

Non-Smokers' Rights Association

Smoking and Health Action Foundation

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Smoke-free Cars with Children Present

The Non-Smokers' Rights Association supports the implementation of laws to ban smoking in private vehicles when children are present.

Why smoke-free cars?

There are two main benefits to passing such laws:

- Children are protected from the known health hazards of exposure to second-hand smoke (SHS), and
- Smoke-free car laws are excellent public education tools that help to raise awareness about the risks of exposure to SHS, especially among children.

It is well documented that there is no known safe level of exposure to SHS. Evidence is now emerging that smoking a single cigarette for only 5 minutes in a vehicle can result in concentrations of respirable suspended particles (RSP) reaching levels similar to those measured in smoky bars.¹ Respirable suspended particle pollution poses a health hazard because the fine particles can be inhaled deep into the lungs, increasing susceptibility to respiratory infections, aggravating existing respiratory diseases such as asthma and chronic bronchitis, and causing more use of medication.

A 2006 study by Rees and Connolly measured RSP concentrations under two ventilation conditions: "open," meaning all 4 windows rolled down halfway, and "closed," meaning only the driver's side window unrolled 5 cm.² Their results are alarming for both ventilation conditions:

- When only the driver's window was open 5 cm, the mean concentration of RSP was 272 $\mu\text{g}/\text{m}^3$, which is actually off the U.S. Environmental Protection Agency's (EPA) air quality index scale. The EPA indicates that concentrations over 40 $\mu\text{g}/\text{m}^3$ are "unhealthy for sensitive groups."³ Sensitive groups for particle pollution include people with heart or lung disease, older adults (who may have undiagnosed heart or lung disease), and children.⁴
- When all 4 windows were open half-way, the mean concentration of RSP was 51 $\mu\text{g}/\text{m}^3$, still high enough to be identified as "unhealthy for sensitive groups."

¹ **Rees VW**, Connolly GN. Measuring air quality to protect children from secondhand smoke in cars. *American Journal of Preventive Medicine* 2006; **31**:363-68.

² *ibid*

³ **U.S. Environmental Protection Agency**. Air quality index. <http://cfpub.epa.gov/airnow/index.cfm?action=aqibroch.aqi#aqipar>

⁴ **U.S. Environmental Protection Agency**. <http://airnow.gov/index.cfm?action=aqibroch.aqi#13>

These results demonstrate that neither having the driver's side window down slightly nor having all 4 windows open half-way adequately clears the car of smoke.⁵

Children exposed to second-hand smoke are at an increased risk for asthma, ear infections, bronchitis, pneumonia, and even sudden infant death syndrome (SIDS).

Children are disproportionately affected by second-hand smoke because:

- Their bodies are still developing,
- They have immature immune systems,
- They breathe at a faster rate than adults, and
- They don't have control over their environments like adults do.

How much of a problem is this?

With the advent of smoke-free workplaces and public places across Canada, the home and car are the predominant locations for Canadians' exposure to SHS. However, there is currently no Canadian data to provide a detailed snapshot of children's exposure to SHS in private vehicles. According to 2006 statistics from the Canadian Tobacco Use Monitoring Survey, over 350,000 children under the age of 12 were regularly exposed to SHS in the home.⁶ If adults are smoking in the home with children present, it is probably fair to assume that many of them also smoke in their vehicles with children present.

A survey conducted by Environics for the Canadian Cancer Society in 2006 found that only 37% of households with at least one smoker and one vehicle made their vehicles smoke-free.⁷ The same survey also noted that smokers do not tend to perceive exposure to SHS as a serious health risk the way non-smokers do.⁸

Why a law? Why not just focus on public education?

People are more likely to make their cars smoke-free when it becomes a law. Passing a law serves as a powerful public education tool. Human behaviour is driven by incentives, and fear of breaking the law is a fairly strong incentive, even when the financial penalty is minimal. In addition, the social incentive to comply increases when something becomes illegal – the hard glare of fellow motorists and the offender's guilty feelings are arguably more powerful than any monetary fine. Finally, having a law in place provides justification to those Canadians who want a smoke-free policy for their vehicles but were lacking the social support to do so.

