

# **Clearing the Air: The Effect of Smokefree Ordinances on Restaurant Revenues in Dane County**

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A Note to the Reader:

*Secondhand smoke is more than a simple irritant, annoyance, or inconvenience. In fact, it is a well-documented public health hazard. However, despite fairly high levels of secondhand smoke in restaurants and other confined public spaces, there is often disagreement about the health necessity and economic impact of reducing individual exposure to these dangerous substances. Unfortunately, despite the fact that the health consequences are well established (even the tobacco industry seems on the brink of admitting that it may be a problem <sup>1</sup>), proponents of the status quo argue that economic effects of a smokefree ordinance are too dire to eliminate this health hazard. Just that happened here in Dane County, when opponents of smokefree ordinances argued that the restaurant industry in Madison would be devastated by the ordinance passed in 1992.*

*The purpose of this independent study is to explore the validity of claims about the negative economic effects of smoking bans on restaurants. The analyses here do not support the assertion that smokefree ordinances produce negative economic effects. **In fact, this study shows strong revenue growth for Dane County's restaurant industry since the passage of ordinances, stronger than the growth posted in the rest of the state over the same period.***

*Most importantly, the positive health effects of such ordinances could not be clearer. Secondhand smoke is one of the leading causes of preventable death in this country. It also makes many people seriously ill. Exposure to secondhand smoke is a leading cause of heart disease, asthma, cancer and allergies. Tobacco smoke contains more than 4,000 chemicals, including 43 known carcinogens. Secondhand smoke contains arsenic, cyanide, formaldehyde, carbon monoxide, and tar. As a result, secondhand smoke also presents an occupational hazard for restaurant staff: due to long-term exposure to secondhand smoke, waitresses have four times the national rate of lung cancer.*

*Secondhand smoke in enclosed spaces is especially dangerous. Smoke filled rooms can have up to six times the air pollution of a busy highway. Because ventilation systems are built for the elimination of smoke as an irritant instead of a health hazard, many of the most harmful pollutants in tobacco smoke are not eliminated. Indeed, secondhand smoke does not quickly clear from a room. It takes about two weeks for nicotine to clear from a room where smoking has occurred.*

*At the same time, the notion that a separate "smoking section" provides protection to non-smokers has been proven in dozens of studies to be false. Simply, the smoke does not remain in the smoking section.*

*Secondhand smoke is a public health hazard. But are smokefree ordinances an economic hazard? The answer to this question is important enough that the Tobacco-Free Wisconsin Coalition commissioned this independent study of the economic effects of Dane County's smokefree ordinances on the area's restaurants. The study actually finds good news for Dane County restaurants, even as we improve public health. We hope that policy makers will look to these data whenever doomsday threats surface in debates on the merits of smokefree ordinances for restaurants.*

David Ahrens  
Executive Director,  
Tobacco-Free Wisconsin Coalition

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<sup>1</sup> In a July 22 interview on the Lehrer News Hour RJR Tobacco Vice President and Counsel, Charles Blixt, stated: "It's not our position that secondhand smoke is not harmful."

# Clearing the Air: The Effect of Smokefree Ordinances on Restaurant Revenues in Dane County

In response to the health problems stemming from secondhand smoke in public places, the Madison Common Council voted in October 1992 to make all restaurants smokefree. (The ordinance applied to dining establishments where less than one-third of the establishment's receipts were from the sale of alcoholic beverages.) Despite the fact that the ordinance allowed a staggered implementation date of July 1, 1993 for 60 percent smokefree dining and July 1, 1994 for 90 percent smokefree dining, many restaurants were smokefree by January, 1993 and virtually all were smoke free by July 1, 1993. Subsequent to passage of the Madison ordinance, the Village of Shorewood and the City of Middleton, municipalities contiguous to Madison, passed identical ordinances.

At the time these ordinances were passed, opponents offered dire predictions about their effect on the area's restaurant industry. In fact, they projected revenue losses of 30 percent at area restaurants due to the new clean-air standards. This level of revenue loss would be devastating in Dane County's highly competitive restaurant industry. Few restaurants have the margin to survive a 30 percent decline in sales. Such severe revenue losses would bankrupt many restaurants and halt the development and expansion of new restaurants. The findings of this study show that these dire predictions never materialized.

## Summary of Findings

In this paper, restaurant revenue data from the Wisconsin Department of Revenue are analyzed to investigate the effect of the ordinances on the restaurant industry. We compare restaurant revenue trends from 1992 to 1997 for the area affected by the ordinances to those posted by the rest of the state. Finally, we control for Dane County's strong population and income growth to ensure that these variables do not account for the revenue trends that we document.

