

"Evidence suggests that vehicles can also be a significant source of secondhand smoke exposure for children. Children can be regularly exposed to secondhand smoke when parents or other adults smoke in these vehicles while they are present. The concentrations of secondhand smoke in vehicles where smoking is occurring can reach very high levels. Making vehicles smoke-free would be expected to reduce children's secondhand smoke exposure."

U.S. Surgeon General's Report, 2006

Secondhand Smoke Exposure in Vehicles is Detrimental to the Health of Children and Nonsmoking Adults

The Surgeon General has declared that tobacco use is the most preventable cause of disease and death in the United States.¹ Each year, smoking is estimated to cause 443,000 deaths and 8.6 million serious illnesses in the United States.^{2,3} Tobacco use also creates a significant economic burden for the country, with tobacco-related illnesses costing more than \$96 billion in medical expenses and \$97 billion in lost productivity each year.⁴ Smokers are at a higher risk of death and illness due to lung cancer, coronary heart disease, chronic lung disease, stroke, and other cancers.²

Yet smokers are not the only persons at an increased risk of death and disease from tobacco use. Secondhand smoke causes premature death and disease in children and nonsmoking adults.⁵ In 2007-2008, approximately 88 million nonsmoking Americans were exposed to secondhand smoke in their workplaces, public places, homes, and vehicles.¹⁸ Secondhand smoke exposure causes heart disease and lung cancer in nonsmoking adults and sudden infant death syndrome, acute respiratory infections, middle ear disease, more severe asthma, respiratory symptoms, and slowed lung growth in children.¹ Each year secondhand smoke exposure causes an estimated 3,400 lung cancer deaths and 46,000 heart disease deaths among nonsmoking adults and 150,000 to 300,000 cases of bronchitis and pneumonia in children younger than 18 months of age. Because their bodies are still developing, children are especially susceptible to the effects of secondhand smoke. Exposure to secondhand smoke for as little as 10 seconds can stimulate asthmatic symptoms in children.⁶ In 2006, the U.S. Surgeon General concluded that the only way to fully protect nonsmokers from secondhand smoke exposure is through 100% smoke-free indoor air environments, so even smoking with ventilation efforts such as an open window or running air conditioning system does not eliminate the risk of secondhand smoke.¹ Vehicles may be a substantial source of secondhand smoke exposure for some children and

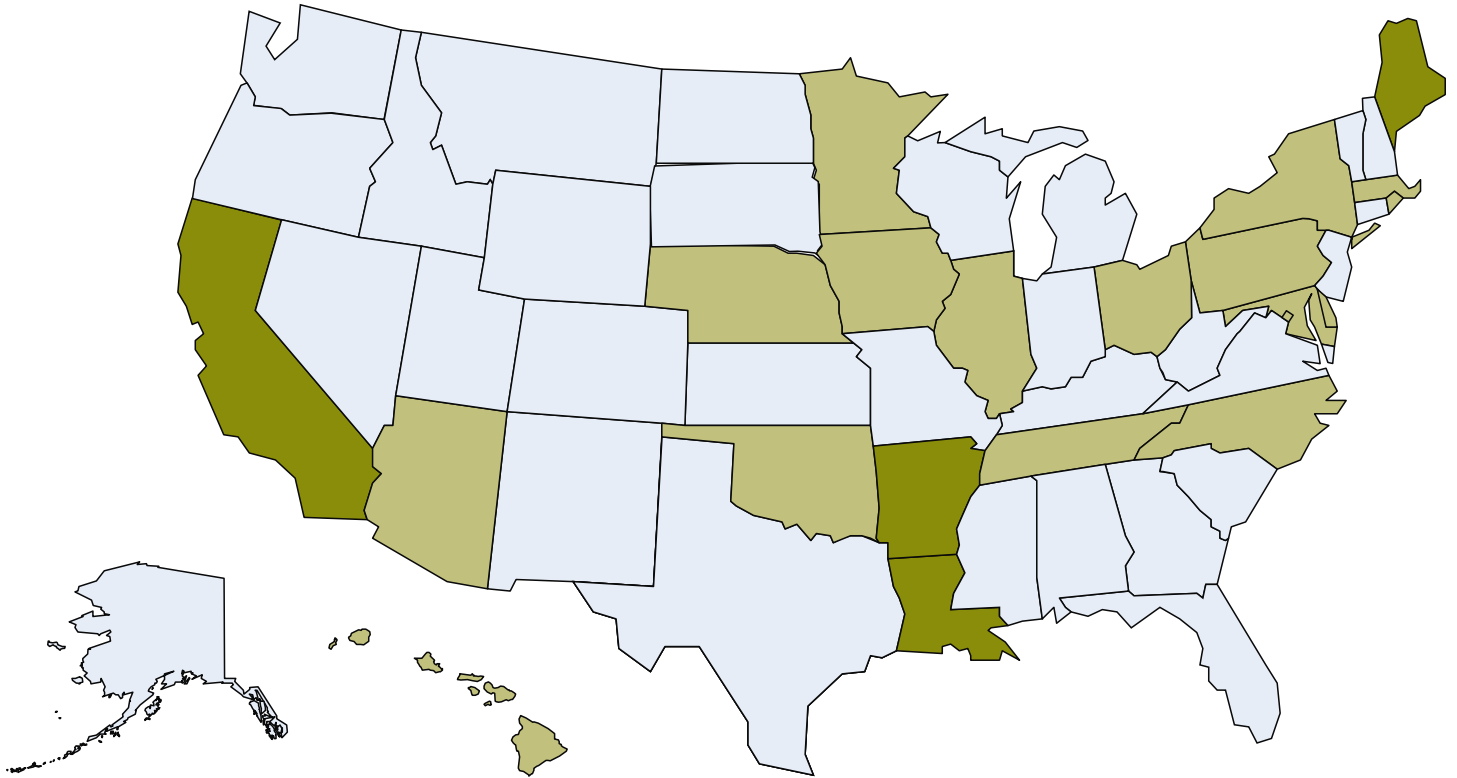
nonsmoking adults.^{1,7} For example, a recent survey of 1,770 parents and guardians found that more than 50% of families do not have a family rule prohibiting smoking in the family vehicle, potentially exposing a sizeable proportion of children to secondhand smoke.⁸