⁵ **U.S. Environmental Protection Agency.** <http://airnow.gov/index.cfm?action=aqibroch.aqi#13>

⁶ **Canadian Tobacco Use Monitoring Survey (CTUMS) 2006.** Summary of annual results for 2006.

⁷ **Canadian Cancer Society.** Majority of Canadians are making their homes and cars smoke-free. Press release, 12 January, 2006.

⁸ **Environics Research Group.** Smoking issues: Commissioned research conducted for the Canadian Cancer Society, field dates December 10-31, 2005.

Is there public support for smoke-free car laws?

The Ontario Tobacco Research Unit has been tracking public support in Ontario for banning smoking in vehicles with children present since 2002. Support has increased significantly from 68% in 2002 to 78% in 2005, which includes a 66% level of support amongst smokers who were polled.⁹

How could a smoke-free car law ever be enforced?

The strength of such an initiative is arguably the social incentive. For jurisdictions that have already passed a law, such as Wolfville, Nova Scotia, the focus is more on awareness and public education, with tickets and fines being a measure of last resort.¹⁰ Wolfville has indicated that it will not be pouring additional resources into enforcement of its bylaw, but will rather use the law as a tool to communicate the need for smoke-free cars.

In general, violation of a smoke-free car law need not be the primary motivation for pulling over a motorist. Police who stop motorists for dangerous driving or other behaviour that presents a red flag could simply scan the inside of the car as part of their routine procedure. In California, for example, smoking in a car with children present is a secondary infraction; in other words, the police are prohibited from stopping a vehicle for the sole purpose of determining whether the driver is smoking with a minor present.¹¹ In Wolfville, if smoking with children present is evident, a warning will be given first, followed by a fine of between \$50 and \$200 for subsequent violations.¹² As in the case of Arkansas, any person who proves to the court that he or she has entered into a smoking cessation program may have his or her fines eliminated for a first offense violation.¹³

Isn't this an invasion of privacy?

Some people said the same thing when mandatory seat belt laws or children's car seat laws came into effect. Look back a couple of decades and remember when the issue of drinking and driving was just starting to gain prominence. Twenty years of public education has resulted in a social norm change – today no one would argue that drinking and driving laws infringe on people's rights or their privacy. Laws that prevent people from smoking and driving with children present will help to advance social norms in this respect.

⁹ **Ontario Tobacco Research Unit.** The Smoke-Free Ontario Act: Extend protection to children in vehicles. OTRU Update, August 2006.

¹⁰ **Town of Wolfville.** Request for decision: No smoking in vehicles with children present report and bylaw development. www.town.wolfville.ns.ca/news/nosmokingincarsbylaw.pdf.

¹¹ **California Senate.** Senate Bill No. 7, Chapter 425. http://info.sen.ca.gov/pub/07-08/bill/sen/sb_0001-0050/sb_7_bill_20071010_chaptered.pdf

¹² **Town of Wolfville.** Request for decision: No smoking in vehicles with children present report and bylaw development. www.town.wolfville.ns.ca/news/nosmokingincarsbylaw.pdf.

¹³ **Arkansas State Legislature.** Arkansas protection from secondhand smoke for children act of 2006. <http://www.arkleg.state.ar.us/ftp/root/acts/2006S1/public/act13.pdf>.

Libertarians and other opponents may dismiss a smoke-free car law and argue that this is not a health and safety issue but rather a private property issue. Although cars may be private property, there are numerous laws that regulate behaviour in private vehicles, with respect to the use of seat belts, children's car seats, and cell phones. Driving is a privilege and not an absolute right.

Aren't you greatly exaggerating the harm from exposure? After all, it's the dose that makes the poison.

