



COMMONWEALTH of VIRGINIA

Steven R. Staples, Ed.D.
Superintendent of Public Instruction

DEPARTMENT OF EDUCATION
P.O. BOX 2120
Richmond, Virginia 23218-2120

Office: (804) 225-2023
Fax: (804) 371-2099

December 29, 2017

The Honorable Terence R. McAuliffe
Governor of Virginia
Patrick Henry Building, Third Floor
1111 East Broad Street
Richmond, Virginia 23219

The Honorable Thomas K. Norment, Jr.
Co-Chairman, Senate Finance Committee
Virginia General Assembly
P.O. Box 6205
Williamsburg, Virginia 23188

The Honorable S. Chris Jones
Chairman, House Appropriations Committee
Virginia General Assembly
P.O. Box 5059
Suffolk, Virginia 23435-0059

The Honorable Emmett W. Hanger, Jr.
Co-Chairman, Senate Finance Committee
Virginia General Assembly
P.O. Box 2
Mount Solon, Virginia 22843-0002

Dear Sirs:

I am pleased to submit the enclosed report that summarizes findings from schools participating in the 2016-2017 school year alternative breakfast service models pilot.

Item 139 Paragraph C.30. of the 2017 Appropriation Act provided \$1.1 million in fiscal year 2017 state funds to operate the Breakfast After the Bell model pilot program in eligible elementary schools. Alternative school breakfast service models provide meals to students through a distribution method different from traditional cafeteria service, removing various obstacles that can prevent students from accessing school breakfast. The most effective alternative breakfast models allow students to eat their meal after the official start of school day, commonly known as "breakfast after the bell."

Through a competitive application process, the Virginia Department of Education (VDOE) provided reimbursements to 463 schools in 84 school divisions participating in the alternative school breakfast service models pilot. Participating schools were required to evaluate the educational impact of the models implemented and report their findings to VDOE. The enclosed report summarizes those findings and serves as an update to Report Document Number 258 entitled Report on the Alternative Breakfast Pilot Program, prepared and submitted to The

The Honorable Terry R. McAuliffe
The Honorable S. Chris Jones
The Honorable Thomas K. Norment, Jr.
The Honorable Emmett W. Hanger, Jr.
December 29, 2017
Page 2

Governor of Virginia, the House Appropriations Committee and the Senate Finance Committee
on August 28, 2017.

If you have questions or require additional information, please do not hesitate to contact
Kent C. Dickey, Deputy Superintendent for Finance and Operations, at (804) 225-2025 or
kent.dickey@doe.virginia.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'S.R. Staples', with a long horizontal line extending to the right.

Steven R. Staples, Ed.D.
Superintendent of Public Instruction

SRS/jpr

Enclosure

c: The Honorable Dietra Trent



VIRGINIA DEPARTMENT OF EDUCATION

Report

Report on Alternative School Breakfast Service Models

Presented to:

**The Governor of Virginia
House Appropriations Committee
Senate Finance Committee**

December 2017

Virginia Department of Education

P. O. Box 2120

Richmond, Virginia 23218-2120

Table of Contents

EXECUTIVE SUMMARY	1
AUTHORITY FOR THE STUDY	2
FY2016 IMPLEMENTATION.....	2
FY2017 EXPANSION.....	3
GUIDING QUESTIONS FOR STUDY OF THE 2016-2017 SCHOOL YEAR	4
DATA COLLECTION	4
FINDINGS.....	5
SUMMARY	18
APPENDICES	A-1
Appendix A.....	A-1
Appendix B.....	A-2
Appendix C.....	A-7
Appendix D.....	A-8
Appendix E.....	A-9

EXECUTIVE SUMMARY

Alternative school breakfast service models provide meals to students through a distribution method different from traditional cafeteria service, removing various obstacles that can prevent students from accessing school breakfast. The most effective alternative breakfast models allow students to eat their meal after the official start of school day, commonly known as “breakfast after the bell.”

Item 139 Paragraph C.30. of the 2017 Appropriation Act provided \$1.1 million in fiscal year 2017 state funds to operate the Breakfast After the Bell model pilot program in eligible elementary schools. Seven hundred and sixty six schools applied for pilot funding and 463 schools across 84 school divisions were selected to receive funding in school year 2016-17.

The evaluation team requested data from participating schools receiving funds to: (1) assess the impact of the program on student attendance and behavior; and (2) capture superintendents’, principals’, teachers, and school nutrition staffs’ perceptions of the program. Additional data were provided by the VDOE on School Breakfast Program participation and state assessment results.

There are four main findings from this evaluation:

- *Schools receiving state funding provided additional breakfast opportunities for students. Alternative breakfast service models were generally supported by superintendents, school nutrition directors/cafeteria managers, and principals. Nearly 80 percent of principals, teachers, school nutrition directors or cafeteria managers, and superintendents who completed the feedback survey reported being satisfied with the program overall and approximately 89 percent were supportive of the alternative school breakfast program.*
- *School-level outcome metrics showed small but statistically significant decreases in attendance and increases in school nurse visits. Results must be interpreted with caution given the small sample size (see Appendix C for more detailed description of the sample size for analysis). Additionally, other factors that may affect the outcome variables were not controlled for within this analysis. Survey participants perceived positive impacts on participation, the nutritional quality of students’ breakfasts, hunger and stigma associated with School Breakfast Program participation. However, less than half of the survey respondents perceived the alternative breakfast service model positively impacted student academic performance, health, and behavior. Positive impacts from alternative breakfast service models may be limited to increased School Breakfast Program participation and decreased hunger.*
- *Perceived barriers and costs to implementing alternative breakfast service models decreased from the 2015-2016 to the 2016-2017 school year. Relatively few of the surveyed stakeholders identified common challenges as barriers to implementing an alternative breakfast service model. The percent of principals, teachers, school nutrition staff, and superintendents perceiving common challenges to not be a barrier to implementing alternative breakfast model(s) increased from the 2015-2016 to the 2016-2017 school year. The percent of surveyed stakeholders identifying extreme or moderate barriers decreased from the 2015-2016 to the 2016-2017 school year.*

- *Of the schools that participated in the pilot program and for which assessment data were available, 41 percent (192 schools) demonstrated an increase in breakfast meals served and an increase in one or both state reading or math assessment pass rates, compared to the 2015-2016 school year. Most schools that received two years of funding showed greater growth in meals served and pass rates in the first year of implementation and were able to maintain those gains through the second year. Stable pass rates on reading and math statewide may have contributed to the limited number of pilot-funded schools demonstrating an impact on student achievement.*

Alternative breakfast service models can be highlighted to schools as a way to increase School Breakfast Program participation and decrease child hunger. Lessons learned from schools participating in alternative breakfast programs should be incorporated into training information and technical assistance provided to other schools.

AUTHORITY FOR THE STUDY

The fiscal year 2017 state budget provided funds to increase the number of school breakfast meals served to eligible students through an alternative breakfast service model. For this appropriation, the Virginia Department of Education (VDOE) was required to provide an evaluation and report of the educational impact of the project to the Governor and the Chairmen of the House Appropriations and Senate Finance Committees.

VDOE contracted out the evaluation and reporting to an evaluation team in the Department of Human Nutrition, Foods, and Exercise at Virginia Tech. The evaluation team consisted of:

Sarah Misyak, PhD Integrated Research-Extension, Food Systems and Policy Evaluator Family Nutrition Program (EFNEP/SNAP-Ed) Virginia Cooperative Extension	Alexa Brooks Masters student in Human Nutrition, Foods, and Exercise Judith Midkiff, MS Program Manager, Operations and Evaluation Family Nutrition Program (ENFEP /SNAP-Ed) Virginia Cooperative Extension
Valisa Hedrick, PhD, RDN Assistant Professor in Human Nutrition, Foods, and Exercise	

At the time of contract, state assessment data for the 2016-2017 school year were not yet available for analysis. Staff at VDOE added to this report an analysis of the impact of the alternative school breakfast service models pilot using state assessment data as a measure of student achievement.

FY2016 IMPLEMENTATION

In July 2015, VDOE released Superintendent’s Memo #172-15 announcing applications for an alternative school breakfast service pilot or expansion of traditional breakfast service model supported by \$537,297

in state funds. State reimbursement of five-cents (\$0.05) per reimbursable meal served was allotted to each approved school in a division.