We find no evidence to support the claims of the ordinance's opponents that the clean air ordinance would have devastating effects on the area's restaurants. If anything, Dane County's restaurants appear to be doing better than those in the rest of the state:

- *From 1992 to 1997, revenue of Dane County restaurants grew 24 percent, compared to a 19 percent increase over the same period in the rest of the state.*

- *From 1992 to 1997, per capita restaurant expenditures grew 16 percent in Dane County, compared to the 14.2 percent per capita restaurant expenditure growth rate for the state.*

While Dane County's strong population growth partially accounts for the strong growth in restaurant revenues, it is not the whole story. In fact, per capita restaurant expenditures in the county exceed the rest of the state's — in Dane County diners spent the equivalent of \$1084 for each county resident in 1997 compared to per capita expenditures of \$806 in the rest of Wisconsin. Not only were per capita expenditures higher in Dane County, but also over 1992-97, per capita restaurant expenditures in the County grew faster.

- *From 1992 to 1997, restaurant expenditures as a share of total expenditures fell from 9 to 8 percent in both Dane County and the state.*

Dane County has experienced strong income growth and that too partially accounts for the documented increases in Dane County restaurant revenues. To control for increasing income, we investigate the trend in restaurant expenditures as a share of total taxable expenditures. Because total expenditures rise as income rises, this method accounts for increasing income in the county. In fact, there is a very slight decline in restaurants' share of total taxable receipts from 1992-97 from 9 to 8 percent, but that decline occurred both in the state and Dane County. Ordinances thus cannot be blamed for this very small drop in restaurants' share of total expenditures.

- *From 1991 to 1996, employment in eating and drinking establishments in the city of Madison grew by 1166 employees, among the strongest increases posted by Madison industries, showing the economic strength of restaurants within Madison.*
- *From 1993 to 1997, the number of smokefree restaurants in areas of Dane County not covered by a smokefree ordinance grew from 4 to 89, suggesting that smokefree status offers a competitive advantage to restaurants.*

The bottom line? We find no support for the dire predictions of those who opposed the smokefree ordinances. At a minimum, the ordinances do not appear to have hurt the restaurant industry at all. In fact, some measures suggest that the smokefree ordinances have been good for Dane County's restaurants.

## **Predicting the Effect of Clean Air Ordinances on Restaurant Revenues**

This investigation requires clarification of the claims by those who suggested that the smokefree ordinances would have a dramatic and negative effect on eating out. Basic economics helps provide the clarification and suggest the best means for analyzing the actual effects of the ordinance.

Most are already familiar with the basic economic model: when the price of a good increases, the demand for it will generally decline as people seek out less costly alternatives. “Price” here can include actual dollars or non-monetary costs (think of your own demand for a good when confronted with a long line or unpleasant surroundings) paid by the purchasers of a good or service.

In economic terms, those who opposed the ordinances claimed that the ban on smoking in restaurants would raise the cost of eating out — not in actual dollar terms, but by making the experience of dining out less attractive to a large number of people. Confronted by a less attractive world for dining out those who would have dined out seek alternatives — eating at home and/or driving further to get to restaurants not covered by the ordinance. Their argument also presumes either that smokers cannot wait to smoke until leaving a restaurant, or that in many instances smokers go to restaurants to smoke rather than eat and thus, denied the opportunity to smoke, chose to not to eat.

Of course, there is no reason to expect that people, smokers and non-smokers alike, will all negatively respond to the enactment of the ordinance. In fact, while the ordinance is an inconvenience to some diners (namely, those who smoke at meals) it is a convenience to other diners (namely, those who prefer smokefree environments).

A predicted negative effect on restaurant revenues of the ordinance presumes that the ordinance makes dining out less attractive *on net*. The significant negative effect predicted by those who opposed the ordinance would require that substantially more people responded to the ordinance by seeking substitutes (thus treating “smokefree” as a cost) than those who respond to the ordinance by eating out more frequently. This is obviously a fairly unrealistic assumption given that the vast majority of diners are, in fact, non-smokers. For them the ordinance seems most likely to improve the atmosphere at restaurants.

In this study we use the best available data on restaurant revenues to investigate its effect on restaurant revenues.

## National Evidence on Clean Air Ordinances

Throughout the country, the tobacco lobby and its surrogates have argued that smokefree restaurant ordinances will lead to devastating declines in the restaurant industry. They generally project a 30 percent decline in sales.

