



# Secondhand Smoke in Apartment Buildings:

## Results of 2001 Minnesota Research

In 2001, the Center for Energy and Environment (CEE) and the Association for Nonsmokers—Minnesota conducted research regarding secondhand smoke in rental apartment buildings. This project included interviews with apartment owners, a survey of Minnesota renters, legal research by an advisory committee of attorneys, and measurements of the movement of air between units in apartment buildings. Full research reports can be found at [www.mncee.org](http://www.mncee.org) and [www.mnsmokefreehousing.org](http://www.mnsmokefreehousing.org).

### Renters Want Smoke-Free Housing

- Almost 50% of Minnesota renters said that secondhand smoke gets into their apartment from somewhere else in the building. Of these, over one-third said that smoke bothers them “a lot” or “so much I’m thinking of moving.”
- Households with children, very poor households, non-senior households, and households in older buildings reported more frequent secondhand smoke transfer into their apartment unit.
- Despite being bothered by smoke, renters were reluctant to complain about the problem. Only 17% of those affected by smoke coming into their unit told the landlord about their situation.
- Over 70% of renters were likely to choose a smoke-free building over a smoking-permitted building if other amenities were equal.
- Almost 50% of renters were “extremely” or “very” interested in living in a smoke-free building.
- Renters were willing to make some sacrifices to live in a smoke-free building:
  - ◊ Over 30% of renters were willing to pay more rent per month.
  - ◊ Renters were willing to travel farther to work, a bus line, and to parks or lakes.
  - ◊ Some renters were willing to live in an older building, live without a dishwasher, live in a building with less security, or live in an apartment unit with less space.



### Owners with Smoking-Permitted Buildings Receive Complaints About Smoke

- Building owners said that secondhand smoke is the second most common source of objectionable air moving into individual apartment units from somewhere else in the building (second only to food odors).
- Over 50% of owners said that at least a few of their buildings experience secondhand smoke movement on a regular basis. Owners said that the smoke transfer can some times be a factor in a potential tenant’s decision whether to rent the unit.
- More than half of owners thought that there is a viable market for smoke-free buildings.

### The Experience of Owners with Smoke-Free Buildings is Positive



- Many owners saw a decrease or no effect in turnover, vacancy rates, and staff time to manage the building once a smoke-free policy is adopted. Owners reported less cleaning time, less leasing time, and fewer tenant complaints in smoke-free buildings.
- About 95% of owners surveyed were “very likely” to continue offering smoke-free buildings.

### Smoke-Free Policies are Legal

- The U.S. Department of Housing and Urban Development (HUD) has supported the right of landlords to include smoking restrictions in leases for federally-subsidized housing.
- Landlords that permit smoking may face lawsuits where tenants seek to terminate their lease or hold the landlord responsible for failing to prevent another tenant’s smoke from entering their unit. Landlords who choose to offer smoke-free buildings may reduce their risks of lawsuits.
- Civil rights suits have found that smoking and being a smoker is not a disability and is not a protected status under civil rights laws.
- A sample smoke-free lease addendum can be found at [www.mnsmokefreehousing.org](http://www.mnsmokefreehousing.org).

## Secondhand Smoke Movement is Difficult to Reduce and Virtually Impossible to Eliminate

- Measurements of air movement were conducted using passive perfluorocarbon tracer gas between units before and after air sealing and ventilation treatments.
- After testing the causes of air transfer, air leaks in the building structure were sealed and the ventilation systems upgraded. The tests were repeated to determine the effect of the air sealing and ventilation improvements.
- This project was the first of its kind in the country and produced some of the most extensive multiple fan measurements of inter-apartment air leakage and multiple tracer gas measurements of inter-apartment air transfer. It also developed a new metric of “effective contaminant transfer” which is used to define the magnitude of the transfer of a contaminant source to the monitored location.

### How Does Air Move Through an Apartment?

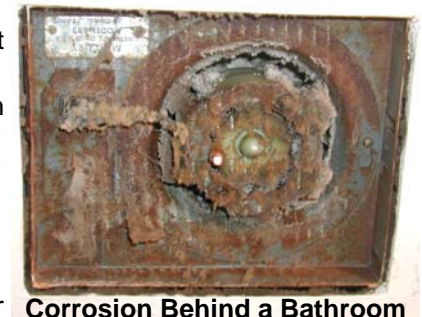
- An apartment is one building divided into many units. There are often many spaces between walls, floors, and ceilings, as well as gaps around pipes, electrical conduits, and other structural devices. Air—and secondhand smoke—can travel through these openings and into other units in the building.
- Smoke can travel into a unit from the hallway, windows, air leaks from other apartments, and bathroom or kitchen fans.
- Some openings are easy to see and may be patched. Other openings may be very small or hidden and are not easily accessible for fixing.
- The path smoke takes through a building is unpredictable. Generally, it will move into units above the source of the smoke. However, this research also shows that smoke may move into adjacent units on the same floor or even into units below.
- Tests show considerable air movement from one unit to another in apartment buildings.