In total, 554 schools from 65 divisions applied for the funds. VDOE gave priority to elementary schools with total student eligibility for free or reduced price meals greater than 45 percent and schools that planned to implement an alternative breakfast service model throughout the entire school. For the 2015-2016 school year, 226 schools across 52 divisions received funding for alternative breakfast. Seventeen additional schools were selected to expand their traditional school breakfast programs.

Schools were allowed flexibility in the model of alternative breakfast service they implemented, as long as it was within the framework of “breakfast after the bell.” Some examples of alternative service models are:

- *Breakfast in the Classroom* - Students eat breakfast in the classroom. This can be after the first bell or when students arrive but before the official instructional day begins. Breakfast meals can be delivered to each classroom or picked up from a central location (i.e., cafeteria or kiosk) on the way to class.
- *Grab and Go Breakfast* - Students pick up breakfast meals as they arrive at school and eat in the classroom. Meals are available in a variety of locations; such as, mobile service carts equipped with a computerized point of service or roster and placed at the school entrance or another high-traffic area or in the cafeteria. Food items are packaged as a unit to make this model convenient and appealing to students.
- *Second Chance Breakfast* - Students eat breakfast during a nutrition break in the morning, usually after first period, either in the cafeteria, from a mobile service cart, or in the classroom.

FY2017 EXPANSION

In fiscal year 2017, \$1,074,000 in state funds were available through a competitive application process to support implementation of alternative breakfast service models or expand traditional breakfast service by providing a reimbursement of \$0.05/meal to participating schools. More than 766 schools applied for funds, and 463 schools across 84 divisions were selected to receive funding. All of the funded schools had greater than a 45% free and or reduced price eligibility for the School Breakfast Program.

- Schools participating in the 2016-2017 school year provided an additional 1,435,256 breakfast meals to students than in the previous year. This was a nearly 8 percent increase. Compared to the baseline school year prior to implementation of the Breakfast After the Bell Program, participating schools provided an additional 3,159,846, or a 18.8 percent increase in breakfast meals served to students in the 2016-2017 school year.
- School-level outcome metrics showed promising but non-significant results on the impact of alternative school breakfast service models. Principals, teachers, and other school staff were unsure about the specific program impact on student behavior, attendance, health, and academic performance. Between the baseline year and the pilot year, schools implementing alternative school breakfast programs saw increases in attendance and decreases in tardiness and office discipline referrals. These differences, however, were not statistically significant. More than 75

percent of principals, teachers, and cafeteria/nutrition managers agreed that more students were eating breakfast and fewer students were hungry in the morning. However, more than 40 percent of school staff were unsure about the program's impact on student behavior, attendance, health, or academic performance.

- School staff reported few challenges during implementation of the alternative school breakfast program, and the implementation costs for most schools were minimal. Support from school administrators, parents, students and cafeteria staff were the least commonly identified barriers and disruptions in morning routines and limited janitorial staff were the most commonly identified barriers.

GUIDING QUESTIONS FOR STUDY OF THE 2016-2017 SCHOOL YEAR

The evaluation team was charged with collecting, analyzing, and reporting (1) attendance and behavior change data from principals, and (2) perceptions of superintendents, teachers, principals, and school nutrition staff in schools receiving funds to implement alternative breakfast models in the 2016-2017 school year. Attendance and behavior data included average daily attendance, average daily tardiness, average daily office discipline referrals, monthly suspensions, and monthly school nurse visits.

As such, the evaluation addresses the following guiding questions:

- *How has additional reimbursement for school breakfast programs increased student breakfast participation?* An additional \$536,703 in state funds were provided between the 2015-2016 and 2016-2017 school year. Principals, school nutrition directors, cafeteria managers and superintendents were asked for their perceptions of the impact of alternative breakfast service models on student participation in the School Breakfast Program.
- *What is the impact of alternative breakfast programs on student attendance, health, discipline, and academic achievement?* To address this question, the evaluation team compared attendance, health and discipline data by schools implementing an alternative breakfast program for the implementation year and previous years when provided. In addition, staff at VDOE analyzed state assessment results as a proxy for academic achievement.
- *What are the perceived impacts of alternative breakfast models on students? How satisfied were stakeholders with the alternative breakfast models? What were stakeholders perceptions on support received and barriers for implementing alternative breakfast models?* The evaluation team collected perceptions of the program's impact from principals, superintendents, teachers, and school nutrition staff.

DATA COLLECTION

Data were collected between May 30th and September 30th of 2017 from participating schools for this evaluation. Data summarized in this report are from three sources:

- *Alternative School Breakfast Service Models Feedback Report.* This 11-item feedback survey collected anonymous data from principals, superintendents, teachers, and school nutrition staff at participating schools on their level of satisfaction with the program, including perceived support for the program, perceived impact of the program, and challenges faced during implementation. School principals distributed the link to the online survey to appropriate staff in the school.

During the time the online survey was available, the evaluation team received 1,700 responses. Of the respondents, approximately 58 percent were teachers, 24 percent were principals/assistant principals, six percent were school nutrition/cafeteria managers, and 12 percent were superintendents.

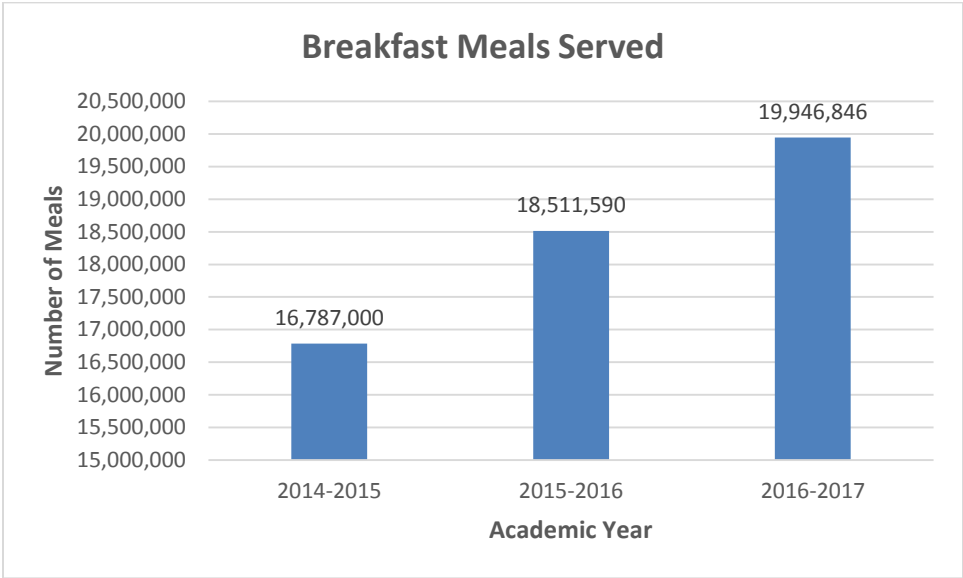
- *Alternative School Breakfast Service Models School Report.* Principals at participating schools were required to provide data from the 2015-2016 and 2016-2017 academic year on average daily attendance, average daily tardy counts, average daily office discipline referrals, total monthly suspensions, and total monthly school nurse visits. A total of 244 responded to the survey (53 percent response rate). Schools providing complete, quality data per variable ranged from 17 to 38 percent.
- *Data provided by VDOE.* The Director of the Office of School Nutrition Program provided School Breakfast Program participation data and results from the 2015-2016 evaluation. In addition, VDOE staff examined state assessment pass rates for the 2015-2016 and 2016-2017 school years for each school that received pilot program funding and a subset of comparison schools. State assessment data were available for 429 schools that received alternative breakfast funding in 2016-2017 and 192 comparison schools that did not receive any alternative breakfast funding. Eliminated from the analysis were 34 schools that received funding but because they serve grades preK-2 only, did not administer state assessments.

FINDINGS

Finding 1: Schools receiving state funding provided additional breakfast opportunities for students. Alternative breakfast service models were generally supported by superintendents, school nutrition directors/cafeteria managers, and principals.

