Press Statement: OPHA School Bus Report
November 21, 2005

Garry Aslanyan: Welcome everyone. My name is Garry Aslanyan. I am the President of the Ontario Public Health Association (OPHA) and MC for this event. The OPHA is a volunteer organization with members from across this province. Most of our volunteers work in public health units, community health centres and academic institutions. They are environmental health inspectors, policy analysts, epidemiologists, doctors, toxicologists, nurses and health promoters who work to protect and improve public health in this province. The goal of our organization is to promote the changes needed in society to improve the health of Ontario citizens.

Today, I have the pleasure of introducing speakers who will present the findings of a project initiated by the OPHA three years ago. With the financial assistance of the Laidlaw Foundation and the Walter and Duncan Gordon Foundation, the OPHA has examined emissions from school buses, the health implications associated with those emissions, and the actions that can be taken to reduce those emissions to improve the health of our children.

We have asked Dr. Hanif Kassam and Dr. Liana Nolan to present our findings and recommendations today. Dr. Hanif Kassam is the MOH for the Region of Peel and Dr. Liana Nolan is the MOH for the Region of Waterloo. They have been very supportive of the school bus project and their staff, who are active members of the OPHA, have been directly involved in its development over the last three years.

Dr. Kassam: The OPHA's school bus project represents a cross section of two areas of great interest to Ontario's public health sector. It addresses air pollution and it addresses children's health. School buses are heavy-duty vehicles that emit diesel exhaust that is rich in fine particulate matter, diesel particulate matter, and other air pollutants that contribute to poor air quality across this province.

We are particularly interested in school buses because studies indicate that they can be self-polluting; that emissions from their tailpipes and from their engine compartments have a way of entering their cabins to pollute the air on-board.

Exposure studies conducted in several jurisdictions including New Brunswick, have demonstrated that concentrations of air pollutants such as fine particulate matter and diesel particulate matter can be several times higher on-board school buses than concentrations in ambient air, other types of vehicles, or along school walking routes.

This is a concern because fine particulate matter and diesel particulate matter are air pollutants that have been shown to produce a broad array of acute and chronic health impacts among those exposed. Short-term exposures have been strongly associated with increases in asthma symptoms, reductions in lung function, increases in respiratory infections, aggravation of allergy symptoms, and increases in hospital admissions and premature deaths. Long-term exposures have been linked to increased rates of chronic heart and lung diseases including lung cancer. In addition, a number of traffic corridor studies suggest that these air pollutants may contribute to new cases of asthma among children.

While children may spend a short period of time each day on-board school buses, the exposure studies suggest that this time can contribute substantially to their daily and annual exposures. In California, for example, researchers concluded that while children spend only 10% of their time on-board school buses, that time is responsible for one third of their exposure to diesel particulate matter.

When children are exposed to air pollutants, our concerns are two-fold. We are concerned about how these exposures can affect their health today, and we are concerned about how these exposures can affect their health later in life. For example, low lung function among children has been shown to be a predictor for respiratory disease and premature death in later life.

While school bus exposures may only represent a small increase in the health risks experienced by individuals, when we apply that increase to the 800,000 Ontario children who are transported by school buses each year, we could be talking about a significant number of acute and chronic health impacts

We do not want people to walk away from this event thinking that they should drive their children to school. School buses are a very safe form of transportation and, for a variety of reasons, we would much rather have 50 children arriving at school in one school bus than in 50 separate cars. However, there are things that can be done to make school buses healthier for children, and that is what we are recommending today.

Dr. Nolan: The OPHA examined Ontario's fleet of school buses, the emissions associated with them, and the emission reduction options that might be applied to them including alternative technologies and fuels.

We found that there are about 15,000 school buses operating in Ontario, most of which are fuelled with diesel fuel. Collectively, these school buses emitted approximately 3,400 tonnes of smog-forming air pollutants in 2004. About one third of Ontario's school buses were built before 1994 and are nearing retirement age, while the other two

thirds were built between 1994 and 2005 and have between 4 and 20 years of service life ahead of them.

We also learned that the diesel engine industry is undergoing huge changes that are driven by rapidly declining emission standards. School buses built to today's standards emit up to 6 times less air pollution than buses built before 1994, while school buses built after 2006, will emit up to 10 times less air pollution than buses built today.

These emission reductions are being achieved with changes in engine design, the use of diesel particulate filters as emission control devices, and the use of ultra-low sulphur diesel that contains less than 15 ppm of sulphur. While these changes will reduce emissions from school buses to a small fraction of current levels, they will also significantly reduce exposures on-board school buses.

One exposure study found that concentrations of diesel particulate matter on-board school buses could be reduced to ambient air levels when school buses were retrofitted with diesel particulate filters and run on ultra-low sulphur diesel. When a filtration device for the engine compartment was added to this combination, concentrations of fine particulate matter were also reduced to ambient air levels as well.

This is encouraging news. It tells us that in 2025, when the fleet of school buses in Ontario has been totally changed-over, emissions from school buses will be a small fraction of emissions from today's fleet and childhood exposures to school bus exhaust will almost be eliminated as a concern. Of course, it begs the question: "Do we have to wait until 2025?" And the answer is "no". In the United States, they have been encouraging the retirement of older school buses and the retrofitting of existing school buses for several years now with programs established at the Federal and State level.

So, the OPHA is recommending that the Ontario Ministry of Environment establish a Healthy School Bus Program to promote and fund emission reductions from Ontario's fleet of school buses to improve both the health of our children and local air quality in communities across the province. We are recommending that this program encourage the early retirement of older school buses, the retrofitting of newer school buses, and the early adoption of school buses that meet the 2007 emission standards. We are also recommending that the Federal government establish a Healthy School Bus Fund to support Ontario's program and programs like it across the country.

Garry Aslanyan:

(Introduce: Kim Perrotta as the author of the OPHA report and Ralph Torrie as the consultant who analysed emission reduction options for the OPHA so they can answer technical questions if need be. Then field questions.)