In every instance when reliable and representative data has been subject to analysis, the evidence of negative effects on restaurant revenues evaporates. The most comprehensive of these studies, published in the *American Journal of Public Health*, examined restaurant revenue data from fifteen cities with smokefree ordinances (as well as a comparison group of 15 non-ordinance cities) and found no evidence that ordinances affected restaurant sales.<sup>2</sup>

### Method and Data

The most complete analyses of the effect of ordinances rely on state sales tax data. Such data is objective and comes from all possible reporting units (all restaurants are subject to state taxes and all provide data to the state on their total taxable receipts); there is neither sample nor reporting bias in the data. These state data provide a complete statement of the size of the restaurant industry that is geographically specific and consistently measured over time.

Trends in total restaurant revenues provide an interesting but incomplete picture, however, because total restaurant revenues could change over time due to population or income changes as well as to an ordinance. One means of controlling for population growth is to look at trends in restaurant expenditures per capita. The ratio of restaurant sales as a fraction of total retail sales controls for both population and income growth in a community.

Throughout these analyses, it is critical to compare trends in the ordinance area with trends in non-ordinance areas. Obviously, a societal decline in restaurant sales (imagine what happens to restaurant sales during recessions) shouldn't be attributed to the passage of an ordinance. A comparison of non-ordinance areas to those with them controls for secular trends unrelated to the enactment of smokefree ordinances.

This study follows on the previous literature in the field, utilizing the best data available to document the effect of the ordinance on restaurant revenues in

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<sup>2</sup> The study of 15 cities is Glantz and Smith, "The Effect of Ordinances Requiring Smokefree Restaurant on Restaurant Sales" (*American Journal of Public Health*, 1994; 84:1081-85). Looking at 19 California cities with smoke free ordinances, Maroney, Sherwood, and Stubblebine (*The Impact of Tobacco Control Ordinances on Restaurant Revenues in California*, The Claremont Institute for Economic Policy Studies, January 1994) also find no effect of the ordinances on restaurant revenues.

Madison, Middleton, and Shorewood Village. This study compares pre-ordinance and post-ordinance data on restaurant revenues for Dane County and the rest of the state of Wisconsin. The ordinance was passed in 1993. Thus, 1992 provides baseline statistics and 1997 is the most recent available data on revenues. We compare Dane County trends to trends for the state's restaurant industry to investigate whether the ordinances passed in Dane County had an effect on our restaurant industry.

### ***Restaurant Revenue Data***

The State Department of Revenue is the source of the most important data for this study. They collect data on the total value of taxable receipts for the state and each county in it. They also report total taxable receipts for all major industrial divisions. To investigate trends in restaurant revenues, we use data on total taxable receipts reported for "eating and drinking" establishments in Dane County and the state of Wisconsin. We use data from before and after the enactment of the ordinance, specifically 1992 and 1997. The share of total expenditures spent in restaurants (again for Dane County and the state in 1992 and 1997) is also calculated. This ratio controls for income growth over the period of study.

### ***Population Data***

Dane County has experienced strong growth relative to the state population. In order to control for effects of increasing population, we use population data from the State Department of Workforce Development to calculate trends in per capita restaurant revenues.

### ***Data Limitations***

The best data for this study would offer the above variables on *municipal* basis to allow for comparison of trends in restaurant revenues for ordinance and non-ordinance cities. Unfortunately, however, the state revenue data required for this analysis is not available on a municipal basis; the smallest geographic unit available is the county. For this reason, we analyze trend in restaurant revenues in the Dane County.

While imperfect, Dane County is still a reasonable geographic unit over which to investigate the effect of smokefree ordinances on restaurant revenues. Technically Dane County is not smokefree; functionally, it is virtually smokefree — conservative estimates suggest that at least 90 percent of Dane County restaurant revenue is generated at smokefree restaurants.

We know that well over 80 percent of the county's restaurants are smokefree. Dane County's most significant city, Madison, as well as two smaller municipalities, Middleton and Shorewood Village, have all enacted clean-air

ordinances for restaurants. Together, these three municipalities account for 75 percent of the county's restaurants — more than 600 of the county's 800 restaurants are in these municipalities. Moreover, a 1997 survey of the 200 restaurants outside these municipalities found that 45 percent (89 restaurants) are voluntarily smokefree.<sup>3</sup> So, at least 85 percent of restaurants in the county are smokefree.