Schools participating in the alternative school breakfast program (n=463) provided 19,946,846 breakfast meals to students in July through May of the 2016-2017 school year compared to 18,511,590 meals in July through May of the 2015-2016 school year. Due to funding from the state, over 1.4 million or a nearly 8 percent more meals were served through this program. This is an increase of almost 19 percent over the number of breakfast meals in the same schools served prior to program implementation in the 2014-2015 school year. See Figure 1 for a progression of the number of breakfast meals served through schools participating in this project compared to the baseline breakfast meals served in the 2014-2015 school year.

Figure 1. Number of Breakfast Meals Served through Schools Participating in the Breakfast After the Bell Program for July through May of the 2015-2016 and 2016-2017 School Years and at Baseline for the 2014-2015 School Year.



Greater than 75 percent of breakfast meals served were free to students. The percent of breakfast meals served that were paid for by students increased slightly between the 2015-2016 and 2016-2017 academic school years. Percentages of breakfast meals served that were claimed in the free, reduced price, or paid categories for students for the 2015-2016 and 2016-2017 academic school years are provided in Table 1.

Table 1. Difference in the Percent of Breakfast Meals in the 2015-2016 and 2016-2017 School Years by Price Designation

Price Designation	2015-2016 (n = 243)	2016-2017 (n = 463)	Percent Change
Paid	15.1%	17.3%	2.2
Reduced	7.1%	6.9%	-0.2
Free	77.8%	75.8%	-2.1

Additional factors that could have affected meals served include variation in serving days due to calendar fluctuations and weather-related school closings or variation in the start of pilot program implementation among participating schools. The alternative breakfast service model(s) selected by schools may have impacted the School Breakfast Program participation in that school.

Of the 244 respondents, 71 (29 percent) implemented one or more alternative breakfast model for the first time in the 2016-2017 school year. Based on responses from school principals to the *Alternative School Breakfast Service Models School Report*, 4.5 percent had no alternative breakfast models, i.e., traditional breakfast service models only, as compared to 12 percent of survey respondents in the 2015-2016 school year. Approximately 41 percent of schools implemented both a traditional breakfast service and one or

more alternative breakfast service models. Among schools that chose to implement only one alternative breakfast service model, 22 percent implemented breakfast in the classroom, where cafeteria staff deliver breakfast to classrooms; 25 percent of schools implemented the “grab and go” model, where students pick up packaged breakfasts from a central location and carry them to their classrooms; and less than one percent offered second chance breakfast where breakfast is served and eaten in the cafeteria after 1st period. See Table 2 for alternative breakfast service model use for the 2016-2017 school year.

Table 2. Distribution of Traditional and Alternative School Breakfast Service Models in 2016-2017 School Year

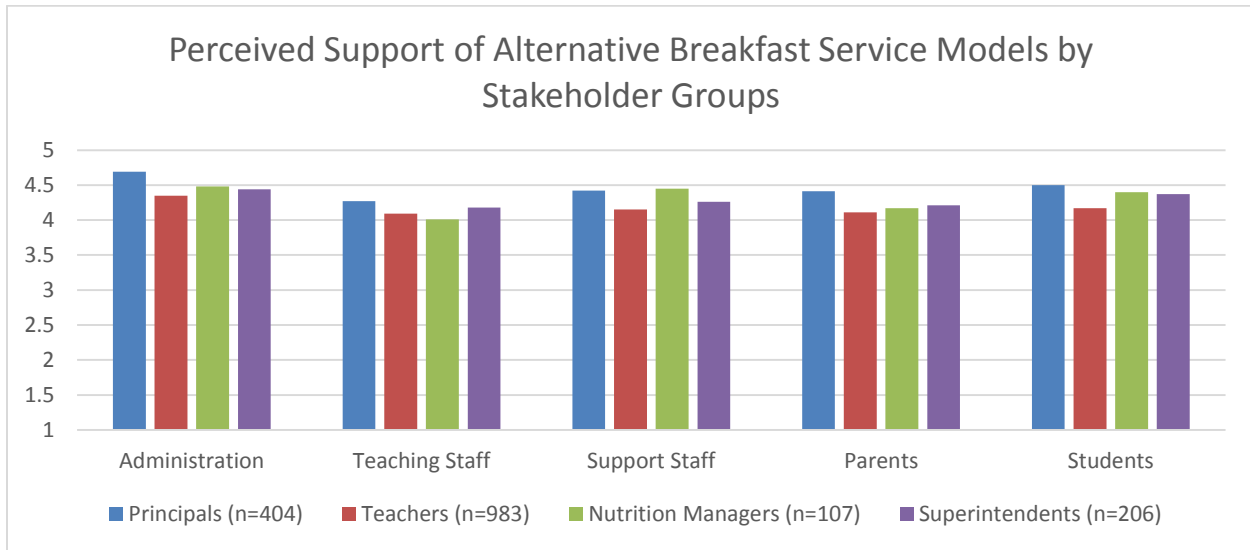
School Breakfast Service Model	Number of Schools Implementing
<i>Schools Implementing Only One Model of Breakfast Service</i>	
Schools implementing traditional breakfast only , available in the cafeteria prior to the official start of the school day	11 (4.5%)
Schools implementing breakfast in the classroom only , where breakfast is delivered from the kitchen/cafeteria to classrooms in a cart, cooler, or wagon and then distributed to individual students	54 (22.1%)
Schools implementing grab and go only , where students pick up packaged breakfasts from carts or kiosks or from the cafeteria and carry them to their classrooms	61 (25.0%)
<i>Schools Implementing More than One Model of Breakfast Service</i>	
Schools implementing traditional breakfast and one or more alternative breakfast models	101 (41.4%)
Schools implementing more than one alternative breakfast model without traditional breakfast	12 (4.9%)

Overall, 83.5 percent of principals/assistant principals, teachers, school nutrition/cafeteria managers, and superintendents who completed the survey were satisfied or very satisfied with the implementation of the alternative school breakfast model(s). This is an increase of over 14 percent from the previous 2015-2016 school year. Only 6.3 percent of survey respondents indicated dissatisfaction with alternative breakfast service model(s). Among all survey respondents, more than 85 percent reported being supportive or very supportive of the program.

While parents and students were not surveyed for this evaluation, greater than 80 percent of survey respondents believed parents and students had high levels of support for the program. Survey respondents also perceived high levels of support among school administration, teachers, custodial staff, and school nutrition staff. Differences in perceived support of alternative breakfast service model programs by administration, support and teaching staff, students, and parents were statistically significant between groups (See Figure 2). Answers were given on a five-point scale (very supportive, supportive, neutral, somewhat opposed, very opposed). Principals and teachers differed significantly ($p \leq 0.05$) regarding their perception of support from all stakeholder groups, with principals perceiving higher support from stakeholders than teachers. Additionally, principals perceived higher support from the administration and

parents than perceived by school nutrition directors/cafeteria managers and superintendents (Figure 2). Teachers perceived the lowest support for alternative breakfast service models by each stakeholder group except for their own support.

Figure 2. Survey Respondents Perceived Support of Alternative Breakfast Service Models by Stakeholder Groups



To determine if perceived support of alternative breakfast service models has increased over time, principal/assistant principal responses were compared between the 2015-2016 and 2016-2017 school year. Due to the anonymity assured to survey respondents, groups were considered independent when performing statistical analysis. Principal satisfaction with the overall program and model available at their school increased significantly in the 2016-2017 school year, as did likeliness of recommending the program to other schools (see Figure 3) and perceived support for the program among teachers. Principals' own support of the program and perceived support for the program among school administration decreased significantly, though still remained high at approximately 96 percent. Table 3 summarizes the differences in responses between principals in the 2015-2016 and 2016-2017 school years.

