,638	331,651,129	-60.4%
Diet Sports Drinks		250,262,186	144,547,040	364,318,859	105,751,290	
Teas	610,839,408	477,527,376	373,757,227	360,809,553	71,318,293	-73.7%
100% Juices	376,523,210	284,730,823	210,015,131	205,711,416	94,332,933	-43.6%
Juice Drinks	2,093,618,305	1,017,015,405	693,506,011	461,555,158	65,549,731	-93.0%
Waters	1,762,764,552	2,228,120,274	2,117,036,296	1,886,474,411	707,039,445	-9.8%
All other non-CSDs	60,699,069	98,688,294	86,782,357	90,965,810	41,096,332	52.3%
<b>Total</b>	<b>13,744,725,520</b>	<b>10,272,260,515</b>	<b>8,018,672,145</b>	<b>6,568,645,071</b>	<b>1,821,570,624</b>	<b>-70.2%</b>
<b>Student Enrollment</b>	<b>16,673,974</b>	<b>17,354,000</b>	<b>17,149,000</b>	<b>16,715,000</b>	<b>16,715,000</b>	<b>0.2%</b>

**Table D6: Beverage Volume Comparison – 2004 (Pre-MOU) to 1st Half of 2009-10 School Year\***  
Middle School

Beverage Type	Total Student Accessible Ounces Pre-MOU - 2004	Total Student Accessible Ounces 2006-2007	Total Student Accessible Ounces 2007-2008	Total Student Accessible Ounces 2008-2009	Total Student Accessible Ounces 1st Half 2009-2010	Percent Change Since Adoption of MOU
Carbonated soft drinks, full calorie	1,024,225,512	532,653,877	336,427,350	129,335,917	16,698,677	-96.3%
Carbonated soft drinks, diet	251,957,330	188,909,590	147,009,142	57,630,363	8,367,765	-92.5%
Regular Sports Drinks**	653,046,505	608,612,930	414,547,752	267,945,052	32,084,919	-88.9%
Diet Sports Drinks		44,279,389	144,547,040	364,318,859	105,751,290	
Teas	181,899,244	94,197,379	72,903,935	67,855,457	10,978,649	-86.4%
100% Juices	101,692,014	79,669,404	75,834,292	84,089,034	46,074,404	1.9%
Juice Drinks	843,050,751	292,429,184	154,921,086	102,533,994	13,295,506	-96.5%
Waters	481,034,003	554,552,412	518,441,154	419,826,325	142,129,504	-33.5%
All other non-CSDs	31,107,273	14,393,329	31,172,960	30,843,360	7,494,309	-45.8%
<b>Total</b>	<b>3,568,012,633</b>	<b>2,409,697,492</b>	<b>1,895,804,712</b>	<b>1,524,378,362</b>	<b>382,875,024</b>	<b>-75.9%</b>
<b>Student Enrollment</b>	<b>12,215,157</b>	<b>12,521,000</b>	<b>12,364,000</b>	<b>12,160,000</b>	<b>12,160,000</b>	<b>-0.5%</b>

**Table D7: Beverage Volume Comparison – 2004 (Pre-MOU) to 1st Half of 2009-10 School Year\***  
Elementary School

Beverage Type	Total Student Accessible Ounces Pre-MOU - 2004	Total Student Accessible Ounces 2006-2007	Total Student Accessible Ounces 2007-2008	Total Student Accessible Ounces 2008-2009	Total Student Accessible Ounces 1st Half 2009-2010	Percent Change Since Adoption of MOU
Carbonated soft drinks, full calorie	276,416,785	232,296,421	133,781,001	96,656,916	17,330,964	-85.9%
Carbonated soft drinks, diet	118,969,669	128,335,542	72,318,472	55,207,718	10,335,948	-80.5%
Regular Sports Drinks**	147,120,572	101,298,500	84,238,550	59,064,734	14,307,676	-78.1%
Diet Sports Drinks		4,470,806	144,547,040	364,318,859	105,751,290	
Teas	43,752,507	22,272,901	28,375,002	23,732,021	4,198,755	-78.4%
100% Juices	46,005,656	30,346,402	37,545,230	33,203,400	8,751,314	-57.2%
Juice Drinks	194,821,037	61,411,970	40,762,065	27,299,356	3,231,333	-96.3%
Waters	195,132,203	212,433,169	244,667,421	199,394,744	63,561,198	-26.7%
All other non-CSDs	8,474,566	6,438,504	7,036,749	6,222,103	1,795,347	-52.3%
<b>Total</b>	<b>1,030,692,996</b>	<b>799,304,226</b>	<b>793,271,530</b>	<b>865,099,851</b>	<b>229,263,826</b>	<b>-50.0%</b>
<b>Student Enrollment</b>	<b>23,881,408</b>	<b>23,829,000</b>	<b>23,764,000</b>	<b>24,231,000</b>	<b>24,231,000</b>	<b>1.5%</b>

