

# Breathe Better @ School (B<sup>2</sup> Program) Greenville County, SC





# Table of Contents

History of the B2 Program in *Greenville County, SC* .....1

Benefits of the B<sup>2</sup> Program.....2

Who has Participated in *Greenville County* .....3

    Fountain Inn Elementary School..... 3

    Sevier Middle School..... 5

    Woodland Elementary School..... 6

    Sterling School..... 7

    Other Schools..... 7

Attachment 1 .....9

Attachment 2 .....15



## History of the B<sup>2</sup> Program in Greenville County, SC.

The Breathe Better at School Program ("B<sup>2</sup>" or "B<sup>2</sup>@school") in Greenville County, SC, is a part of the "Spare the Air" public awareness campaign implemented since 2006. The campaign was supported with a grant from the U.S. Environmental Protection Agency (EPA). The Program was modeled after the B<sup>2</sup> pilot program implemented by the South Carolina Department of Health and Environmental Control (DHEC) at Cross Roads Middle School in the Midlands SC area in 2005.

The core purpose of the B<sup>2</sup> pilot program at Cross Roads Middle School was to educate parents, staff, bus drivers, and faculty about the importance of not idling vehicles and school buses to have clean air around schools. It also educated them about the positive impact of a "no idling" school policy on children's health, especially children with respiratory illnesses such as asthma and allergies. The program also encouraged schools to adopt a voluntary "no idling" policy.

Greenville County expanded the B<sup>2</sup> program to include a *Clean Air Patrol (CAP)* component. The CAP is made up of students who wear the B<sup>2</sup> vest or t-shirts and encourage parents and bus drivers to turn off engines while on campus. Another responsibility of the patrol is to gather and analyze data prior, during, and after implementation of the B<sup>2</sup> program at the school. Another component of the expanded B<sup>2</sup> program in Greenville County includes the lawn-to-garden/outdoor classroom project. The expanded B<sup>2</sup> program also seeks to educate the public on the value of reducing the amount of lawn areas necessitating mowing by replacing them with native and/or rain gardens.

Greenville County initiated discussions at the beginning of the 2006-2007 school-year with the principal at Fountain Inn Elementary School to pilot the expanded B<sup>2</sup> Program. The program at Fountain Inn continues to be a success story. The county implemented the second B<sup>2</sup> program at Sevier Middle School during the 2007-2008 school. Since the beginning of the 2008-2009 school-year more schools (public and private) have requested assistance to either Greenville County or DHEC with the implementation of the B<sup>2</sup>@school program. These schools include Woodland, Oakview, and Robert E. Cashion Elementary Schools, Sterling School, J.L. Mann High School, and Christ Church Episcopal School.





Currently, Greenville County and DHEC may assist schools wanting to implement the Program by providing the following:

- General guidance on how to implement the B<sup>2</sup> program,
- Training for the Clean Air Patrol,
- B<sup>2</sup> and no-idling signs. The signs include the State of South Carolina's air quality forecast toll free telephone number and Greenville County's website address, and
- Printed and other air quality materials for distribution to students, faculty, staff, and parents.

Schools are encouraged to recruit students and form a Clean Air Patrol. The patrol will gather and analyze data before, during, and after program implementation. These students also will encourage parents and bus drivers to not idle while on campus as well as assist with recruiting other students with implementing the lawn-to-garden/outdoor classroom project.

### Benefits of the B<sup>2</sup> Program.

The B<sup>2</sup>@school program is more than an anti-idling campaign to improve air quality in Upstate SC. It teaches and touches students, faculty, staff, parents, bus drivers, and school visitors. It teaches students about air pollution, more specifically ground level ozone (O<sub>3</sub>) and particle pollution or particle matter 2.5 (PM<sub>2.5</sub>), and its health effects. It teaches how ground level ozone and PM<sub>2.5</sub> are formed or emitted; the things that people can do to prevent air pollution and exposure; how to read the Air Quality Index; and where to find information about the things we all can do to improve air quality among other things. Through this experience students have realized how their brothers, sisters, or someone they know who has asthma or a respiratory illness are affected by air pollution. When they realize it, they become champions and supporters of the program by encouraging adults to change habits. The program also touches



Figure 1. No Idling Sign at Fountain Inn Elementary





everyone involved in the school from students to parents at home by informing, involving, and encouraging them to make those changes in habits.