### Can Openings Between Units be Sealed?

- Treating a building to prevent the movement of smoke is time consuming, disruptive to tenants, and expensive.
- The average cost to seal a unit to reduce secondhand smoke leakage was about \$700 per unit.
- Sealing the air leaks was not enough to eliminate the secondhand smoke problem completely.

### Does Improving Ventilation Help the Problem?

- Mechanical Ventilation Observations:
  - ◇ Ventilation is often provided only by tenant-operated bath fans.
  - ◇ Many bath fans are not maintained and are better noise-generators than air movers, even when they are new.
  - ◇ Apartment exhaust flows are rarely balanced.
- Over 80% of tenants with pre-existing secondhand smoke problems indicated that the problem was less frequent and less severe after treatments.



***Air movement through an apartment building can be significant.***

***Sealing and ventilation treatments were helpful, but expensive and did not fully eliminate the problem.***

The Center for Energy and Environment is an independent nonprofit organization in Minnesota that works to promote the responsible and efficient use of natural and economic resources. This project, “Clean Indoor Air in Apartments – Researching Effective Strategies,” was funded in part by ClearWay Minnesota.





# Results of a 2009 Twin Cities Renter Survey:

## Renter Survey Trends: 2001 and 2009

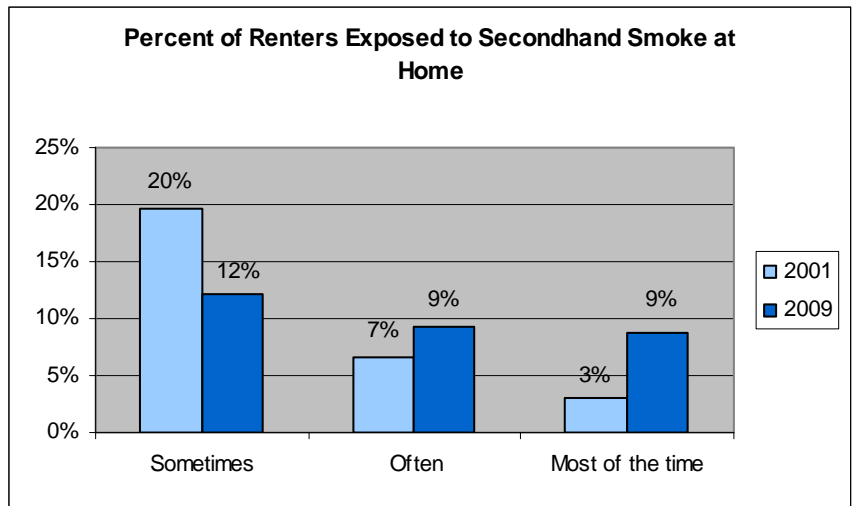
In 2009, Live Smoke Free, a program of the Association for Nonsmokers—Minnesota, and Wilder Research surveyed a random sample of renters from the Twin Cities seven county metro area to determine both:

- how often renters were being exposed to secondhand smoke in their rental housing;
- the level of interest that renters had in smoke-free housing.

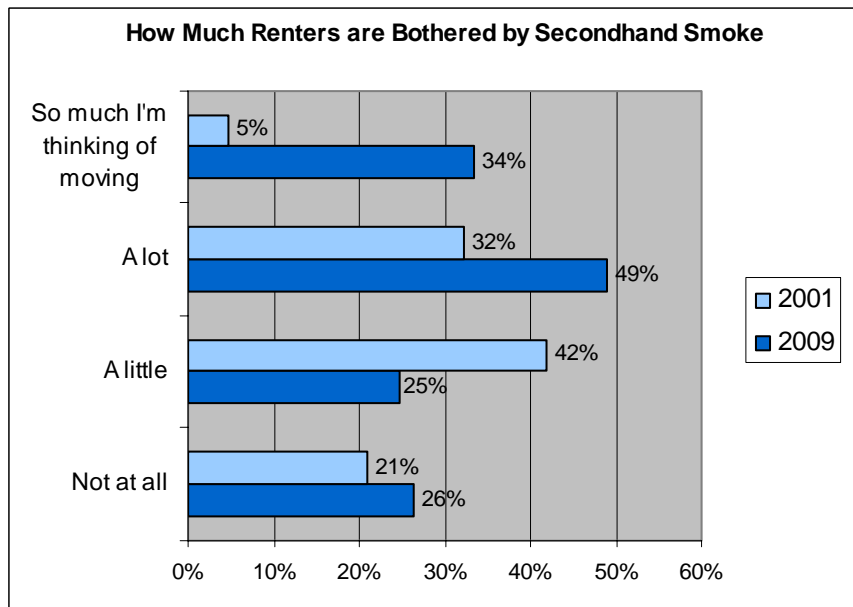
The survey built on a similar survey conducted in 2001 by the Center for Energy and Environment and the Association for Nonsmokers—Minnesota. Results from both surveys demonstrate that renters are being exposed to secondhand smoke in their homes and that there is a growing demand for smoke-free rental housing.