**Table D8: Beverage Volume Comparison – 2004 (Pre-MOU) to 1st Half of 2009-10 School Year\***  
All Schools

Beverage Type	Total Student Accessible Ounces Pre-MOU - 2004	Total Student Accessible Ounces 2006-2007	Total Student Accessible Ounces 2007-2008	Total Student Accessible Ounces 2008-2009	Total Student Accessible Ounces 1st Half 2009-2010	Percent Change Since Adoption of MOU
Carbonated soft drinks, full calorie	7,324,231,117	4,021,949,621	2,582,339,220	1,467,441,564	150,997,281	-95.4%
Carbonated soft drinks, diet	1,302,057,300	1,040,348,733	863,785,811	772,278,575	306,567,545	-47.0%
Regular Sports Drinks**	2,685,728,932	2,645,724,100	2,135,225,319	1,624,930,424	378,043,724	-68.3%
Diet Sports Drinks		299,012,380	165,588,992	386,841,635	107,013,550	
Teas	836,491,159	593,997,656	475,036,164	452,397,032	86,495,696	-76.7%
100% Juices	524,220,881	394,746,630	323,394,653	323,003,851	149,158,652	-36.0%
Juice Drinks	3,131,490,093	1,370,856,559	889,189,162	591,388,508	82,076,571	-94.1%
Waters	2,438,930,758	2,995,105,855	2,880,144,870	2,505,695,481	912,730,147	-15.8%
All other non-CSDs	100,280,909	119,520,130	103,950,115	105,508,497	49,123,728	10.2%
<b>Total</b>	<b>18,343,431,149</b>	<b>13,481,262,233</b>	<b>10,418,654,306</b>	<b>8,229,485,567</b>	<b>2,222,206,894</b>	<b>-72.7%</b>
<b>Student Enrollment</b>	<b>52,770,539</b>	<b>53,704,000</b>	<b>53,277,000</b>	<b>53,106,000</b>	<b>53,106,000</b>	<b>0.6%</b>

\*Volumes are for the 13 bottling groups, representing nearly 90% of total industry shipments, which also participated in the 2005 and 2007 studies. All volumes are expressed as ounces of finished product. Data will differ from data in Tables D1-D4 and Chart 1, which are based on data which is scaled up to represent all bottlers.

**Table D9: Percent of Product Mix in High Schools\***

Beverage Type	2004	2006-07	2007-08	2008-09	1st Half of 2009-10
Carbonated soft drinks, full calorie	43.8%	31.7%	26.3%	18.9%	6.4%
Carbonated soft drinks, diet	6.8%	7.0%	8.0%	10.0%	15.8%
Regular Sports Drinks	13.7%	18.8%	20.4%	19.8%	18.2%
Diet Sports Drinks		2.4%	1.8%	5.5%	5.8%
Teas	4.4%	4.6%	4.7%	5.5%	3.9%
100% Juices	2.7%	2.8%	2.6%	3.1%	5.2%
Juice Drinks	15.2%	9.9%	8.6%	7.0%	3.6%
Waters	12.8%	21.7%	26.4%	28.7%	38.8%
All other non-CSDs	0.4%	1.0%	1.1%	1.4%	2.3%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table D10: Percent of Product Mix in Elementary and Middle Schools Combined\***

Beverage Type	2004	2006-07	2007-08	2008-09	1st Half of 2009-10
Carbonated soft drinks, full calorie	28.3%	23.8%	17.5%	9.5%	5.6%
Carbonated soft drinks, diet	8.1%	9.9%	8.2%	4.7%	3.1%
Regular Sports Drinks	17.4%	22.1%	18.5%	13.7%	7.6%
Diet Sports Drinks		1.5%	10.8%	30.5%	34.6%
Teas	4.9%	3.6%	3.8%	3.8%	2.5%
100% Juices	3.2%	3.4%	4.2%	4.9%	9.0%
Juice Drinks	22.6%	11.0%	7.3%	5.4%	2.7%
Waters	14.7%	23.9%	28.4%	25.9%	33.6%
All other non-CSDs	0.9%	0.6%	1.4%	1.6%	1.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

**Table D11: Percent of Product Mix in All Schools\***

Beverage Type	2004	2006-07	2007-08	2008-09	1st Half of 2009-10
Carbonated soft drinks, full calorie	39.9%	29.8%	24.8%	17.8%	6.8%
Carbonated soft drinks, diet	7.1%	7.7%	8.3%	9.4%	13.8%
Regular Sports Drinks	14.6%	19.6%	20.5%	19.7%	17.0%
Diet Sports Drinks		2.2%	1.6%	4.7%	4.8%
Teas	4.6%	4.4%	4.6%	5.5%	3.9%
100% Juices	2.9%	2.9%	3.1%	3.9%	6.7%
Juice Drinks	17.1%	10.2%	8.5%	7.2%	3.7%
Waters	13.3%	22.2%	27.6%	30.4%	41.1%
All other non-CSDs	0.5%	0.9%	1.0%	1.3%	2.2%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

\*Comparisons are based upon data from the 13 bottling companies that participated in the 2005 study and all School Beverage Guideline progress reports since. Data may differ slightly from data in Tables 1 and D1-D4, which are based on data which is scaled up to represent all bottlers.