## Who has Participated in Greenville County.

Several schools in Greenville County have implemented the B<sup>2</sup> program since 2006. Fountain Inn Elementary School was the pilot school initiating the program during the 2006-2007 school-year. The county implemented the second B<sup>2</sup> program at Sevier Middle School during the 2007-2008 school-year.

During the 2008-2009 school-year public and private schools have requested assistance to either Greenville County or DHEC with the implementation of B<sup>2</sup>. These schools include Woodland, Oakview, and Robert E. Cashion Elementary Schools, Sterling School, J.L. Mann High School, and Christ Church Episcopal School.

### *Fountain Inn Elementary School.*

After several planning meetings with the school's principal, Greenville County began implementing the Program by training the Clean Air Patrol and setting up several signs with "no idling" messages and the B<sup>2</sup> logo at Fountain Inn Elementary School. County and DHEC representatives also attended the school's open houses and distributed air quality information.

The CAP encouraged parents to turn off their cars. The patrol gathered data before and after implementation of the program. Students also designed the 2008 Activity calendar with monthly messages about clean air and activities related to air quality. The school adopted a voluntary no-idling policy in 2007.



Figure 2. Air Quality Patrol

The original school expansion plans retained a courtyard that would have been reseeded with grass, requiring mowing during school hours. Instead, the B<sup>2</sup> program considered replacing that area with an educational native tree garden modeling a local forest ecosystem. Greenville County partnered with garden clubs and TreesGreenville, a local non-profit organization, to complete the courtyard and plant trees on the front lawn that would eventually provide shade along the car





lanes. TreesGreenville provided volunteers associated with its organization to plant trees, shrubs, and other native plants. TreesGreenville required that teachers attend a free educational workshop and develop a curriculum and educational signage for the courtyard. Now the courtyard garden is used as an outdoor classroom. Additional benefits of having this courtyard garden include the elimination of mowing grass—hence no emissions and dust from lawnmowers—and distracting students during lawn mowing operations while attending class.



Figure 3. Before, During and After Courtyard Project Implementation.

The school has also participated in several Walk-to-School days. The SC Department of Transportation (SCDOT) selected the Fountain Inn Elementary for the Safe Routes to School (SRTS) program. The SRTS program now includes in its application's requirements a component linking air quality to walking and/or bicycling to school. SCDOT awarded a Safe Route to School grant to Fountain Inn Elementary School and the City of Fountain Inn to create safer pathways for students to travel to school.



Figure 4. Walk to School Day

Fountain Inn Elementary School led the way in making the public aware about improving air quality. The school became a model school and a catalyst in the Greenville County for other schools to see the urgency of pursuing cleaner air measures on campus for the benefit and health of students, the public, and the environment.

Fountain Inn Elementary School exceeded all expectations of the B<sup>2</sup>@School program. The school also received direct financial and technical assistance from the DHEC, TreesGreenville, EPA, and Greenville County as a result from its commitment to the B<sup>2</sup>@School program.





On May 20, 2008, Greenville County presented a certificate of appreciation to Fountain Inn principal for his and the commitment of students, faculty, staff, and parents to the B<sup>2</sup>@School program and certificates of participation to the students who were part of the Clean air patrol. Further, EPA's Office of Air and Radiation recognized Greenville County for its B<sup>2</sup> program at Fountain Inn Elementary School and other air quality efforts with the 8<sup>th</sup> Annual Clean Air Excellence Award in the Educational/Outreach Category on May 28, 2008. DHEC also recognized the school's principal with the Outstanding School Administrator/Faculty of the Year award during the Inaugural 2008 "Spare the Air" Award ceremony on November 19, 2008.



