From EMISSION to POLLUTION

Regulation and Changing Ideas about Smoke in the Twin Cities

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In 1900 a frustrated Minneapolis resident wrote to the Minneapolis Journal, one of the state’s large daily newspapers, arguing for the enforcement of a law intended to reduce smoke emission in the city. “It is a perfect nuisance,” Mrs. M. B. W. complained, “Sometimes one can’t see across Hennepin Avenue.”

Mrs. W. was describing an unpleasant fact of life. Minneapolis and St. Paul, like the rest of the country, depended almost exclusively on coal to fuel heating, manufacturing, and transportation. Over the course of the Industrial Revolution, smoke had become associated with economic prosperity throughout the United States and other nations. But by the end of the nineteenth century, many urban centers were suffering from the negative effects of smoke, among other byproducts of industrialization.

To counter the idea that smoke was a sign of progress and prosperity, abatement advocates had to convince society that smoke was, instead, bad for business and bad for health. Beginning in the 1880s and continuing into the 1910s (the time now known as the Progressive Era), many communities stopped seeing emissions as a right of businesses and the sign of a healthy economy and started seeing them as a public nuisance and a hindrance to urban growth. Smoke was no longer just an emission—it was pollution.

Throughout the nation, the effort to control smoke drew support from three major sources, each a hallmark of the Progressive Era. One was government regulation, which increased dramatically during this time. A second was the City Beautiful movement, which lasted from the 1880s into the early 1900s and was characterized by civic activism—particularly by women—bent on improving the appearance and healthfulness of the growing urban centers. The third was the City Efficient movement, which combined municipal activism with what has been characterized as a craze for experts and efficiency-improving techniques.

With their long, harsh winters and status as hubs for transportation and manufacturing, the Twin Cities were even more dependent on coal than much of the nation. While all of these reform trends played substantial roles in the journey toward smoke regulation in Minneapolis and St. Paul, the cities’ individual paths toward cleaner air diverged dramatically. St. Paul enacted and enforced its regulations, and the challenges largely played out in the courts. In Minneapolis, having a law on the books failed to stimulate compliance, and it took the activism of several anti-smoke organizations to achieve abatement. Nevertheless, the proximity of the cities influenced each one’s efforts to achieve smoke control.

Minnesota’s natural resources and the businesses that developed from them also contributed to the need for coal. Lumber milling, paper products—bags, wrapping paper, and cardboard boxes—and printing were among the area’s largest industries. West Publishing, the country’s leading producer of law books in this era, was incorporated in St. Paul in 1882. In Minneapolis, grain milling and food products were booming; by 1880 that city led the country in flour output, with Pillsbury, Gold Medal, and other milling concerns flourishing along the Mississippi River. Production of iron and construction of railway cars were also major Twin Cities industries.

All of these businesses thrived because of coal and the railroads that carried it to them. As Castle wrote, “It is cheaper to bring the coal to the iron than the iron to the coal.” This was good news for St. Paul, the area’s transportation hub. Not only was it
headquarters to the Great Northern and Northern Pacific railroads but its position as the head of navigation on the Mississippi River, with access to the St. Croix and Minnesota rivers, made it a prime stop for steamboats ferrying goods and passengers to and from St. Louis and many other points. The Twin Cities were not unique in their difficulties enacting and enforcing anti-smoke regulations. 

While coal fueled the successes of both of the Twin Cities, by the end of the nineteenth century it had also become a problem, in Minnesota as elsewhere. The railroad, bringer of coal, also burned coal, as did steamboats, manufacturing plants, shops, apartments, homes, and schools. Smoke poured from every chimney and blackened buildings, destroyed merchandise, dirtied clothing, obstructed vision, killed vegetation, and came to be viewed by some as a public-health hazard. In the winter, when coal use for heating peaked, “flakes of soot the size of a dime” blackened the sky and coated the cities and their inhabitants in grime, the *Minneapolis Journal* reported. 

Minneapolis and St. Paul continued competing furiously to attract industry in the early-twentieth century, and as industry grew, so did the smoke problem. Minneapolis had a larger population and more companies, but St. Paul’s status as a transportation hub helped it win some big manufacturers. The competition between the cities initially played a role in hindering abatement efforts. Lenora Austin Hamlin, president of St. Paul’s Women’s Civic League, described her organization’s early efforts at promoting enforcement of anti-smoke regulation—and the backlash that ensued when a manufacturer threatened to take his business to Minneapolis.

