

A Guide to Implementation and Maintenance of a School Bus No-Idling Policy

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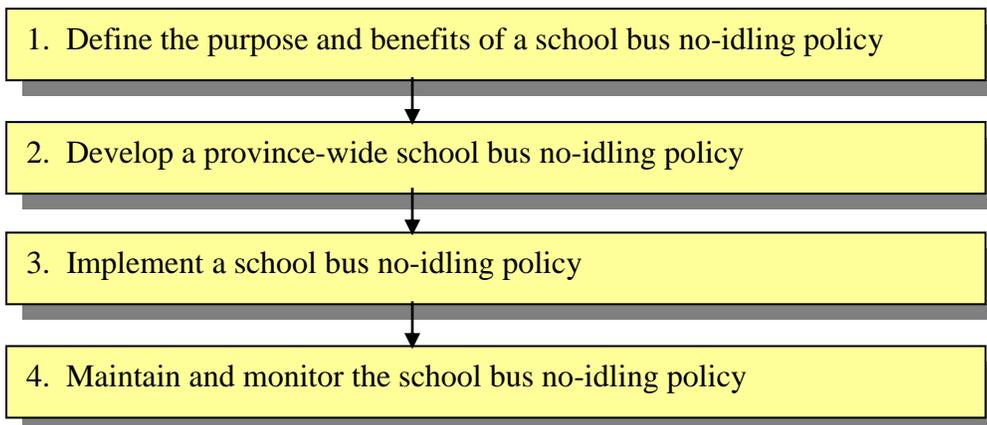
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Executive Summary

This Guide to Implementation and Maintenance of a School Bus No-Idling Policy outlines the reasons for, and the recommended steps for developing, implementing and maintaining a school bus no-idling policy. Information for the guide is based on the research and work involved in the introduction of the New Brunswick Department of Education's Policy 504 on School Vehicle Inspections, Maintenance and Reduction of Idling. This policy was introduced in September 2005. It is the first provincial school bus no-idling policy of its kind in Canada.

The goal of this guide is to share the information, strategies and recommendations of the no-idling efforts begun in New Brunswick with other provincial Departments of Education. The guide discusses the environmental health benefits of a no-idling policy to students, staff and bus drivers, in addition to the economic spin-offs in terms of fuel savings.

The New Brunswick Department of Education with assistance from the New Brunswick Lung Association successfully undertook a four phase process involving:



School transportation officials concerned with protecting human health and the environment, should also consider complementary initiatives such as purchasing policies that make fuel efficiency a priority, and no-idling policies for parental and delivery vehicles.

For additional assistance and information, contact representatives of the New Brunswick Department of Education and the New Brunswick Lung Association.



I – Purpose and Benefits of a No-Idling Policy

There are numerous benefits to implementing and maintaining a school bus no-idling policy. The most obvious are the health benefits to students, school staff and bus drivers. The overall impact means air pollutants and greenhouse gases (a major contributor to climate change) are reduced as well. A policy can also result in economic benefits due to fuel savings and reduced engine wear.

It is also important to note that while vehicle emissions are emitted outdoors, they impact indoor air quality as well. When school buses idle near schools, they impact indoor air quality when parked near school doors, windows and ventilation systems.

The following is a list of the environmental health and economic benefits of reducing vehicle emissions and implementing a no-idling program.

“An unexpected benefit of the no-idling policy was the reduction in noise pollution in the school bus loading zone”, said Shelley McLeod, School District 18 Transportation Manager, NB Department of Education.

“This greatly improved the ability of staff in ensuring students got to their proper buses and created an environment that facilitated communication between drivers and school personnel. The difference was especially notable in school yards where large numbers of idling school buses were gathered waiting for dismissal.”

Environmental Health Reasons

- Diesel exhaust is classified as a probable human carcinogen by many government authorities – World Health Organization (WHO).
- There are no known safe levels of diesel exhaust exposure for children, especially those with respiratory disease.
- Nitrogen oxides (Nox) and Particulate Matter (PM) emitted in large quantities from diesel engines are linked to harmful effects in children.
- PM is inhaled deep into the lungs.
- Diesel exhaust is linked to the dramatic rise in asthma and other chronic respiratory illnesses among children.
- According to one US study, children breathe school bus exhaust about 180 hours a year.
- Bus drivers have high exposure due to the time they spend on buses.
- Canada's transportation sector produces more than a quarter of all greenhouse gas (GHG) emissions, a major contributor to climate change.