It is correct that there is a dose-response relationship regarding the health risks of exposure to SHS--the greater the dose, the greater the risks. However, there are additional points to consider:

- i. Short-term exposure to SHS has immediate irritant effects, particularly irritation of the eyes, nose, throat and respiratory system. Many people also report headache, dizziness and nausea when exposed to cigarette smoke. Allergies can be worsened by SHS exposure, and SHS exposure can cause asthma attacks.
- ii. The soft furnishings and plastic surfaces inside a car act like a reservoir – absorbing and adsorbing SHS toxins which are later “off-gassed.” Research by tobacco company Philip Morris on rats using aged SHS (30 minutes old) demonstrates that stale smoke is more toxic than “fresh” cigarette smoke.¹⁴
- iii. The SHS in cars study by Rees and Connolly found that even with all four windows open half-way, the mean concentration of RSP from a single cigarette reached 51 $\mu\text{g}/\text{m}^3$.¹⁵ The U.S. EPA has concluded that RSP concentrations over 40 $\mu\text{g}/\text{m}^3$ are “unhealthy for sensitive groups.”¹⁶ However, it is more common to see just the driver's side window open as opposed to all 4 windows, meaning that in most cars with someone smoking the particulate matter concentrations are likely even higher.
- iv. A recent study by Ott and colleagues noted that the high particle concentrations inside cars with smokers are due to the high particle emission of a cigarette (about 12-14 mg, or 12,000-14,000 μg) and the relatively small mixing volume of a motor vehicle (about 2-6 m^3).¹⁷ A quick calculation using the higher numbers and assuming all the windows and vents stay closed reveals a particulate matter

¹⁴ **Schick S**, Glantz SA. Sidestream cigarette smoke toxicity increases with aging and exposure duration. *Tobacco Control* 2006; **15**:424-29.

¹⁵ **Rees VW**, Connolly GN. Measuring air quality to protect children from secondhand smoke in cars. *American Journal of Preventive Medicine* 2006; **31**:363-68.

¹⁶ **U.S. Environmental Protection Agency**. Air quality index. <http://cfpub.epa.gov/airnow/index.cfm?action=aqibroch.aqi#aqipar>

¹⁷ **Ott W**, Klepeis N, Switzer P. Air change rates of motor vehicles and in-vehicle pollutant concentrations from secondhand smoke. *Journal of Exposure Science and Environmental Epidemiology*, 18 July 2007; doi: 10.1038/sj.jes.7500601.

concentration of roughly 2,300 $\mu\text{g}/\text{m}^3$. Remember--even with all four windows open half-way, Rees and Connolly still found a mean concentration of 51 $\mu\text{g}/\text{m}^3$ ¹⁸ which exceeds what the U.S. Environmental Protection Agency considers acceptable from a health perspective.¹⁹ It is highly unlikely that drivers who smoke with children present unroll all 4 windows at least half-way. The real world concentrations of respirable particulate matter are thus likely somewhere in between.

Are you suggesting that smoking in a car with a child present amounts to child abuse?

No. The vast majority of parents wants the best for their children and would not purposely put their child at risk, smokers included. However, many smokers are unaware of the significant risk to their children's health from exposure to cigarette smoke in a car – even with a window open. As well, most smokers are addicted to nicotine. A better way to frame the issue is to consider rights. Why should a child's right to health and clean air be superseded by an adult's addiction to nicotine?

The Non-Smokers' Rights Association firmly recognizes that the best place for children to be is with their parents, regardless of whether the parents smoke in their presence or not. The NSRA is not advocating that penalties for smoke-free car laws include removal of children from their parents' care. The point of such laws is to focus on public education and increased awareness of the need for smoke-free cars.

Would smoking in a car with a child present be made a criminal offense?

No, the intent is not to turn smokers into criminals or to remove children from their parents' care. Although the municipality of Rockland County, New York, made smoking in a car with a child present a criminal violation, the NSRA does not support such a direction.

If a parent is smoking in the car with children present, you can be sure they are smoking in the home with children present. Children's exposure to SHS is much more significant in the home where they spend more time. Why aren't you advocating for a law to ban smoking in the home when children are present?

The simple answer is that there is no public appetite or political will for a law to ban smoking in the home with children present. Such an initiative is both wholly unpalatable and logistically unsound. The NSRA prefers to advocate for voluntary smoke-free homes policies and to focus on continued public education about children's exposure to SHS.

¹⁸ **Rees VW**, Connolly GN. Measuring air quality to protect children from secondhand smoke in cars. *American Journal of Preventive Medicine* 2006; **31**:363-68.

¹⁹ **U.S. Environmental Protection Agency**. Air quality index. <http://cfpub.epa.gov/aimnow/index.cfm?action=aqibroch.aqi#aqipar>