The civic organizations, business organizations, and lawmakers who pushed for regulation were fighting longstanding positive associations of smoke with both hearth and economic activity. For example, Archibald G. Bush, sales manager of the young St. Paul-based Minnesota Mining and Manufacturing Company (now 3M) exhorted his salesmen to “follow the trail of smokestacks to new customers.” For the abatement movement to succeed, industry had to be convinced that smoke could be a problem and abatement could signal prosperity. Arguments arising from the Progressive Era virtues of good government, public health, and economic efficiency would eventually win many supporters.

The Twin Cities were not unique in their difficulties enacting and enforcing anti-smoke regulations. Until the late-nineteenth century, the costs of emissions associated with production were expected to be borne by society, not the emitter. When individuals or their property were damaged by emissions from a neighboring property—via water, air, or noise—their only recourse was to sue under the common law of nuisance to recover damages or seek an injunction to abate the emissions. An injunction was often denied if the courts deemed it too costly for the business. Nevertheless, by 1900 many large cities, including Chicago, Cincinnati, Cleveland, Milwaukee, and New York, passed laws regulating smoke emissions. Minneapolis and St. Paul were part of this trend toward statutory regulation. In 1886 and 1894 respectively, St. Paul and Minneapolis passed their first regulatory ordinances. These laws declared the emission of dense smoke to be a nuisance per se, meaning that whether or not individuals could prove they were harmed by it, emission was impermissible. In St. Paul, officials tried to enforce the ordinances but were hindered by a somewhat conservative court; in Minneapolis, the challenge was finding the political will to enforce the new ordinance at all. Because St. Paul enacted and then tried to enforce its laws earlier than Minneapolis, the courts played a larger role in shaping the capital city’s regulatory regime. By the time Minneapolis got around to using its ordinance, it had been established that such laws were valid.

The first issue in St. Paul was whether a city was permitted to regulate smoke emissions as a nuisance. The 1886 ordinance applied to dense smoke from boats, trains, and chimneys. Almost immediately, the law faced a challenge. St. Paul’s building inspector, Gates A. Johnson, had issued Charles Gilfillan a warning to abate emissions from his building at Fourth and Jackson streets. When smoke continued to rise from the chimney, the inspector ordered Gil-
In what the St. Paul Pioneer Press called an important case, William B. McCue, an engineer for the Minnesota Soap Company, was arrested for violating the statute. McCue's lawyer argued that all chimneys emit dense smoke, so every homeowner or building occupant within the prohibited distance of the requisite number of homes violated the ordinance. He further argued that the restrictions regulated an arbitrary class of buildings, which was unconstitutional. Ignoring the question of the definition of dense smoke, the city attorney argued back that the exceptions carved out by the statute were not arbitrary. Emitters who met the requirements would be emitting less smoke or emitting it in a location that would render it less offensive to the public.

The court agreed with the defendant that the law created a class distinction. It neither addressed the vagueness of the undefined term, dense smoke, nor objected to the characterization of dense smoke as a nuisance. In fact, the court referred to smoke as a nuisance even as it struck down the law, finding that the statute constituted impermissible, arbitrary class legislation.

I n 1895 the St. Paul City Council tried again. It enacted an ordinance pursuant to the state enabling legislation, resurrecting much of the language from the 1886 attempt. The first part of the statute declared guilty anyone who allowed dense smoke to be emitted from any boat, train, or chimney in St. Paul. The second part specified that the owners or employees of boats and trains and the proprietors, lessees, and occupants of buildings must not allow dense smoke to be emitted. In 1897 Alfred Johnson, engineer for the St. Paul Gas and Electric Light Company, was arrested, tried, and convicted under this ordinance.

On appeal to the Minnesota Supreme Court, Johnson's attorney argued that the drafters of the ordinance did not intend it to apply to the employees of building owners. It made sense that the drafters would hold boat and locomotive engineers culpable, the attorney claimed, because it was more difficult to ascertain the ownership of these mobile emitters. Further, the owners of ships and trains were likely to reside outside of St. Paul's jurisdiction, and thus the city might have to
prosecute their employees in order to hold anyone accountable. Building owners, on the other hand, were more likely to be available, and it was fairer to prosecute them; after all, the engineer had no control over what, if any, smoke-prevention devices were installed or what grade of coal was used (though he could use labor-intensive burning techniques that helped reduce emissions). The Court, ignoring the issue of fairness, ruled that the ordinance did not apply to employees, based on statutory interpretation principles.