But the real question for this study is about *restaurant revenues*, not restaurant locations. The share of revenue generated at Dane County's smokefree restaurants must certainly exceed their share of total restaurants. Why? Because the county's highest revenue restaurants are all smokefree. These include the "high volume, low ticket" restaurants like Perkins and McDonald's both inside and out of the ordinance areas. A 1997 phone survey of all restaurants in non-ordinance areas also found that most of the restaurants that permitted smoking were small, low revenue, owner-operated establishments.<sup>4</sup> Moreover, the ordinance municipalities (especially Madison) hold a greater share of the county's high revenue restaurants. Thus, our conservative estimate is that at least 90 percent of Dane County's restaurant revenue is generated in smokefree restaurants.

Even so, the geographic unit, Dane County, is not 100 percent smokefree. An upward trend in restaurant revenues could be the result of flight to non-ordinance areas within the county. However, we know two things that make this interpretation suspect. First, the number of voluntarily smokefree restaurants in non-ordinance areas actually grew from 4 in 1993 to 89 in 1997. If diners were actively avoiding the ordinance, one would expect the non-ordinance area restaurants to become less interested in being voluntarily smokefree. The dramatic increase in voluntarily smokefree restaurants outside ordinance areas refutes the notion that diners are fleeing the ordinances in droves. If diners were seeking restaurants to smoke in, it is also unlikely that municipalities adjacent to Madison, Shorewood and Middleton, would have opted to become smokefree just after Madison had done so.

Second, while revenue trends for Madison restaurants are not available, a recent study conducted for the city of Madison shows that total employment in Madison eating and drinking establishments grew 1166 people from 1991 to 1996.<sup>5</sup> Compared Madison's other service industry employers, restaurants ranked third in employment gain (ranking behind only help supply services and doctor's clinics in growth) over the 1991-96 period. This strong growth hardly supports the argument that Madison restaurants are in decline as diners flee to outlying areas.

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<sup>3</sup> 1997 survey by Dane County Tobacco Free Coalition.

<sup>4</sup> Ibid.

<sup>5</sup> Cramer and White, *Employment Trends in Madison and the Rest of Dane County, 1991-1996*, Table 6a.

A second data limitation is not unique to Dane County. State data is provided for the standard industrial division “eating and drinking establishments” which includes restaurants, restaurants with liquor licenses, and taverns. Taverns are exempted from the ordinance and some restaurants may seek exemptions to the ordinance. (Restaurants with more than one-third of their income from alcohol sales may seek exemptions.) Thus, our revenue includes restaurants affected by the ordinances but establishments that are not covered as well. Again, positive revenue trends for “eating and drinking establishments” could be accounted for by strong growth in expenditures at bars and shifts in the dining population to exempted restaurants.

However, state evidence on trends in revenues for industry subgroups shows that massive shifts toward taverns are quite unlikely. In fact, in the state from 1992 to 1997, while total revenues at restaurants (both with and without liquor licenses) grew substantially, total revenues for taverns actually fell by 8 percent. Most likely, this pervasive statewide decline in tavern revenues occurred in Dane County as well. Moreover, taverns are the smallest sub-sector in the “eating and drinking establishment” industrial category. In the state, 83 percent of the \$3.6 billion spent in eating and drinking establishments goes to restaurants while taverns account for just 17 percent of total restaurant expenditures.

### **Restaurant Revenues Are Growing in Dane County**

From 1992 to 1997, revenue of Dane County restaurants grew more rapidly than restaurant revenue gains in the rest of the state (Table 1). In 1992, before the smokefree ordinances were passed, Dane County restaurants brought in \$352 million of taxable receipts. By 1997, their revenue had grown 24 percent to \$437 million. Over that same period, restaurant revenues in the rest of Wisconsin grew 19 percent. If anything, this very cursory data may suggest that ordinances have been good to Dane County restaurants.

Of course, Dane County is unique in having higher population growth than the rest of the state and that growth would account for some of the increase in restaurant revenues. Dane County’s population grew by 6.9 percent over 1992-97, while population grew 4.5 percent in the rest of Wisconsin. However, after accounting for population growth by investigating trends in per capita restaurant expenditures, Dane County’s restaurant industry growth still outpaces the rest of the state’s.