Economic Reasons

- Fuel is one of the largest operating costs for school bus fleets and unnecessary idling is the main contributor of fuel wastage.
- Excessive idling is hard on a vehicle's engine. Because the engine is not working at its peak operating temperature, fuel combustion is incomplete, which leaves fuel residues that can contaminate engine oil and foul spark plugs. This translates into a shortened vehicle life, which means replacing buses earlier. (Source: Natural Resources Canada)



II – “How To” Develop a School Bus No-Idling Policy

When developing an idling policy, it is important to begin with four key steps:

1. Establish a steering committee
2. Define an action plan
3. Identify and address the barriers
4. Develop communications materials and strategies

1. Establish a Steering Committee

When establishing a steering committee, select people and groups who are essential to implementing a no-idling policy or who have expertise in this area. Their understanding and support is vital to the successful development, implementation and maintenance of a school bus no-idling policy.

In some cases, you may have to educate your members about the purpose and benefits of a policy. If they are not aware of the environmental health and economical impacts of a policy or are confused as to how it may affect them, it could impact whether a policy is successful or not.

Steering committee members could represent some of the following groups:

- Department of Education
- School transportation branch
- School bus drivers union / company
- Parent groups
- Health and safety committee
- Teachers union
- Principal groups

Helpful Hint

You may want to contact the organizers involved in the development and implementation of the New Brunswick Department of Education’s School Bus No-Idling policy (see Appendix B).

Key topic areas to address with your steering committee are:

- The value of a policy
- What the policy will mean
- What the action plan involves

2. Define an Action Plan

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Once you have decided why a school bus no-idling policy is important, your next step is defining an action plan. The action plan will involve answering three key questions:

- Q1. What do you want to do?**
- Q2. When do you want to do it?**
- Q3. Who will be responsible for what?**

Each province or school district may answer these questions differently, according to the needs of the jurisdiction. To help you answer these questions, see the *Profile* below of how the New Brunswick Department of Education addressed these same concerns.

Profile:

When defining their action plan, the NB Department of Education decided that:

- A1. All school buses that stopped for five minutes or more must stop idling – on and off school property**
- A2. A short pilot project was run for a month in one school district. Then the Roll-out of a province-wide policy occurred shortly after a successful pilot project.**
- A3. The school district transportation supervisor will inform and oversee all school bus drivers. The school principal can report the bus numbers of any idling buses to the supervisor. The principal will also inform all staff, students and parents about the pilot project (via newsletters and bookmarks) – and later, about the province-wide policy.**

3. Identify and Address the Barriers

Identify and address any concerns immediately. Below are some sample problems and solutions. Ask steering committee members for input and feedback. They may have important questions not addressed in this guide. Some concerns may be specific to your area or situation, and may require a local solution. (Please share your local problems and solutions with the authors of this report, so they may help others address similar concerns.)

Common Q & A's

- Q How are safety lights run if the bus is turned off?**
- A** The requirement to run safety lights was a big concern in the New Brunswick pilot project. However, transportation officials said that the buses' batteries should be able to run the safety lights for the short period of time that the buses are loading.
- Q What happens if windows steam up or freeze over?**
- A** Steaming up or frosting over should not be a problem for the short amount of time that buses



4. Develop Communications Strategies and Materials

Effective education and communication strategies and materials are essential to a successful no-idling program. The following is a checklist for effective communications.

A Checklist for Effective Communications (Source: Dr. Doug MacKenzie-Mohr)

- Understand who your audience is (bus drivers and school staff).
- Make your communications (instructions for not idling) clear and specific.
- Make it easy for people to remember what to do, and how and when to do it.
- Where possible, use personal contact to deliver your message.
- Have your message delivered by someone who is credible with your audience.
- Model the activities you would like people to engage in.
- Give feedback at both the individual and group level about the impact of the new activity.

Communication materials may vary from province to province. Your steering committee should decide what materials would be the most appropriate and effective for your school bus drivers and school staff.



The following are some of the communication tools used in the New Brunswick school bus no-idling program.

No-Idling Signs

The school bus no-idling signs are used to remind bus drivers of the no-idling policy. They are posted near student pick-up areas.

The signs are two-foot square and made of metal. They are either attached directly to school buildings or mounted on ten-foot metal posts.



No-Idling Handouts

The school bus no-idling handouts were distributed to school bus drivers and school staff to remind them of the no-idling policy and its benefits. The handouts are approximately two inches wide and six inches long.

Since New Brunswick is a bilingual province, the handouts are English on one side and French on the other.