Smoking restrictions in worksites and public places established through state laws, local laws, and voluntary policies implemented by employers have been a major factor behind the substantial reductions in secondhand smoke exposure among U.S. nonsmokers that have occurred during the past 20 years.^{1,9, 17} It is estimated that this exposure among nonsmokers reduced by about half (from 88% to 49%) from 1988 to 2004.⁹ Some local and state governments have moved beyond these traditional settings to explore approaches to protecting nonsmokers, especially children, in nontraditional settings such as homes and vehicles.^{1,10} The STATE System has begun capturing state efforts in these emerging areas by tracking state laws restricting smoking in multi-unit housing facilities and vehicles.

Smoking in vehicles causes both short-term and long-term health risks to passengers.¹ Because of the small air volume, smoking in vehicles rapidly generates high concentrations of secondhand smoke.^{7,11} In fact, several studies found smoking just one cigarette in a vehicle with the windows closed can generate more than 100 times the U.S. Environmental Protection Agency's (EPA's) 24-hour recommended exposure limit to fine respirable particles (particles that irritate the respiratory system, contain the carcinogenic chemicals found in tobacco smoke, and that can seep from the lungs into the bloodstream).^{7,11} This exposure exceeds the levels of these particles found in smoky bars and restaurants.^{6,7,12} Smoking with the vehicle windows closed can also produce a significant increase in carbon monoxide, a poisonous gas that can harm children in even small quantities.⁶ Smoking in a vehicle with the

State Smoking Restrictions in Vehicles (Private Employer, Government-Owned, Day Care Centers, and Personal Vehicles)

(n=51; Laws in effect as of June 30, 2012)



- State law bans smoking in any type of workplace vehicle and in personal vehicles with a child present (n=4)
- State law bans smoking in some or all workplace vehicles (private-employer owned, government-owned, or childcare facility vehicle) (n=17)
- No restriction (n=30)

The STATE System contains data synthesized from state-level statutory laws. It does not contain state-level regulations; measures implemented by counties, cities, or other localities; opinions of Attorneys General; or relevant case law decisions for tobacco control topics other than preemption; all of which may vary significantly from the laws reported in the database, fact sheets, and publications.

windows or a vent open reduces the amount of secondhand smoke in the car, but even under these conditions the resulting particle levels are at least twice the EPA 24-hour recommended exposure limit.^{7,11,12} These levels are high enough to be considered unhealthy for children and other sensitive groups, while the levels observed with vehicle windows closed pose serious health risks to all persons.^{7,11,12}

Current State Efforts to Restrict Smoking in Vehicles

While smoking restrictions in private homes and vehicles have traditionally been established primarily through voluntary household rules,⁶ some states have recently enacted legislation restricting smoking in personal vehicles. State laws restricting smoking in vehicles include laws that restrict smoking in workplace vehicles, vehicles used for childcare transportation, and personal vehicles when children or adolescents are present.