Figure 3. Differences Between Groups of Survey Respondents in Likeliness to Recommend an Alternative Breakfast Service Model to Another School on a Five Point Likert-Type Scale (1=Very Unlikely and 5=Very Likely)

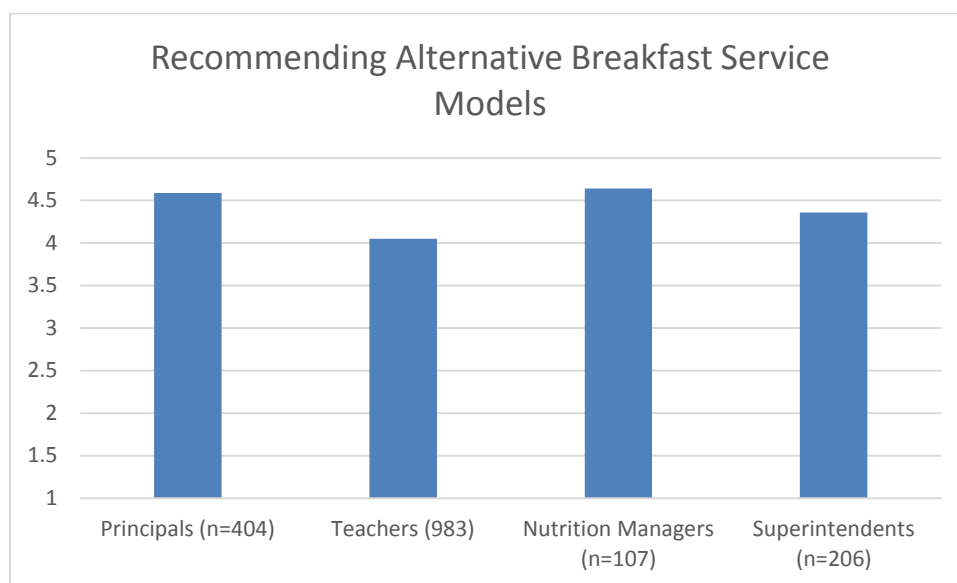


Table 3. Program Satisfaction and Perceived Support among Principal/Assistant Principal Respondents in the 2015-2016 and 2016-2017 School Years

Survey Item	2015-2016 (n = 204)	2016-2017 (n = 404)	Statistical Significance Between School Years (p-value)
Satisfied with program overall	89.9%	94.6%	0.07
Satisfied with model available at school	85.6%	94.7%	<0.001
Satisfied with program impacts	89.2%	92.3%	0.28
Likely to recommend program to other schools	89.1%	91.0%	0.54
Supportive of the program	99.2%	95.1%	0.05
Perceived support for program among school administration	100.0%	95.7%	0.02
Perceived support for program among teachers	86.9%	86.5%	0.92

Statistical significance was determined using a Chi Squared Goodness of Fit Test after grouping Likert-type responses of Strongly Agree and Agree and No Opinion, Disagree, and Strongly Disagree

When asked to rate how likely they would be to recommend implementing an alternative breakfast service model to another school on a 1 to 5 scale, teachers' responses were significantly lower than those of principals, school nutrition directors/cafeteria managers, and superintendents ($p \leq 0.001$) (see Figure 3).

The average for all respondents (n=404) was between Somewhat Likely (4) and Very Likely (5) on a five point Likert-Type Scale ranging from 5 = Very Likely to 1 = Very Unlikely.

Finding 2: School-level outcome metrics showed small but statistically significant decreases in attendance and increases in school nurse visits. Survey participants perceived positive impacts on participation, the nutritional quality of students' breakfasts, hunger and stigma associated with School Breakfast Program participation. However, less than half of the survey respondents thought the alternative breakfast service model positively impacted student academic performance, health, and behavior.

Participating schools provided data on attendance, tardiness, office discipline referrals, suspensions, and school nurse visits for this evaluation. However, the lack of consistent, quality data across years limited the evaluation team's ability to conduct a rigorous analysis of program impact. Only a total of 54 percent of schools reported any data. The analysis was limited to schools providing complete data per variable. Seventeen to thirty-eight percent of schools provided data for each variable that were included in the analysis. Results must be interpreted with caution given, 1) the small sample size (see Appendix C for more detailed description of the sample size for analysis), 2) the data from each school year were two independent groups, not matched school to school, and 3) other factors that may affect the outcome variables were not controlled for within this analysis. For example, the spread of infectious diseases (such as cold or flu) would affect attendance and school nurse visits. Briefly, two of the five metrics to assess the impact of alternative school breakfast programs showed statistically significant but small, negative trends. Between the 2015-2016 and 2016-2017 school years, schools implementing alternative school breakfast programs saw decreases in attendance and increases in monthly school nurse visits. Schools reported no change in daily tardiness, daily office discipline referrals, and monthly suspensions. See Table 4 for more detailed information.

Table 4. Difference in Outcomes for Schools Implementing Alternative School Breakfast Service Models between 2015-2016 and 2016-2017 School Year

Metric (schools reporting)	2015-2016 School Year	2016-2017 School Year	Difference between Years	Statistical Significance Between School Years (p-value)
Average daily attendance rate (n = 48)	95%	94.6%	Average daily attendance rate decreased by less than one percentage point.	0.02
Average daily tardiness (n = 38)	9.6	12.2	There was no significant change.	0.32
Average daily office discipline referrals (n = 71)	4.6	5.8	There was no significant change.	0.69
Monthly suspensions (n = 83)	4.7	4.6	There was no significant change.	0.29
Monthly school nurse visits (n = 56)	282.7	311.6	Schools nurse visits increased by an average of 29 visits per month.	0.02

Following implementation of the alternative school breakfast service model, 89 percent of all respondents agreed that more students were eating breakfast than with the traditional breakfast service model only. Additionally, 75 and 88 percent agreed that students were eating healthier breakfasts and that fewer students were hungry in the morning, respectively. Differences between groups for survey items are reported in Appendix A.

The evaluation team examined optional, open-text comments by respondents provided at the end of the feedback survey to contextualize perceptions of principals, school nutrition directors and cafeteria managers, and superintendents. Of the 90 comments received from principals and/or assistant principals, 62 percent (n=56) contained praise for the program while only 23 percent (n=21) contained concerns about the program. One principal stated:

“This program is easy to implement and supports the development of social bonds during the time students share a meal together. Tardiness has decreased, attendance is improving, and student academic performance has improved. By implementing this program, we have improved our overall school breakfast participation which has resulted in our students having a healthier start to their day. Not only are they eager and ready to learn, students enjoy the fellowship.”

Fifty-four percent (n=21) and 31 percent (n=12) of the 39 comments provided by school nutrition directors and cafeteria managers contained praise and concerns, respectively. A school nutrition director provided the following positive feedback:

“Since the beginning of this program we’ve seen at least a 25% increase in breakfast participation. We started as a pilot in three schools, and beginning the upcoming school year we will be district-wide.”

Of the 37 total comments by superintendents, 35 percent (n=13) contained praise while 32 percent (n=12) contained concerns. One superintendent wrote the following concern about the program:

“If the teachers and the administration are not pro-breakfast in the classroom, it makes it almost impossible to have a successful breakfast program.”

Another superintendent was pleased with the resulting increased participation in the school breakfast program:

“Our elementary schools went from 30-45% participation to 60-90% participation in the breakfast program.”

Of the 173 comments provided by teachers, 27 percent (n=47) contained praise for the program while 44 percent (n=76) contained concerns about the program. One teacher expressed the following concern about the program:

“It takes a lot out of a classroom teacher to serve breakfast in the classroom, and be prepared to deliver instruction as soon as breakfast is over. Overall, classroom teachers really don't have the time or support needed to handle this alternative school breakfast model.”

Another teacher shared positive feedback about the program:

“Many of our students would go hungry if we did not have the present breakfast model. Parents did not apply for free or reduced food even when they were eligible before the current model. The students came to school without money to purchase breakfast. Now, with the free breakfast the students eat and are able to focus on learning.”

Additional select quotes by each group are provided in Appendix B.

Finding 3: *Perceived barriers and costs to implementing alternative breakfast service models decreased from the 2015-2016 to the 2016-2017 school year. Relatively few of the surveyed stakeholders identified common challenges as barriers to implementing an alternative breakfast service model. The percent of surveyed stakeholders identifying common challenges as not being a barrier increased from the 2015-2016 to the 2016-2017 school year. The percent of surveyed stakeholders identifying extreme or moderate barriers decreased from the 2015-2016 to the 2016-2017 school year.*

More than 80 percent of survey respondents identified lack of support from students, parents, and school administration as *not* being a barrier to implementation. Insufficient training on implementation and lack of space were also identified by greater than 80 percent of survey respondents as not being barriers to implementation. The most commonly identified moderate or extreme barriers to implementation were limited janitorial staff, lack of support from teachers, and waste and trash disposal. These were identified by almost 17 percent of survey respondents. Table 5 lists all respondents' perceptions of the five least and most commonly identified challenges.