Five days after this decision, the St. Paul City Council clarified its intentions by amending the 1895 ordinance. The new language spelled out that employees could, indeed, be held culpable. In 1901 St. Paul’s health commissioner, the charismatic Dr. Justus Ohage, began prosecutions under this ordinance in earnest, hauling both building owners and engineers into court on a daily basis. An inspector from the health department would examine chimneys and photograph those spewing “heavy smoke.” After the film was developed, he arrested someone at the building (it is unclear whether owners or engineers were penalized more frequently), and the photographs were used as evidence in the trial. Ohage was successful in obtaining a conviction in every case. As a result, many building owners were convinced to install smoke-reduction devices. By 1903 Ohage claimed to have reduced emissions in St. Paul by 50 percent.  

The commissioner became something of a national celebrity among civic boosters. In 1903 he gave a keynote speech, “The Smoke Nuisance,” at the Third Annual Convention of the American League for Civic Improvement, where he was hailed as a man of tremendous vigor, directness and disregard for political expediency.” His smoke-abatement fight and methods were described in a report subsequently released by the league, with the suggestion that they be an example for other cities.  

St. Paul’s smoke ordinances were tested for the last time in the 1904 case, City of St. Paul v. Haugbro. Knut Haugbro, a fireman (stoker) at the Angus Hotel, was charged with allowing dense smoke to be emitted. His attorney attacked the ordinance on grounds of vagueness—it did not define “dense smoke”—and also appealed to the judges’ positive associations with coal: “This ordinance penalizes every housekeeper who kindles her fire to get the morning meal.” He invoked St. Paul’s prominence as a manufacturing center and its long, cold winters. If this regulation were upheld, he implied, the people of the city would starve and freeze. Besides, he argued, as established in Gilfillan, smoke was not a nuisance unless the facts showed that the emissions were causing actual harm.

The Minnesota Supreme Court did not find the term “dense smoke” to be vague. Those words, it said, had a commonly understood mean-
ing, which the court quoted from a similar Chicago case: “This court will understand by ‘dense smoke’ precisely what everybody else does who has ever seen a volume of dark, dense smoke as it comes from the smoke-stack or chimney where common soft or bituminous coal is used for fuel in any considerable quantities.”

The Court also found that the ordinance was properly enacted under the enabling legislation. In addition, it ruled that the regulation of smoke was not arbitrary because it attacked a real harm: “It is not so easy to see how dense smoke can be regarded with toleration, or found acceptable to the senses of ordinary humanity.”

While St. Paul initially had difficulty convincing the courts that smoke was a nuisance that should justifiably be regulated, Minneapolis faced a different problem. Its ordinance of 1894 was never tested by the high court because, as of 1900, it was unenforced. As a result, civic and business organizations stepped up to promote abatement.

The lack of enforcement illustrates that, despite the era’s reform movements, not everyone agreed that smoke was deleterious. “You can’t have factories very well unless you have fires. . . . The more smoke we have here, the better it will be for the city and for everybody,” one local official proclaimed in 1899. Additionally, the Minneapolis health commissioner refused to enforce the ordinance because he claimed it unfairly punished the employees who stoked the fires, not the building owners.

Yet business owners and ordinary citizens alike complained about smoke. Letters to the editor of the Minneapolis Journal and several editorials called for enforcement. When downtown merchants asserted that smoke damage caused expensive losses, the Minneapolis city attorney blamed them for not taking on the prosecution of the emitters. In 1901 a new health commissioner, P. M. Hall, made about 30 arrests and obtained the same number of convictions. Further attempts at enforcement, however, were derailed by the 1902 national coal shortage caused by striking Pennsylvania anthracite miners, during which both businesses and residences had little choice but to use inferior, smokier grades of coal. (St. Paul’s ordinance was also suspended during this time).

In St. Paul, Commissioner Ohage enthusiastically returned to pros-ecuting emissions violations in May 1903. By the end of that year, the city’s cleaner air was the envy of Minneapolis. In contrast, Commissioner Hall refused to resume prosecutions, claiming that they were not effective. He also repeated the concern of the earlier health commissioner:

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Although the company’s general manager maintained that “the more smoke and whistles a town has, the more prosperous it is,” Mather was convicted. This was the beginning of a long and effective campaign by the Real Estate Board. Its employees photographed chimneys belching dense smoke and ones emitting less smoke to prove that abatement techniques worked. The board joined forces with the Commercial Club and, through public statements and meetings with city officials, pressured the still-obstinate Commissioner Hall to take action, leading to the creation in 1905 of a new position: smoke inspector.24

It is significant that the Real Estate Board was Minneapolis’s first organization to undertake an anti-smoke prosecution. If, as was often claimed, a smoky atmosphere reflected well on a city’s prosperity, then dense smoke should lead to increased property values and board advocacy against smoke reduction. Instead, the board must have believed that abatement would be of greater value to real estate purchasers.25