Figure 5. 2008 Spare the Air "Outstanding School Administrator" Certificate

**Sevier Middle School.**

Sevier Middle School started the B<sup>2</sup> program in April 2008 with planting 24 shade trees along the front entrance lawn near the car lanes and the bus drop off/pick up area. In fall 2008 the school held another planting day to minimize mowing the lawn. Students learned the proper way to plant trees and shrubs with these activities. The school has also setup B<sup>2</sup> signs on campus and adopted a voluntary no-idling policy.

Sevier Middle School principal addressed the student's assembly on Earth Day, April 22, 2008, and announced the formation of Sevier Ambassadors for the Environment (SAFE) group umbrella. This group houses the following school clubs Falcons Responsible for Outdoor Garden Classroom (FROG), the B<sup>2</sup> program (Breathe Better Air Patrol), the Earth Day Activities Committee, and the Recycling Matters Club.

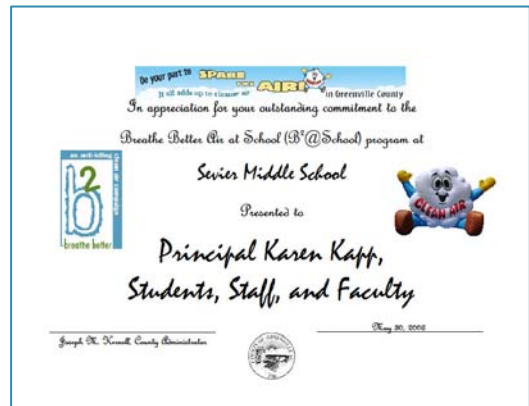


Figure 6. Certificate of Appreciation - Sevier Middle School.







For their commitment to the B<sup>2</sup> program Greenville County recognized Sevier Middle School with a certificate of appreciation in May 2008. The following is the B<sup>2</sup>@School section of Sevier Middle School's website:

Science classes in the seventh grade planted Nandinas and Hawthorne bushes and two Redbud trees on October 13, 2008. These trees and shrubs were part of the B2 grant that Sevier received to implement a program to improve air quality at school.

Sevier has a new Air Patrol that will begin at the end of October. They will be asking parents not to idle in the car line while waiting to pick up students after school. As the trees that have been planted around the car line begin to grow, they will provide shade for families waiting for student pick-up. Our goal: A Better Quality of Air for Students to Breathe at School.<sup>1</sup>

There are ten students in the CAP. These students received training, clean air patrol t-shirts, and wrist bands. They have also distributed materials with information on air quality and pledges to stop idling, conducted a survey, and counted idling vehicles. The students noted a decrease of 26% in idling vehicles. In November 2008, City People a local newspaper published an interview with one of the students in the patrol.



Figure 7. Planting Day at Sevier Middle

TreesGreenville also choose Sevier Middle School for its third model tree garden in Greenville County. TreesGreenville has provided assistance to revitalize and convert Falcon Falls from just a garden area into an outdoor classroom.

### *Woodland Elementary School.*

Woodland Elementary implemented the B<sup>2</sup> program in fall 2008. A PTA volunteer contacted Greenville County inquiring about the program. This volunteer has been the champion of B<sup>2</sup> at Woodland Elementary and helped to form Woodland's new Green Team. The Green Team monitors the B<sup>2</sup> No Idle zone out front of the school during the afternoon car line. The team has also helped the school eliminate 14 tons of waste that can really be recycled. Specially honored 4<sup>th</sup> and 5<sup>th</sup> graders make up the Green Team. Woodland is so pleased to be partnering

<sup>1</sup> Source: <http://www.greenville.k12.sc.us/sevier/index.asp>





with DHEC and the EPA on a number of initiatives on campus as Wildcats Growl Green in 2008-09!

### *Sterling School.*

Sterling School (Charles Town Center—CTC) is a school for talented and gifted children in Greenville County. This means that most of the students commute to school with their parents from all over the county and just a few students take the bus or walk to school.