Table 1  
**Restaurant Revenues and Per Capita Restaurant Expenditures, 1992 and 1997**

	<i>Dane County</i>			<i>Rest of State</i>		
	<i>1992</i>	<i>1997</i>	<i>Percent change, 1992-97</i>	<i>1992</i>	<i>1997</i>	<i>Percent change, 1992-97</i>
Restaurant revenues (millions)	\$ 352	\$ 437	24.0	\$ 3,420	\$ 3,861	19.2
Population	376,989	402,988	6.9	4,591,235	4,789,310	4.3
Restaurant expenditure per capita (\$/person)	934	1,084	16.0	706	806	14.2

In fact, Dane County residents spend more at restaurants than does the rest of the state, and that's even truer today than in the past. In 1992, the average Dane County resident spent \$934 at restaurants. That figure increased by \$150 to \$1084 in 1997. For non-Dane Wisconsin residents, typical expenditure grew by just \$100 over the same period. The growth rate in Dane County (16 percent) outpaces the per capita restaurant expenditure growth rate for the state (14.2 percent). Dane County's strong population growth is partially responsible for the county's strong restaurant revenue growth, but it is not the whole story. Dane County's per capita restaurant revenues are growing faster than the state. This data suggests that the smokefree ordinances may have even boosted restaurant revenues in the county.

### **Restaurant Expenditures as a Share of Total Expenditures**

When income rises, people spend more money. Because Dane County has enjoyed strong economic growth, the restaurant industry can reasonably anticipate strong revenue growth. The best method to control for Dane County's strong income growth is to look at the restaurants' share of total expenditures over time. This method also controls for population growth.

Table 2 shows Dane County's and the state's strong economic performance over recent years. From 1992 to 1997, total taxable receipts (which include restaurant sales as well as all other sales) in Dane County increased by 42 percent while receipts rose 31 percent in the rest of Wisconsin. Clearly, expenditures are growing substantially in both the state and county, and Dane County's growth is stronger.

Table 2  
**Restaurants' Share of Total Taxable Receipts, 1992 and 1997**

	<i>Dane County</i>			<i>Rest of State</i>		
	<i>1992</i>	<i>1997</i>	<i>Percent change, 1992-97</i>	<i>1992</i>	<i>1997</i>	<i>Percent change, 1992-97</i>
Restaurant Revenues (millions)	\$ 352	\$ 437	24.0	\$ 3,240	\$ 3,861	19.2
Total Taxable Receipts (millions)	3,916	5,560	42.0	36,683	47,477	29.4
Restaurants' Share of Total Taxable Receipts	9.0	7.9		8.8	8.1	

Though restaurant revenue has grown substantially, it has not grown as rapidly as total taxable receipts. As a result, in both the state and Dane County, restaurants' share of total expenditures has fallen. Before the passage of the clean air ordinances in Dane County, restaurants received 9 percent of the total taxable expenditures. By 1997, restaurants' share had fallen slightly to 8 percent. This trend, however, matches the trend in expenditure in the state. Outside of Dane County, restaurants' share of total expenditures fell from 9 to 8 percent as well.<sup>6</sup>

One reason that restaurants' share of total taxable receipts may have fallen is that, at some point, extra money is spent on larger items than restaurants meals. After all, the average person in Dane County is already spending more than \$1000 per year at restaurants and that is 100 meals out (at \$10.00 per meal) each year. There is some limit on how many more meals out per year people will purchase even as their incomes increase. At some point, another meal out or a more expensive meal is just not appealing.

Dane County's restaurants' share of total expenditures fell very slightly over 1992-97 and the decline is mirrored in the rest of the state. This pervasive trend then is unrelated to Dane's smokefree ordinances.

<sup>6</sup> The rest of state ratio decline, from 8.8 percent to 8.1 percent, is slightly less dramatic than the decline for Dane County, from 9.0 percent to 7.9 percent. If restaurants' share of Dane County total expenditures had fallen exactly as the state's had, down to 8.1 percent, restaurant revenues would be just 3 percent higher than they currently are. So, while the Dane County trend slightly exceeds the state, the magnitude of the difference is very slight.

## Conclusion

Prior to implementation of clean-air ordinances in Madison area restaurants, opponents claimed that restaurant revenues would drop by one-third. This paper can find no support for such a claim. Not only have Dane County restaurant revenues not dropped, they have increased more rapidly than for the state overall, both on net and on a per capita basis. And while Dane County's restaurants' share of total expenditures has dropped very slightly, it is a decline that is mirrored by the rest of the state.

Apparently, contrary to the extreme predictions, the clean air ordinances did not effect Dane County residents' interest and investment in eating out. While dining out probably became more convenient for some and less convenient for others, dining out patterns did not change substantially. Probably most significantly, smokers did not stop going out.

The smokefree ordinance has had no negative effect on restaurants. Its significant positive effects on health, especially of staff working in restaurants, have been substantial. Public health has been advanced and perhaps the economy has improved as well.

In short, there is no data to support the argument that when clean-air ordinances would undermine Dane County's restaurant industry. This study simply confirms what other studies throughout the nation have already shown: in spite of extreme claims to the contrary, restaurant revenues do not decline because of the passage of smokefree ordinances.

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