Table 5. Challenges Ranked by Level of Barrier to Implementation for the 2016-2017 School Year

Challenge	Percentage Indicating “Not a Barrier”
Lack of support from students	88.7%
Lack of support from parents	85.1%
Insufficient training on implementation	84.4%
Lack of support from administrators	81.8%
Lack of space	81.5%
Challenge	Percentage Indicating “Moderate or Extreme Barrier”
Limited janitorial staff	16.9%
Lack of support from teachers	16.9%
Waste and trash disposal	16.9%
Disruptions in morning routines	15.6%
Interruptions in instructional time	13.9%

When comparing the five least and most commonly identified challenges from the 2015-2016 school year, the percent of survey respondents identifying the top challenges as not being a barrier increased while the percent of survey respondents identifying common challenges as being moderate or extreme barriers decreased substantially. See Table 6 for a comparison.

Table 6. Top Five Potential Challenges Not Perceived as Barriers and those Perceived as Barriers in the 2015-2016 Compared to Perceptions of the Same Challenges in the 2016-2017 School Year

Percent Indicating “Not a Barrier” for Top 5		
Challenge	2015-2016	2016-2017
Lack of support from administrators	78.9%	81.8%
Lack of support from students	76.2%	88.7%
Lack of support from parents	72.8%	85.1%
Students are not hungry	72.4%	74.5%
Lack of support from cafeteria staff	71.3%	64.8%
Percent Indicating “Moderate or Extreme Barrier”		
Challenge	2015-2016	2016-2017
Disruptions in morning routines	32.8%	15.6%
Limited janitorial staff	27.9%	16.9%
Waste and trash disposal	25.8%	16.9%
Interruptions in instructional time	23.5%	13.9%
Students prefer other food	21.6%	12.6%

Some survey respondents provided constructive feedback on the program that could be used to overcome potential barriers. Examples include providing free custodial supplies and assistance with tracking meal purchases to decrease the burden on schools, providing different alternative service models depending on grade level, and focusing alternative breakfast service model promotion on superintendents instead of principals and teachers. See Appendix B for select comments.

Cost was not a moderate or extreme barrier to implementation. The percent of survey respondents citing cost as not being a barrier was approximately 84 percent for the 2016-2017 school year, improving from 79 percent in the 2015-2016 school year. Further information on costs associated with revenue and costs associated with implementation of alternative breakfast service model was provided by division-level school nutrition program directors for all participating schools in their division. The following data represents 166 individual schools within 44 school divisions. In addition to state funds available during the 2016-2017 school year, most divisions reported two primary sources of revenue for the alternative school breakfast program: reimbursement from the federal government (86 percent of divisions) and revenue from student meals (77 percent of divisions). In addition, 16 percent of schools reported support from foundation grants and catering sales. A small percent of schools also reported using general school division funds as a source of revenue for alternative breakfast programs (7 percent).

Overall, 46 percent of schools reported no additional costs for program implementation. By category, 94 percent of schools reported no additional salary costs, 98 percent of schools reported no additional benefits costs, 94 percent of schools reported no additional capital equipment costs, and 49 percent of schools reported no additional costs for small wares or supplies. Fifty-four percent of schools reported at least one cost type. For schools reporting any costs, the average total cost to implement was \$1,636 per

school. As compared the 2015-2016 school year, the average reported costs for salary and small wares/supplies were relatively consistent. However, costs related to benefits, equipment, as well as total costs substantially decreased for the 2016-2017 school year. See Table 7 for a comparison of average costs per category reported by schools between the 2015-2016 and 2016-2017 school year.

Table 7. Average Costs by Type for Schools Reporting Additional Costs to Implement Alternative Breakfast Programs for the 2015-2016 and the 2016-2017 School Years

Type of Costs	Average Costs* For 2015-2016	Average Costs* For 2016-2017	Percentage of Schools Reporting Costs for 2015-2016	Percentage of Schools Reporting Costs for 2016-2017
Salary	\$3,276	\$3,524	32%	6%
Benefits	\$1,497	\$544	11%	2%
Capital Equipment	\$5,314	\$3,951	18%	6%
Small wares and supplies	\$1,081	\$844	40%	51%
Any costs	\$4,066	\$1,636	47%	54%

*Average costs include only those schools reporting costs.

Finding 4: Of the schools that participated in the pilot program and for which assessment data were available, 41 percent (192 schools) demonstrated an increase in breakfast meals served and an increase in one or both state reading or math assessment pass rates, compared to the 2015-2016 school year.

The VDOE calculated change scores for each school that received pilot program funding using the school’s state assessment pass rates for the 2015-2016 and 2016-2017 school years. The pass rate change scores are presented as a percent increase or decrease between pass rates for the 2015-2016 and 2016-2017 school years. Change scores were then calculated for average number of meals served per student between school years 2015-2016 and 2016-2017 using the same method. This metric provides information on the number of meals served while accounting for enrollment changes from one year to the next.

The VDOE also identified a group of schools to serve as a comparison group. Comparison schools were elementary schools with greater than 45 percent free- and reduced-price meal eligibility rates. While comparison schools did not receive alternative breakfast funding in 2016-2017, it is possible that schools were implementing alternative breakfast models without additional financial support. Change scores for state assessment pass rates and number of meals served per student were also calculated for the comparison schools.

Schools that administered state assessments were placed on a scatterplot to examine change scores for average number of breakfast meals served per student in relation to changes in state reading assessment pass rates (Appendix D) and state math assessment pass rates (Appendix E). A visual examination of the scatterplots shows no clear pattern, indicating a relatively weak relationship between meals served and pass rates.

The percentages of schools that showed no increase in pass rates or increases in one or both subjects in conjunction with an increase in the number of breakfast meals served per student are presented in Table 8. Notably, 41 percent of participating schools showed an increase in number of meals served per student and pass rates in one or both academic areas. Among the 134 schools showing a decrease in meals served, the median decrease was 2,186 less meals served in 2016-17 than in 2015-16. Without additional information on program implementation, it is difficult to determine the extent to which fidelity of implementation, changes in the school calendar, or other circumstances affected the number of meals served per student.

Table 8. Summary of Participating and Comparison Schools' Academic Achievements in Relation to Changes in Meals Served

	Participating Schools		Comparison Schools	
	Number of Schools	Percent of Schools	Number of Schools	Percent of Schools
Schools without Achievement Assessments ¹	34	7%	22	10%
Meals Per Student Served Decreased	134	29%	51	24%
No Academic Growth and Increase in Meals Per Student Served	103	22%	39	18%
Growth in One or Both Subjects and Increase in Meals Per Student Served	192	41%	102	48%
Total Schools in 2016-2017	463	100%	214	100%

Note: Percentages rounded to the nearest whole number.

1 Schools without assessment data were removed from further analysis.

Among schools that received pilot program funding, 163 schools (38 percent) demonstrated an increase in meals served and an increase in state reading assessments from 2015-16 to 2016-17 (numerically represented in Figure 4). However, among comparison schools, a larger percentage (48 percent) saw an increase in meals served and an increase in reading pass rates. Across the state, pass rates in reading remained unchanged from 2015-16 to 2016-17, at 80 percent.

For math, 127 schools (30 percent) demonstrated an increase in meals served per students and state math assessments but 168 (39 percent) saw an increase in meals served and a decrease in pass rates (also Figure 4). A similar trend exists among comparison schools where 31 percent demonstrated an increase in meals served and pass rates but 42 percent saw an increase in meals served and a decrease in pass rates. Across the state, pass rates in math decreased one percentage point, from 80 percent in 2015-16 to 79 percent in 2016-17.

Figure 4. Numeric representation of Scatterplot Analysis: Change in Average Number of Meals Served per Student in Relation to Change in State Achievement Assessment Pass Rates

		Average Meals Served Per Student	
		Decrease	Increase
Reading Pass Rates	Increase or Remain Same	83 Schools (19%)	163 Schools (38%)
	Decrease	51 Schools (12%)	132 Schools (31%)

		Average Meals Served Per Student	
		Decrease	Increase
Math Pass Rates	Increase or Remain Same	71 Schools (17%)	127 Schools (30%)
	Decrease	63 Schools (15%)	168 Schools (39%)

The VDOE also examined increases in meals served and increases in state assessment results within funded schools by number of years of pilot program funding received (Figure 5). Most schools that received two years of funding showed greater growth in meals served and pass rates in the first year of implementation and were able to maintain those gains through the second year. Thirty-five percent of schools in their second year of funding saw an increase in reading pass rates and meals served compared to 41 percent of schools in their first year of funding. For math, 25 percent of schools in their second year of funding saw an increase in pass rates and meals served compared to 33 percent of schools in their first year of funding.