No-Idling Key-Chains

The no-idling key-chains were distributed to school bus drivers as a reminder of the policy, and as a daily prompt to turn their engines off.

As referred to above, to accommodate for New Brunswick's bilingualism, the key-chains are in English and French.



III - “How To” Implement a School Bus No-Idling Policy

Once your steering committee has defined your action plan, identified and addressed possible barriers, and developed your communications strategies and materials, you are ready to begin the process of implementing your school bus no-idling policy.

The following are three key steps to implement a school bus no-idling policy.

1. Pilot the program
2. Review the pilot results
3. Roll-out the program

1. Pilot the Program

An important first step in implementing a school bus no-idling policy, is to pilot the program. A pilot phase provides an opportunity to identify and address any potential and real problems before rolling-out a larger district or province-wide policy.

Begin by choosing a small sample of pilot participants, perhaps the buses that serve one school or school district. The purpose of the pilot is also to gather information on what went right and what needs improvement. The following are the basic steps involved in a pilot school bus no-idling initiative:

- Establish a start and end date for the pilot project.
- Collect pre-pilot observations, such as present idling times and other significant observations, such as meeting places for drivers – school lobbies or in buses.
- Carry-out your communications strategies (i.e. inform all key people about the pilot – transportation officials, bus drivers, school staff and parents).
- Distribute appropriate communications materials and prompts (signs, key-chains, etc.).
- Run the pilot and make observations.
- Evaluate the pilot.



Helpful Hint

It is important to run a pilot project during the warmer months of the year (between April and October), unless of course, you enjoy the warmer weather of the British Columbia climate and you can extend this time by a month on either end. Studies have shown that weather and outside air temperature have a strong effect on idling behaviour. It is important to plan the pilot project and evaluations for a time of year when weather conditions are least likely to change, so that the pre- and post-data collection and intervention results are not skewed by varying degrees of temperature. Also, during the warmer months the amount of available daylight is greatest, making it easier and safer to make observations. (Source: *Natural Resources Canada*)

Data collection is a valuable part of the pilot project. It will help you assess the success of the various components of your action plan. Plus, it will provide an indication of some of the barriers, if any, that you may face in implementing a policy.

Helpful Hint

When conducting the pre- and post-intervention data, discreetly position the staff/volunteers out of sight yet where they are able to clearly see the school buses. The staff/volunteers should be trained to look for visible tailpipe exhaust or a mildly shaking tailpipe as indications that a bus is idling. (Source: *Natural Resources Canada*)

2. Review the Pilot Results

In many cases, the pilot project may encounter few if any problems. In that case, prepare to either expand the scope of your pilot project or prepare for a province-wide roll-out of the policy. See the *Profile of The Healthy School Program*, for how the New Brunswick Department of Education first approached their no-idling policy.

If you encountered some barriers or areas of concern, have your steering committee look for solutions to the situations that were observed. This guide's contact list (Appendix B) may be helpful in providing some assistance.

3. Roll-out the Program

Once you have addressed any concerns identified in the pilot stage, and your communication materials and strategies are in place, you are ready to roll-out your no-idling policy. Congratulations!



An example of a successful pilot project can be seen in the Profile below.

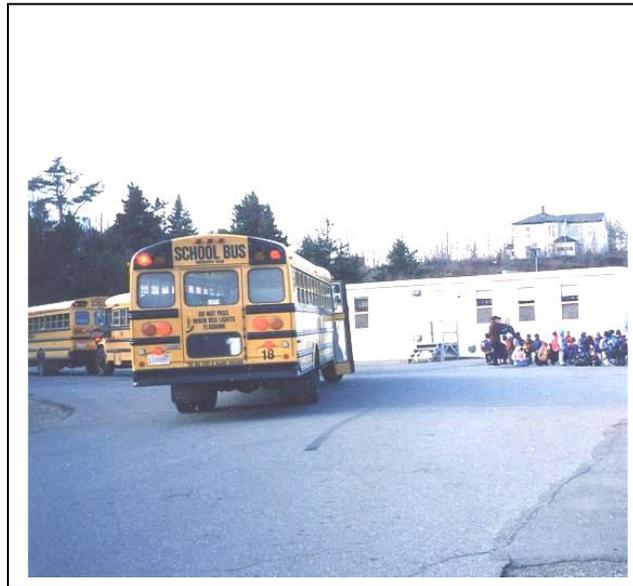
Profile: The Healthy School Program

While working on their indoor and outdoor air quality project – The Healthy School Program – project workers from the New Brunswick Lung Association and the project’s steering committee were alerted to school staff’s concerns about vehicle emissions from school buses.