In early October 2008, Sterling School's *Lightning Legos* team conducted research for their project as part of the First Lego League Competition. The team quickly found out about the Breathe Better Air program and contacted Greenville County. County representatives made a presentation to the team and its coaches on air quality issues affecting the Upstate SC. The team took this information seriously and made it their research project for the 2008-2009 First Lego League Competition. The team won the Champion's Award, which is the highest award recognition for the competition at the regional level. The team advanced to the State level competition, which was held in February 2009. The school principal and teams' coaches are interested and supporting the B<sup>2</sup> program.



Figure 8. Lightning Legos Team during the First Lego League Regional Competition

The school's *Lightning Legos* and the *CTC Typhoons* robotics teams joined forces and continued researching and gathering data at the school during dismissal times. The students found from the data that an average of 26% of all the vehicles entering the school property during dismissal time idle for more than three minutes and a couple up to an hour. In addition, the teams noticed that between 60 to 80 vehicles idle for 5 to 15 minutes to get into the loading area.

### *Other Schools.*

Other area schools have expressed interested in the B<sup>2</sup>@School program. These schools include Oakview and Robert E. Cashion Elementary, J.L. Mann High School, and Christ Church Episcopal School. Greenville County and SCDHEC had discussions with J.L. Mann High School and Christ Church Episcopal School about program implementation. Christ Church Episcopal School is in the process of implementing the program.





## DHEC Involvement.

The South Carolina Department of Health and Environmental Control has assisted Greenville County and the schools with the implementation of the B<sup>2</sup> program. The assistance has been in-kind, technical, and financial. The in-kind and technical assistance included providing anti-idling signs, printed materials, and staff time to coordinate implementation of the program and compilation of and analysis of aggregate data. The financial assistance included funding from a grant to implement the program at Fountain Inn Elementary School and Sevier Middle School.

DHEC developed a protocol or step-by-step program guidelines describing what is required from schools that want to implement the Program. Attachment 1 includes the protocol and Attachment 2 includes the guidelines.

## Need More Information.

If you need more information, please contact:

Dan Powell, Planner  
Greenville County, SC  
301 University Ridge, Suite 2400, Greenville, SC 29601  
dpowell@greenvillecounty.org  
Work: (864) 467-7287  
Fax: (864) 467-5962

or

Sandra Yudice, Assistant to the County Administrator  
Greenville County, SC  
301 University Ridge, Suite 2400, Greenville, SC 29601  
syudice@greenvillecounty.org  
Work: (864) 467-7409  
Fax: (864) 467-7151





## How to B<sup>2</sup>

These guidelines for B<sup>2</sup> may be modified to meet any school's unique circumstances. To start B<sup>2</sup> at your school, contact:

Heather Stiltner  
SC DHEC  
(803)-898-2233  
[stiltshr@dhec.sc.gov](mailto:stiltshr@dhec.sc.gov)

Angie Perry  
Unique Promotions  
(803)-367-1436  
[angieperry@greenleafedu.com](mailto:angieperry@greenleafedu.com)

### 1. Planning

- Arrange a meeting with a B<sup>2</sup> representative to set goals and a timeline for the program.
- Choose a faculty or staff member to coordinate the project.

### 2. Student Involvement – the “Clean Air Patrol”

- Recruit students to be the Clean Air Patrol. Recommend 3<sup>rd</sup> grade and older.
- Educate these students on air quality and Patrol activities, which may include:
  - Distribute surveys, flyers, and rewards (when available) to inform and encourage parents
  - Create posters and newsletter articles to raise awareness
  - Data collection (see step 3)
  - Meet with bus drivers to encourage their participation
  - Presentations to fellow students, faculty and/or parent groups
  - Students will receive special reward items for their participation

### 3. Data Collection

- Don't be scared! Data collection for B<sup>2</sup> is simple, but essential for tracking progress.
- Data collection should begin before the project starts, to determine a baseline for measuring success, and be repeated at least twice in the first year of participation.