Figure 5. Change in Average Number of Meals Served per Student in Relation to Change in State Achievement Assessment Pass Rates for Schools Receiving One or Both Years of Funding

		Average Meals Served Per Student		
		Decrease	Increase	
Reading Pass Rates	First Year of Funding	Increase or Remain Same	42 schools (18%)	97 schools (41%)
		Decrease	25 schools (10%)	75 schools (31%)
	Second Year of Funding	Increase or Remain Same	41 schools (22%)	66 schools (35%)
		Decrease	26 schools (14%)	57 schools (30%)

		Average Meals Served Per Student		
		Decrease	Increase	
Math Pass Rates	First Year of Funding	Increase or Remain Same	35 schools (15%)	79 schools (33%)
		Decrease	32 schools (13%)	93 schools (39%)
	Second Year of Funding	Increase or Remain Same	36 schools (19%)	48 schools (25%)
		Decrease	31 schools (16%)	75 schools (39%)

SUMMARY

In summary, alternative school breakfast programs provide additional meals for students, are supported by school staff who generally perceive barriers to be low, and can be implemented with minimal additional resources for most schools. The main benefits appear to be increased School Breakfast Program participation and perceived decreases in child hunger. Perceptions of alternative breakfast service models improved as perceived barriers and additional financial costs to schools to implement alternative breakfast programs decreased from the previous school year, indicating an increased chance for program sustainability. Teachers, while still being supportive of the program overall, were the least supportive group. A concern raised in the comments provided by teachers was the nutritional quality of the provided breakfasts.

While 71 percent of schools that received pilot program funding increased the number of meals served, fewer schools demonstrated increases in pass rates for reading and math from 2015-16 to 2016-17. The lack of student-level data on school nutrition participation and state assessment performance hindered the ability to examine the impact of the alternative breakfast program on students directly. While the school-level analysis is a starting point for understanding the relationship between school nutrition and achievement, many factors impact school-level data are not accounted for in this report. In addition, state-

wide pass rates in reading and math were stable between 2015-16 and 2016-17 and may have contributed to the limited impact of the pilot program on student achievement during 2016-2017.

The VDOE recommends continued financial support for the initial implementation of alternative breakfast service model(s) in schools and additional funding and technical support for the improvement of the nutritional quality of food provided. Continued monitoring and evaluation of alternative breakfast service models is required to determine if programs can become self-sustaining following initial implementation costs.

APPENDICES

Appendix A

Perceived Program Impact among Principals/Assistant Principals, Teachers, School Nutrition/Cafeteria Managers, and Superintendents in the 2016-2017 School Year

Survey Item	Principals/ Assistant Principals	Teachers	School Nutrition/ Cafeteria Managers	Superintendents	All Respondents
Agree more students are eating breakfast	332 (84.1%)	687 (75.7%)	100 (96.2%)	157 (83.5%)	1276 (80%)
Agree students are eating healthier breakfasts	274 (69.4%)	536 (59.1%)	92 (89.3%)	137 (72.5%)	1039 (65.2%)
Agree fewer students are hungry in the morning	344 (87.1%)	705 (77.6%)	86 (83.5%)	150 (79.4%)	1285 (80.6%)
Agree student overall health improved	151 (38.3%)	326 (35.9%)	43 (42.2%)	91 (48.1%)	611 (38.4%)
Agree student academic performance has improved	189 (48.0%)	377 (41.6%)	39 (37.9%)	81 (42.9%)	686 (43.1%)
Agree students attendance and tardiness rates have improved	163 (41.3%)	321 (35.4%)	39 (37.9%)	75 (40.1%)	598 (37.5%)
Agree student behavior has improved	152 (38.7%)	297 (32.7%)	37 (35.9%)	73 (39.0%)	559 (35.1%)
Agree student attentiveness has improved	224 (57.0%)	491 (54.3%)	41 (39.8%)	93 (50.3%)	849 (53.5%)
Agree stigma around eating school breakfast is reduced	303 (76.9%)	617 (68.0%)	74 (71.8%)	145 (78.0%)	1139 (71.6%)
Agree the overall school environment has improved	239 (60.8%)	458 (50.6%)	61 (59.2%)	109 (58.6%)	867 (54.6%)
Agree school(s) is/are closer to achieving wellness goals	238 (60.4%)	416 (45.8%)	57 (55.3%)	106 (57.0%)	817 (51.3%)

Appendix B
Open Text Comments from Survey Respondents

Comments Received from Principals/Assistant Principals (n = 90)

**3 comments expressed praise and concerns and were counted twice*

Percentage of comments containing praise for the program	62%
<i>“Going to breakfast served in the classroom has reduced lost instructional time, discipline issues in the very long serving lines, and ultimately has encouraged more students to eat breakfast. I would not want to ever go back to the traditional breakfast model.”</i>	
<i>“This program is easy to implement and supports the development of social bonds during the time students share a meal together. Tardiness has decreased, attendance is improving, and student academic performance has improved. By implementing this program, we have improved our overall school breakfast participation which has resulted in our students having a healthier start to their day. Not only are they eager and ready to learn, students enjoy the fellowship.”</i>	
<i>“Universal Breakfast has been a wonderful support for all our students, especially our at-risk students. Check out our test scores--we hit the 90s and 80s this year!”</i>	
<i>“This program has been the best program our school could implement. Our students are not hungry. This has proved so beneficial to our students. The tardies have almost diminished. The students arrive happy and ready to go to their classroom, get bookbags unpacked, and begin their work.”</i>	
<i>“Prior to the implementation of our grab-and-go breakfast I would have students coming to my office around 9:30 complaining that they were hungry. Behavior was an issue because they were hungry. As a result of the grab-and-go breakfast students are able to snack on items they have leftover from breakfast. This has helped tide them over to lunch and behavior issues have decreased.”</i>	
Percentage of comments containing concerns about the program	23%
<i>“We completed a survey at the end of the school year last year to find out why there wasn't a larger number of students participating in breakfast, especially since it is being offered for free. The survey responses from parent surveys and student surveys showed that 40% of students eat breakfast at home. Alternative breakfast would not be an option for us because we only have one custodian during the day so eating in the classrooms would not be feasible. There is also the concern with an increase in pest such as bugs and mice due to spills and food being present in classrooms. As an administrator I am feeling pressured to offer a program that 40% of the students and parents are just not interested in. And if families can eat breakfast together at home before school, we should encourage that.”</i>	
<i>“Serving breakfast beyond the start of the school day causes significant disruption to the learning environment. It disrupts the child who is already late, and it disrupts the classroom. Additionally, having food in classrooms has created bug problems in parts of our building where they did not exist previously. This has also put a strain on my one custodian who works in the morning. Instead of cleaning up from breakfast in one place, the cafeteria, he now has to clean up in multiple classrooms each day.”</i>	
<i>“Very unhappy that on the first day of school, our teachers were cited for not abiding to the rules; gave</i>	

<i>too many juices, not enough food, etc....Our teachers feel they are not being respected and trusted.”</i>	
<i>“Food inside the classroom is difficult because of the mess that younger students leave behind. The required types of food is also a barrier for some students because of interest level.”</i>	
<i>“Some of the breakfast choices contain so much sugar that they don’t seem to be healthy; i.e. PopTarts, sugary cereal.”</i>	
Percentage of comments containing constructive feedback	6%
<i>“Support should be provided to the school in the form of custodial supplies to support the program and for keeping track of meal purchasing”</i>	
<i>“Having fresh fruit and a source of protein would help make the meal more balanced.”</i>	
<i>“The breakfast program was smoother this year by splitting the grades and running two different models. It was easier for the younger students to eat in the cafeteria instead of transporting their food to the class and then trying to eat.”</i>	
Percentage of comments containing neutral descriptive program information	12%

Comments Received from School Nutrition Managers/Cafeteria Managers (n = 39)