### Renters are Exposed to Secondhand Smoke at Home

- In both 2001 and 2009, 30% of renters reported being exposed to secondhand smoke at home “sometimes,” “often,” or “most of the time.”
- However, the number of renters reporting frequent exposure at home (often or most of the time) nearly doubled from 2001 (10%) to 2009 (18%).



### Many Renters Think of Moving to Avoid Exposure to Secondhand Smoke

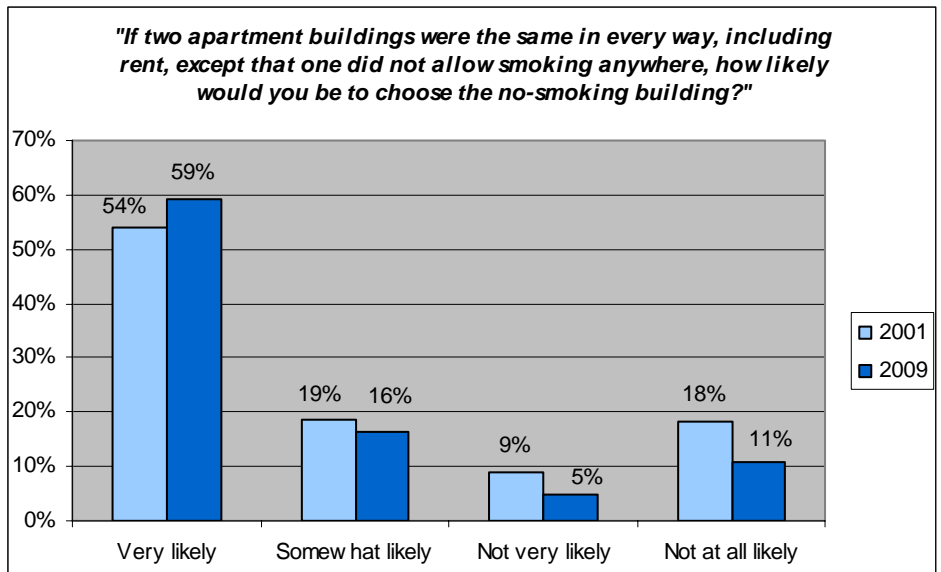


- Overall, in 2009, renters reported being more bothered by the secondhand smoke entering their units than 2001 renters—49% of 2009 renters who had experienced secondhand smoke exposure reported that this bothered them “A lot.”
- The percentage of renters reporting that they had thought about moving because of secondhand smoke increased by nearly 7 times from 2001 (5%) to 2009 (34%). This could be due to growing awareness about the harmful effects of secondhand smoke.



## Renters Want Smoke-Free Housing

- In 2009, the majority of renters (75%) would be “somewhat likely” or “very likely” to chose a no-smoking building over a building where smoking was allowed if the buildings were the same in every other way.
- When asked how interested they would be in living in a building where all apartment units were smoke free, 53% of the 2009 renters reported being “extremely” or “very” interested.



## Many Renters are Interested in Smoke-Free Outdoor Areas

- 43% of renters would be “extremely” or “very” interested in living in a building where smoking is not allowed on **patios, balconies, and decks**.
- 45% of renters would be interested in living in a building where smoking is not allowed in **other outdoor areas, including building entrances**.
- 45% of renters would be interested in living in a building where smoking is not allowed **everywhere in the building and on the property**.



## Renters Willing to Trade Other Amenities for Smoke-Free Housing

In order to live in a completely smoke-free apartment building:

- 47% of renters would be willing to live in a building that didn't have a **pool, playground, or athletic facilities**.
- 43% of renters would be willing to **travel 10 minutes farther to parks or lakes**.
- 39% of renters would be willing to **walk 3 blocks further to a bus line**.
- 36% of renters would be willing to **drive 10 minutes farther to work**.
- 23% of renters would be willing to **pay \$25 more each month in rent**.

## Conclusions

Compared to the 2001 renters, 2009 renters reported:

- Being more bothered by secondhand smoke at home and
- Being much more likely to consider moving due to exposure to secondhand smoke at home.

Additionally, in 2009, the majority of renters (75%) would be “somewhat” or “very likely” to chose a no smoking building over a smoking allowed building that was the same in every other way. Finally, many 2009 renters reported being interested in smoke-free outdoor areas and being willing to trade other amenities for smoke-free housing.



The 2009 study was conducted by Wilder Research on behalf of the Live Smoke Free Program. The study was funded by the Minnesota Department of Health. Full copies of the 2009 report are available at [www.mnsmokefreehousing.org](http://www.mnsmokefreehousing.org). The 2001 study was conducted by the Center for Energy and Environment and was funded in part by ClearWay Minnesota. Full copies of the 2001 report are available at [www.mncee.org](http://www.mncee.org).