### 4. Adopt a Policy

- Another simple but essential step, an official policy will help ensure that B<sup>2</sup> and the practice of “no idling” will continue beyond the first year.
- Place the “no idling” policy in the student/parent handbook and the school website.

### 5. Getting the Word Out

- Inform families about B<sup>2</sup> by email, flyers, posters, newsletter, surveys, and/or phone.
- Build excitement and teach all students about B<sup>2</sup>. Have special “kickoff day” promotions or events. Lesson plans available, as well as “Spare the Air” bookmarks for all students.
- Meet with the bus drivers. Work with the transportation director if necessary. Bus drivers will receive a promotional item as encouragement and to promote B<sup>2</sup> daily.
- Post “no idling” signs (up to 5 will be provided) on campus as a reminder to drivers.



## 6. Keep it Going

- Make a plan for continuing B<sup>2</sup> into the second year. Reinforce the message and track progress. Recruit a new Clean Air Patrol if necessary.
- Consider other projects to improve air quality. Some examples from other schools are:
  - Planting trees/landscaping to reduce mowing area
  - Recycling and waste reduction
  - Start a walk/bike to school program
  - Encourage carpooling to reduce vehicle traffic
  - Energy conservation

## **Sample:**

### ***Voluntary Anti-Idling Policy for Cars***

Refer to the following guidelines to establish a voluntary anti-idling policy for carpoolers. Consider including the policy in the student/parent handbook and on the school Web site.

#### Policy Template:

(School's name) has established a voluntary "anti-idling" policy.

We ask that drivers turn off their engines while waiting in their cars to pick up students or adults, weather permitting.

We hope to reduce respiratory problems for our students and staff and improve the air quality around our school.

Thank you for your cooperation in this effort!

## **Sample:**

### ***Anti-Idling Policy for School Buses***

Refer to the following guidelines to establish a mandatory anti-idling policy for school buses in your school or district. Consider including the policy in the student/parent handbook and on the school Web site.

#### Anti-Idling Guidelines/Policy Template:

(School / district name) has established a mandatory "anti-idling" policy for school buses.

When a school bus is waiting for students to load or unload, the bus engine should be turned off to eliminate idling time and reduce harmful emissions.

The school bus should not be restarted until the driver is ready to depart. It is not necessary to warm up the engine longer than three to four minutes. If this is a problem because of cold weather or the age of the bus, a block heater can be used to help warm the engine (as advised by the Environmental Protection Agency).

Please follow all other state anti- idling laws and guidelines.

We hope to reduce respiratory problems for our students and staff and improve the air quality around our school.



Thank you for your cooperation in this effort!

**Sample:  
B<sup>2</sup> School Newsletter Article**

\_\_\_\_\_ will be participating in an anti-idling program called Breathe Better (B2) starting this school year \_\_\_\_\_. B2 is a voluntary anti-idling program which will help reduce the amount of air pollution your children are exposed to from school buses and vehicles while on school grounds. To protect public health, the U.S. Environmental Protection Agency (EPA) sets standards for several outdoor air pollutants, including particulate matter (PM) and ground-level ozone. These two pollutants are of particular concern in South Carolina and both are the focus of B2.

Many local factors can contribute to PM and the formation of ground-level ozone, like emissions from vehicles and industry, wood burning and lawn maintenance. Our school will be addressing several factors that can help reduce some of these emissions. These actions may include reduction of idling vehicles in the school parking lot and carpool lane, tree planting to help filter airborne PM and landscaping to reduce the mowing area on the school grounds, thereby reducing emissions from mowers. We will also be working with our school bus drivers to implement a similar anti-idling strategy while buses are on the school grounds.

We hope that you, as a parent, will support this effort by turning off your vehicle's engine during morning drop-off and afternoon pick-up. We believe that this action will have a positive impact on your child's health. Children are at a higher risk from air pollution exposure because they often spend a large part of their time playing outdoors, and they breathe more than adults do. Children are also more likely to have asthma, which may be aggravated by certain air pollutants. Asthma in children is one the most common causes of school absences.