**Two comments expressed praise and concerns and were counted twice.*

Percentage of comments containing praise for the program	54%
<i>“The alternative school breakfast program is an excellent model that increases instructional time and time on-task.”</i>	
<i>“Since the beginning the of this program we’ve seen at least a 25% increase in breakfast participation. We started as a pilot in three schools, and beginning the upcoming school year we will be district-wide.”</i>	
<i>“Alternative breakfast helps those most in need of a healthy meal in the morning!”</i>	
<i>“Excellent program to increase participation”</i>	
Percentage of comments containing concerns about the program	31%
<i>“I would love to provide alternative breakfast but it is not well-received by the teachers or the Administration. It is new and they do not like new.”</i>	
<i>“This is a great program; wish we could get more teachers to be supportive. Administration is great, but teachers do not want the food in their rooms and the custodial staff complains because of more trash.”</i>	
<i>“One of the biggest issues with early morning breakfast at the middle and high school levels is that students are not hungry and don’t want to eat early in the morning. Second Chance Breakfast is the best option for those grades, but changing the schedule for the time needed to serve SCB is a big issue for administration and teachers.”</i>	

<i>"I have found that the grab-and- go breakfast has had an impact on tardiness because children know they can still get breakfast; it seems that more children are late than there used to be!"</i>	
Percentage of comments containing constructive feedback	18%
<i>"As the Director of Child Nutrition, the biggest barrier is principals and teachers, and not much else. Further, I just don't have time in the workday to advocate with each individual administrator. I think the focus should be directed to superintendents by the state. This takes it out of my hands, but also would hopefully get them to commit to alternative breakfast district wide, also taking the decision out of the principals' hands."</i>	
<i>"Children need choices that don't need to be kept hot or cold so that they can eat later in the day or take home if they are not hungry at breakfast. Some children just want a little something like a milk or fruit, then want to eat the rest later."</i>	
Percentage of comments containing neutral descriptive program information	3%

Comments Received from Superintendents (n = 37)

Percentage of comments containing praise for the program	35%
<i>"We love our new alternative breakfast program and have seen an increase in participation"</i>	
<i>"We have several types of alternative breakfast models. All seem to work well. As long as everyone works together, all barriers that come up can be worked through."</i>	
<i>"We just opened our 3rd kiosk at our Junior High this morning. I can see our breakfast participation continue to increase. I have high hopes this year for the best year ever."</i>	
<i>"I think the program is an excellent program, and as parent, I am very appreciative that my child is offered breakfast, even if we technically could afford it. It helps out financially, regardless, and I am glad my child doesn't have to worry about the stigma surrounding eating breakfast at school."</i>	
<i>"Our elementary schools went from 30-45% participation to 60-90% participation in the breakfast program."</i>	
Percentage of comments containing concerns about the program	32%
<i>"There is a conflict between what the students want for breakfast and what parents feel or believe to be healthy. Parents want a hot breakfast. Students prefer hot grab and go or cold options that are higher in carbohydrates."</i>	
<i>"I have seen children encouraged to get a breakfast meal even though they ate at home, just to get the numbers up, in my opinion. And the children get it and throw it away. Children are told they must get three things on a tray even when they don't want them, and those are thrown away also."</i>	
<i>"If the teachers and the administration are not pro-breakfast in the classroom, it makes it almost impossible to have a successful breakfast program."</i>	
<i>"Students are often tardy and know they can receive a grab-and-go bag so no attempt is made by parents to have students on time for school. Therefore, instructional time is interrupted."</i>	

<i>“Two or three of the food items typically go in trash. High carb breakfasts...not much protein.”</i>	
Percentage of comments containing constructive feedback	22%
<i>“There is no one size fits all approach; each school has a different environment/leadership - some are very open and not afraid to try something new and different, others are very reserved and seem to focus more on teacher response than student need. We have found the 2nd Chance Breakfast was the absolute best model for high school.”</i>	
<i>“I think more schools would try alternative models with the Superintendent pushing them to do so.”</i>	
<i>“I think the concept is good, however, I think there would be less waste if students were allowed to just take the amount of food they are hungry for and had time to actually finish eating.”</i>	
Percentage of comments containing neutral descriptive program information	11%

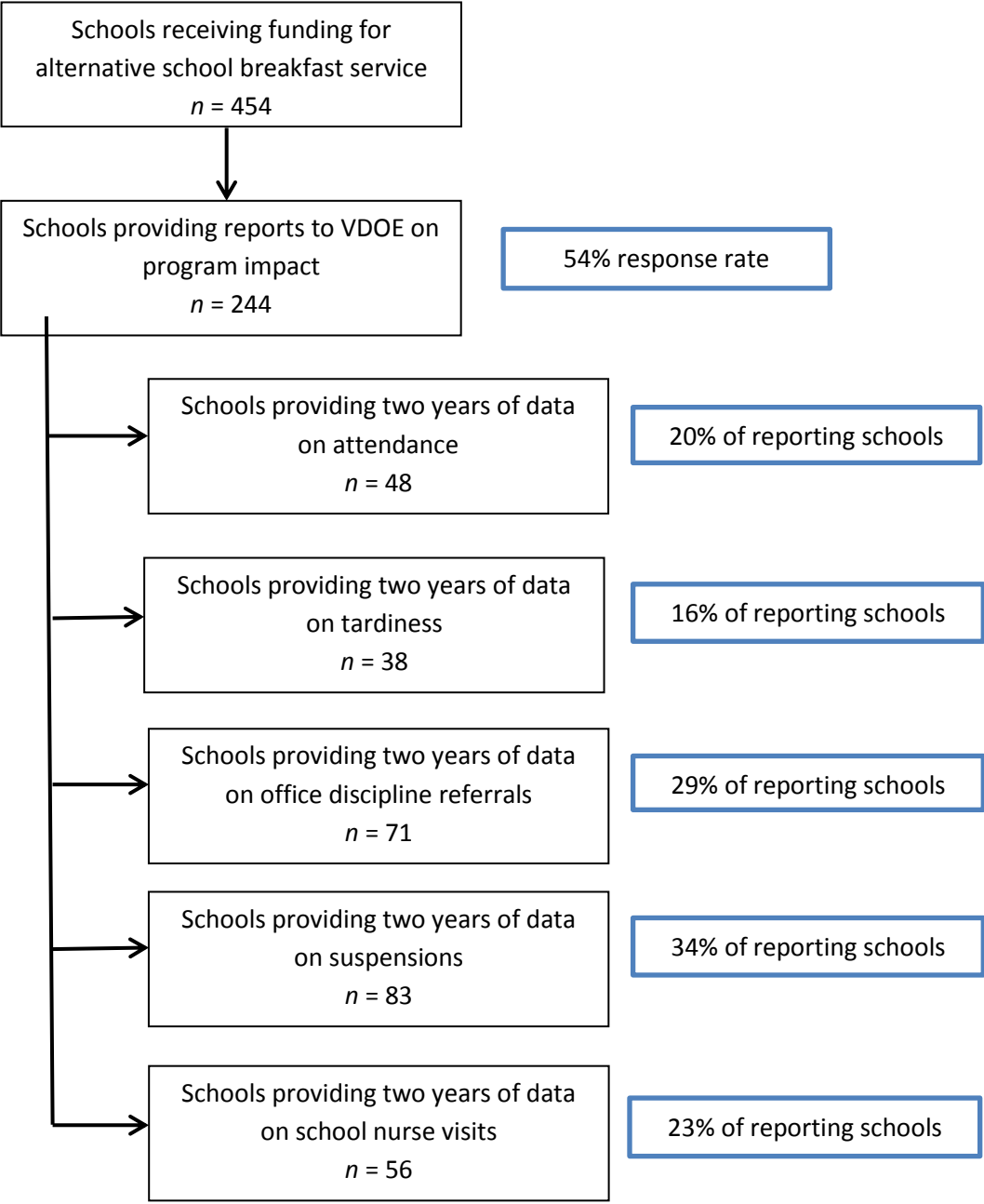
Comments Received From Teachers (n=173)