Restrictions in Workplace Vehicles

Seven states (Arizona, Iowa, Louisiana, Minnesota, New York, Ohio, and Rhode Island) and the District of Columbia ban smoking in private employer-owned vehicles. Sixteen states and the District of Columbia prohibit smoking in government-owned vehicles.

Six states (Delaware, Louisiana, Maine, Maryland, Pennsylvania, and Rhode Island) and the District of Columbia restrict smoking in vehicles used to transport children while in the care of home-based or commercial childcare facilities. One of these states, Maine, prohibits home-based childcare facilities from permitting smoking in vehicles used to transport children under care for at least 12 hours before children are scheduled to be in the vehicle.

Restrictions in Personal Vehicles

Four states (Arkansas, California, Louisiana, and Maine) have recently passed laws prohibiting smoking in personal

vehicles when children or adolescents are present. These laws are specifically aimed at reducing children's exposure to secondhand smoke in vehicles. The specific age provisions vary— Arkansas' law applies to children aged 6 years and younger and weighing less than 60 pounds, the Louisiana law applies to children aged 12 years and younger, the Maine law applies to people aged 15 years and younger, and the California law applies to people aged 17 years and younger. A number of U.S. communities have adopted similar local laws, as have Puerto Rico, several Canadian provinces, and Australian states.

Two states, Delaware and Maryland, and the District of Columbia, have laws that explicitly exempt personal vehicles from inclusion in state smoking restrictions.

Future Implications for State Efforts to Restrict Smoking in Vehicles

As of June 30, 2012, 20 states and the District of Columbia have restrictions on smoking in work site, childcare, or personal vehicles

While the U.S. Environmental Protection Agency, some state tobacco control programs, and a number of community organizations have conducted education campaigns encouraging parents to adopt voluntary household rules making their homes smoke-free, until recently few such campaigns have promoted adopting similar rules in personal vehicles.¹ Recently the EPA expanded its campaign to address vehicles as well as homes. Recent data suggest that public support for protecting children from secondhand smoke is growing. In a national survey, 79.6% of respondents reported that smoking is never allowed in their cars, and 90.7% of respondents reported smoking is never allowed in their cars if children are present.¹³

Just as state laws requiring seatbelt use have helped change public attitudes and practices on this issue¹⁴ laws prohibiting smoking in vehicles when children are present may have the potential to change social norms. This is especially true if these measures, like seat belt laws, are implemented in conjunction with public education campaigns. Studies have shown that public support for laws making workplaces and public places smoke-free increases after people have the experience of living under these laws, especially among smokers.^{15,16,17} It remains to be seen whether the same effect occurs for laws making vehicles smoke-free. Local and state policymakers, community leaders, concerned organizations, and citizens will need to make decisions about the most appropriate approaches to take to protect children and possibly nonsmoking adults in their communities and states from secondhand smoke exposure in vehicles.

State Tobacco Activities Tracking and Evaluation (STATE) System

<http://www.cdc.gov/tobacco/statesystem>

Centers for Disease Control and Prevention

National Center for Chronic Disease
Prevention and Health Promotion

Vehicle Smoking Restrictions

(As of June 30, 2012)

State	Private Employer-Owned Vehicle	Government Owned Vehicle	Daycare (Homebased-or Commercial) Vehicle	Personal Vehicle
Alabama				
Alaska				
Arizona	B	B		
Arkansas		B		B
California		B		B
Colorado				
Connecticut				
Delaware			B (both)	E
District of Columbia	B	B	B (both)	E
Florida				
Georgia	E	E		
Hawaii		B		
Idaho				
Illinois		B		
Indiana				
Iowa	B	B		
Kansas				
Kentucky				
Louisiana	B	B	B (both)	B
Maine			B (both)	B
Maryland			B (both)	E
Massachusetts		B		
Michigan	E	E		
Minnesota	B	B		
Mississippi				
Missouri				
Montana				
Nebraska		B		
Nevada				
New Hampshire				
New Jersey				
New Mexico				
New York	B	B		
North Carolina		B		
North Dakota				
Ohio	B	B		
Oklahoma		B		
Oregon				
Pennsylvania			B (home-based)	
Rhode Island	B	B	B (commercial)	
South Carolina				
South Dakota				
Tennessee		B		
Texas				
Utah				
Vermont				
Virginia				
Washington				
West Virginia				
Wisconsin				
Wyoming				

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B=Banned, E=Exempt, D=Designated Areas

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