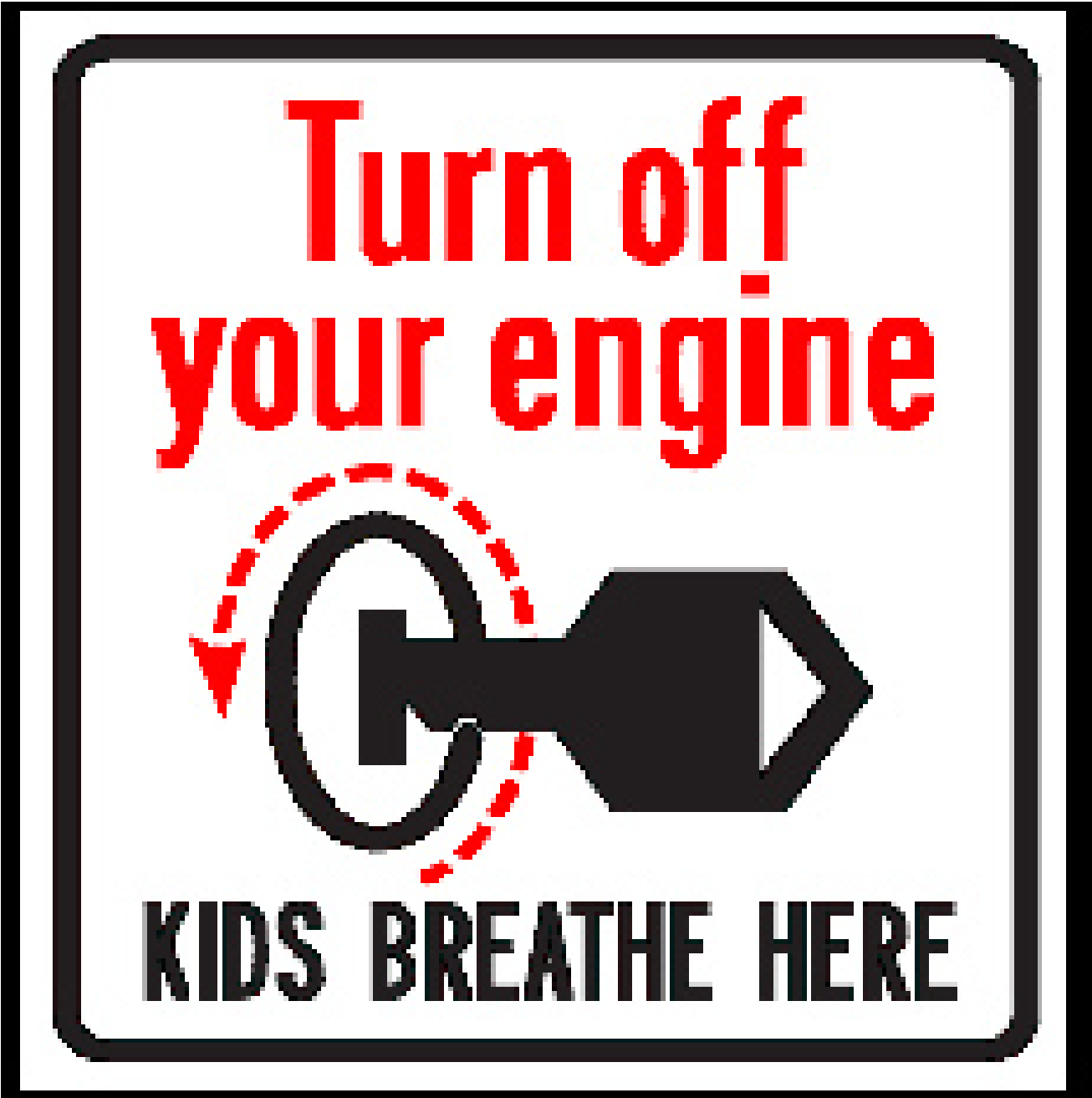
Look for the new voluntary anti-idling policy in the student/parent handbook and for the new anti-idling signs around the school campus. Reducing idling should help create a better learning environment for everyone!