**8 comments expressing praise and concerns were counted twice*

Percentage of comments containing praise for the program	27%
<i>“While initially hesitant about the program, I believe it works. It is part of the morning routine and cuts out trips to cafeteria (which eats up more time than just eating breakfast in classroom). More kids eat breakfast, it gives kids some social time while eating, and kids aren't as hungry as before. I really like the program!”</i>	
<i>“For some of our students, this has made the difference in getting two meals a day and not getting any. The lunches are more nutritious and more students are eating at school. This program has been one of the very best things for our school system.”</i>	
<i>“Many of our students would go hungry if we did not have the present breakfast model. Parents did not apply for free or reduced food even when they were eligible before the current model. The students came to school without money to purchase breakfast. Now, with the free breakfast the students eat and are able to focus on learning.</i>	
<i>“Our students have the choice of eating in the cafeteria or the classroom. Most students prefer eating in the classroom with their bagged breakfast. I have noticed a significant increase in fewer incidents with behavior in the cafeteria during breakfast.”</i>	
Percentage of comments containing concerns about the program	44%
<i>“Breakfast after the bell is a disruption to morning routines and procedures. Students cannot eat breakfast and focus on other things at the same time. Eating breakfast at school is fine and helps the students that cannot eat at home, but it should be done before the bell. They do not eat lunch during class, so breakfast should be no different.”</i>	
<i>“The breakfast program takes up instructional time, leaves a huge mess in the classroom and is an overall burden to the teacher. It is full of sugar and lends to hyperactivity in children.”</i>	
<i>“It takes a lot out of a classroom teacher to serve breakfast in the classroom, and be prepared to deliver instruction as soon as breakfast is over. Overall, classroom teachers really don't have the time</i>	

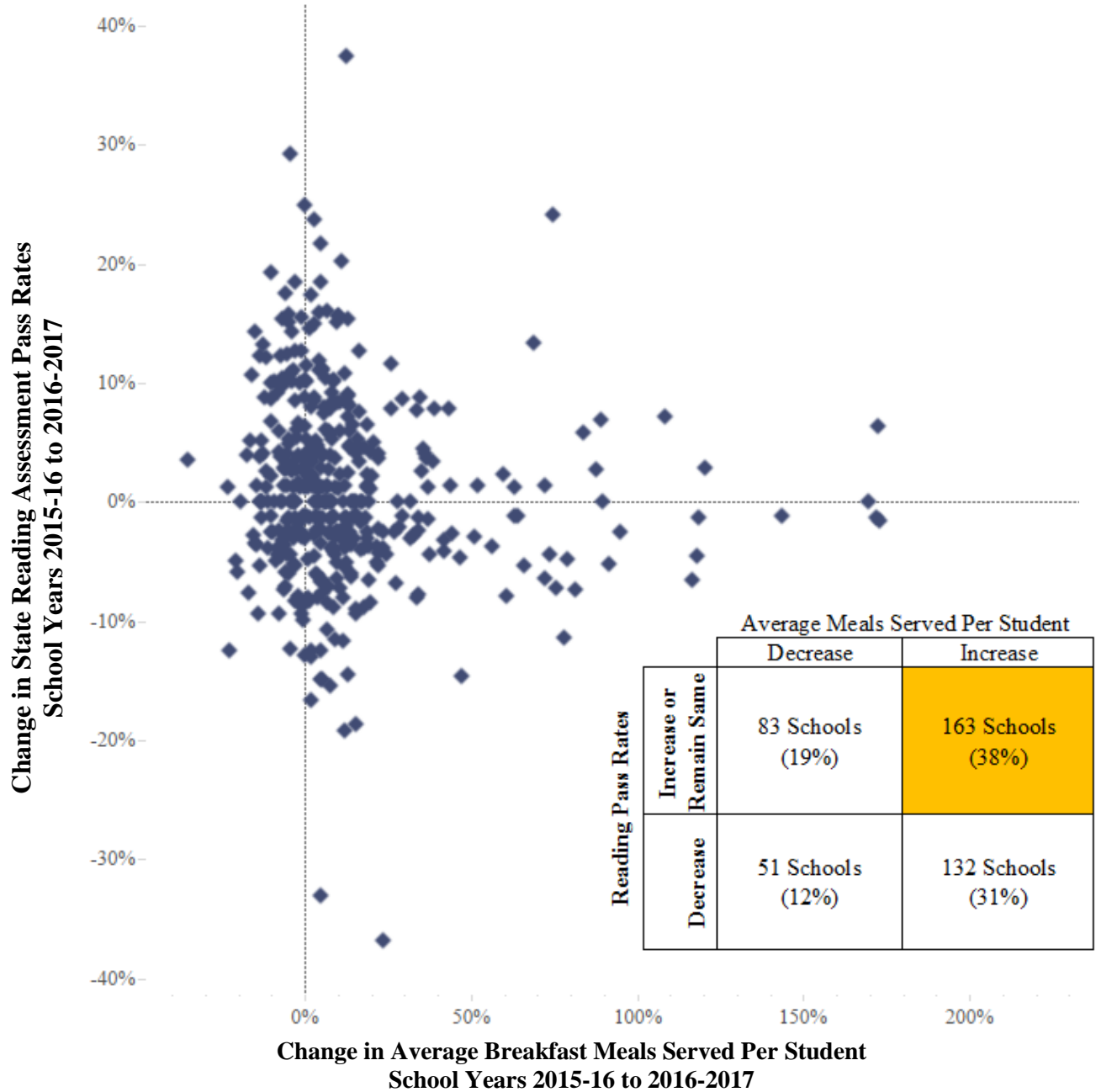
<i>or support needed to handle this alternative school breakfast model.”</i>	
<i>“I’m not a fan of the grab and go piece. It is not particularly environmentally friendly (uses plastic bags and generates a lot of trash) and it requires more clean up by the custodians.”</i>	
<i>“If the goal is a nutritious breakfast for everyone, this program is a failure. Each day I see students eat a carbohydrate-laden "breakfast" that will have them crashing in an hour. The "in the classroom" part of this program inhibits the ability to provide a good breakfast, because of the concerns about food temperature and storage. A classroom teacher has other responsibilities in the morning, such as greeting students, and should not be going around bean-counting.”</i>	
Percentage of comments containing constructive feedback	28%
<i>“I agree that all students need breakfast. I have 2 significant disagreements with this specific implementation. First, I don't see why it is required to be "eaten in classrooms". This creates mess and it is more noticeable who is and isn't taking breakfast. I think it would be better to serve in the cafeteria and offer this breakfast to all students. This would mean everyone gets a breakfast but would alleviate rodents and would have less impact on instructional time. My second and more significant concern is that the breakfasts are not healthy. As a parent of a 1st grader at this school as well as a teacher, I am appalled by the nutrition offered in these meals. I don't see how a muffin and juice is serving children's nutritional needs. I wouldn't serve that at home. I would be more comfortable if students got fresh fruit and nutritious grains, like oatmeal. If we are going to invest the time and attention necessary for this program then we should focus on improving the overall health of the students at this school.”</i>	
<i>“Healthier food options would be great for kids. A more streamlined system with not as many parts to track would make implementation easier, as it is difficult to track what students receive and maintain order and function in the classroom.”</i>	
<i>“The service model is fine. My issue with the breakfast program is with the quality and nutritional value of the breakfast served to our students. Pop Tarts, sticky buns, and apple fritters are high sugar, high fat and have no place in a healthy breakfast. These breakfast items do nothing to boost students' attention and learning. It just fills their stomach.”</i>	
<i>“The amount of food we throw in the trash on a daily basis is heartbreaking. I wish there was something more productive we could do with the non-perishable items, like donate them to the homeless or send them home with students you know have financial difficulties.”</i>	
<i>“While the intent is admirable, we are just overloading student with carbs and sugars. Students are consuming 2-3x more food than before. I agree with providing free breakfast. Do a healthy menu (one set option) and if "extras" are an option, then do fresh fruits and yogurts. Healthy meals are needed here.”</i>	
Percentage of comments containing neutral descriptive program information	6%

Appendix C
Cleaned Data Available for Analysis for the 2016-2017 School Year



Appendix D

**Change in Average Number of Breakfast Meals Served in relation to
Change in State Reading Assessment Pass Rates
School Years 2015-2016 to 2016-2017**



Appendix E

Change in Average Number of Breakfast Meals Served in relation to Change in State Math Assessment Pass Rates School Years 2015-2016 to 2016-2017