The Healthy School Program’s steering committee wanted to know whether a no-idling policy for school buses could be implemented to address the problem. After gathering information on the benefits and value of a program, the committee met with the New Brunswick Department of Education’s transportation staff. The discussion addressed many a variety of questions, such as could safety lights run off the bus’ battery; would windows frost up, would students be warm etc.

It was agreed that a no-idling pilot project should be tried at some schools in School District 6.

In one case, school buses picked up primary school students at 2:10 p.m., then drove around to the next-door elementary school and idled for 15 – 20 minutes, until the dismissal for the elementary students. Not only were students in the elementary school exposed to vehicle emissions via windows, doors and the air exchange systems, but the primary school students and the drivers were exposed to emissions while they waited (buses were parked end-to-end in a row).



Hampton Elementary School

The pilot project to turn buses off while waiting outside the elementary school went well. The school district transportation supervisor, Shelley McLeod understood and supported the value of a no-idling policy. After the success of the pilot project, she implemented a district-wide policy.

The transportation supervisor also knew the value of communication, awareness and education. She invited Lung Association staff to address meetings of the district school board and workshops for bus drivers. She also participated in media interviews to let the public know about the program.

Signage and education materials (window stickers and bookmarks) were also used to remind drivers about the policy. School staff could contact the transportation supervisor to report any buses that continued to idle.

From this pilot project, grew a district-wide policy, which spread to implementation in other school districts, and ultimately to a province-wide policy – a first in Canada.



IV - Policy Maintenance

Once a school bus no-idling policy has been introduced, it is important to maintain the program. You may have the best policy in the world, but if the policy is not being followed or people do not understand it, little is being achieved. Establishing effective monitoring, reporting and measurement mechanisms are key to policy maintenance.

Monitoring and Reporting Mechanisms

Monitoring and maintaining a no-idling policy should be simple and straightforward. It also has to be understood by all school partners (bus drivers, staff, parents and students).

The following are the steps involved in reporting school bus idling.

- School staff should note the school bus numbers and report them to the principal.
- School principals should contact their district school transportation supervisor to report the bus idling (ideally with a brief description of the situation – i.e. bus arriving early, idling for 20 minutes, number of occurrences etc.)
- If there is another reoccurrence (after Steps 1 and 2), the school principal can then approach the driver(s) directly, as well as report the incident to the school district transportation supervisor.

Measuring Mechanisms

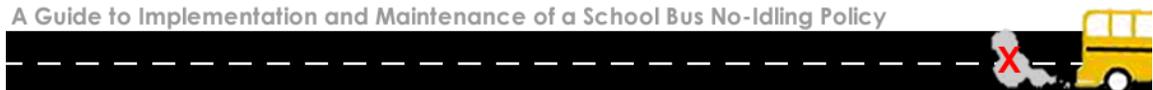
One of the spin-off benefits of a no-idling policy is fuel savings. With tight budgets, saving money is always an important factor. School District Transportation officials should make every effort to measure the fuel savings from implementation of a no-idling policy.

Mechanisms should be put in place to gauge the yearly and quarterly fuel costs. If savings are not evident, look for possible explanations (i.e. increased student population, more buses, longer routes etc.). Otherwise, this may be a flag or an indication that the policy is not being adhered to as planned. One solution would be to:

- Meet and discuss concerns with stakeholders
- Review the communications, education and awareness strategies
- Review the monitoring and reporting mechanisms



Appendices



Appendix A

New Brunswick Department of Education Policy 504



Appendix B

Contact List

Name	Title	Phone Number	Email
<i>New Brunswick Department of Education</i>			
Jean-Pierre Boudreau	Director of Educational Facilities and Transportation Branch	506-453-2242	JP.Boudreau@gnb.ca
Tim O'Connor	Senior Project Administrator with Educational Facilities and Transportation Branch	506-453-2242	Tim. O'Connor@gnb.ca
Ron Arsenault	Training and Safety Coordinator Public Transportation	506-453-2242	Ron. Arsenault@gnb.ca
Shelley McLeod	School District 18 Transportation Manager	506-453-2672	Shelley.McLeod@gnb.ca
<i>New Brunswick Lung Association</i>			
Kenneth Maybee	President and CEO	506-455-8961	Nblung@nbnet.nb.ca
Alison Howells	Director of Environmental Initiatives	506-455-8961	Nblung@nbnet.nb.ca
Jane O'Rourke	Environmental Programs Coordinator	506-455-8961	Nblung@nbnet.nb.ca