Thank you for your cooperation.

**Sample:  
Data Collection Table**

Total Vehicle Count							
		1 <sup>st</sup> Date		2 <sup>nd</sup> Date		Difference	
		# Vehicles	% Idling	# Vehicles	% Idling	# Vehicles	% Difference
	In Loop	92		100		+8	
	Idling	34	37%	20	20%	-14	-17%

**Sample:  
"No Idling" Sign**



(Actual size 11"x17", aluminum, holes punched top-center and bottom-center)



Sample signage for school grounds



## BREATHE BETTER PROGRAM

1. Arrange a meeting with a Breathe Better representative to discuss program guidelines and timeline with your principal. Designate 6 or 8 students to attend a meeting so they can learn their responsibilities for the program.
2. Inform each school family about the program by email, flyer or phone.
3. Build excitement in the students through a description of what they will learn. Provide each with a "Spare the Air" bookmark.
4. Arrange for the Breathe Better representative to meet with the bus drivers for your school. Lunch or snacks will be provided to the bus drivers as they are recruited to participate in the program. Bus drivers will be given a promotional item so they can promote the program on a daily basis.
5. A Breathe Better representative will help the school reward the bus drivers at different times during the school year for their continued efforts in promoting the program.
6. Recruit and educate students on their responsibilities as the Clean Air Patrol, including:
  - a. A 5-6 question survey provided for students to ask parents in the pick-up line during afternoons.
  - b. Clipboards will be provided to use when conducting surveys with parents in pick-up line.
  - c. A vest or shirt will be provided for clean air patrol students to wear.
  - d. Air quality dog tags or wristbands will be provided for clean air patrol students.
  - e. B2 window clings will be provided for parents in the pick-up line that help with clean air survey and commit to no idling.
  - f. Small packages of M&M's will be provided to give to parents in carpool line that are not idling as a monthly check.

Angie Perry  
2566 Colebrook Drive  
Rock Hill, SC 29732  
803-367-1436 cell  
803-366-2607 fax  
angieperry@uniquelink.biz

Heather R. Stiltner  
Air Education and Outreach  
SCDHEC Bureau of Air Quality  
2600 Bull St. Columbia, SC 29201  
Tele: (803)-898-2233  
Fax: (803)-898-4487  
stitnhr@dhec.sc.gov



**Breathe Better at School Program Survey**

1. How many students are on the Clean Air Patrol? \_\_\_\_\_
2. Were you able to hand-out bookmarks to all of the students in the school? \_\_\_\_\_
3. Were you able to post the B2 signage? \_\_\_\_\_
4. Survey Results  
# of respondents \_\_\_\_\_  
% correct answers to each question \_\_\_\_\_  
# that pledged to reduce idling \_\_\_\_\_  
# of clings given away (and # leftover, if any) \_\_\_\_\_
5. Idling Count(s)  
# cars in afternoon pickup line \_\_\_\_\_  
% that were idling on first count \_\_\_\_\_  
if second count done yet, any change? Or if not yet, when is it  
planned? \_\_\_\_\_
6. Has a policy been adopted yet, or at least in the works? \_\_\_\_\_
7. Have you met with/spoken to the bus drivers, handed out mugs? What was  
their reaction? \_\_\_\_\_
8. Have you been able to contact the transportation director about the  
program? (not an initial requirement, but some schools said they would do  
that) \_\_\_\_\_
9. Have you been able to use any of the lesson plans that Heather gave you,  
or do you plan to? If used, any feedback for us? \_\_\_\_\_
10. We would like for you to send us pictures and a short summary of what  
you have done so far, for our website. \_\_\_\_\_

Angie Perry  
SC Breathe Better Program  
803-367-1436



Breathe Better @ School  
(B<sup>2</sup> Program)  
Greenville County, SC

A publication of  
Greenville County, SC  
County Administrator's Office  
August 2009

*It All Adds Up to Clean Air*