Women’s organizations in Minneapolis joined the fight against smoke in 1907. Abatement was a cause frequently championed by such groups across the nation during the City Beautiful movement. In the late-eighteenth and early-nineteenth centuries, women were asserting their right to engage in civic affairs having to do with health and urban development by categorizing these spheres as “civic housekeeping.” If a woman’s place was in the home, then women would recast civic activity as domestic activity and argue that their experience as household managers qualified them to guide urban reform. While they did not have the right to vote except in matters relating to schools, Minnesota women were influential, according to Castle, in “moral and esthetic” matters through civic clubs. They were “patrons of the city beautiful.”26

In 1908 the Minneapolis Journal ridiculed both this plan and the men who took the women’s political efforts seriously, featuring a cartoon of a middle-aged woman in Victorian dress directing a scruffy-looking fireman and publishing photographs of the building’s rugged engineers and firemen who were to be under the direction of the ladies.27

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In 1908 the Minneapolis Journal and Fifth Street, invited the women to inspect its boiler room and recommend changes. The Minneapolis Journal ridiculed both this plan and the men who took the women’s political efforts seriously, featuring a cartoon of a middle-aged woman in Victorian dress directing a scruffy-looking fireman and publishing photographs of the building’s rugged engineers and firemen who were to be under the direction of the ladies.

**Smoke Jokes**

The Minneapolis Labor Review, a union newspaper, made no pronouncements on smoke abatement before the Women’s Club became involved. However, union members clearly felt threatened by the encroachment of wealthy females on their turf. Two similar jokes appeared in the paper in the months surrounding the Minneapolis Journal’s snide commentary. The first: “The Women’s club discussed the ‘smoke nuisance’ Monday night, but didn’t get so far as to vote on the particular brand of cigarettes [sic].” And then: “‘Sassiety’ women are going to try to abate the smoke nuisance. But will they begin at home and shun the insidious cigaret?”

Four years later, another joke seemed to show either sympathy for smoke abatement or, at least, a negative interpretation of the motives of its opponents.

“Ye been lucky. You’re out of a job now.”

“I’ve noticed you have given up the fight for a cleaner city. You used to be one of the leaders in the opposition to the smoke nuisance.”

“Yes, I’ve come to the conclusion smoke cannot be abolished. It is useless to keep harping on the question.”

“By the way, what business are you in now?”

“Oh, I’ve quit working for a salary. An uncle of mine left me a valuable interest in one of our biggest machine shops.”

Despite these efforts to denigrate female reformers, Minneapolis politicians and the community at large took the Women’s Club seriously. Commissioner Hall accepted its help in gathering photographic evidence against emitters. The club exerted significant pressure on the smoke inspector by inviting efficiency experts to analyze the smoke problem and by threatening to petition the mayor for the inspector’s removal if he did not follow the experts’ recommendations. It also enlisted the help of University of Minnesota students in preparing a study of emissions.

A third Minneapolis group actively advocating for smoke abatement at this time was a committee of doctors, judges, and businessmen, apparently affiliated with the Minneapolis Commercial Club. This committee focused on securing a “high class” technical expert, rather than a mere engineer, to serve as the city’s smoke inspector.

Groups favoring smoke abatement generally raised three types of argument: protecting public health, preventing economic damage, and promoting efficiency. Public health, frequently invoked, was ultimately the least effective means of persuasion, due to the era’s medical uncertainty. Prior to the 1880s when bacteria were discovered, miasma was the predominant explanation of illness—that is, people believed diseases were caused by foul odors and gases. Although germ theory had begun to replace this belief, confusion lingered and, while health
American industrial process. Smoke was waste that could be prevented with total combustion, local advocates argued, saving factory owners large quantities of fuel. The convention of the International Association for the Prevention of Smoke, held in Minneapolis in June 1910, concluded: “While great losses are caused by the prevalence of smoke, these losses are small in comparison to the estimated losses by reason of the deficient combustion which produces smoke.”

The smoke problem had been created by technology, and by the twentieth century, many were convinced it could be solved the same way. As early as 1905, engineering societies were showing building engineers and firemen how to tend
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William Eustis, former Minneapolis mayor and nontraditional abatement advocate

change, a large emitter. In 1901 his engineer, William Chew, was one of the 30 hauled into court when Health Commissioner Hall first enforced the ordinance—and it was perhaps due to the influential Eustis that Hall never resumed enforcement. No longer mayor in 1901, Eustis had defended his engineer from the sale of equipment and claimed that there was no such thing as a successful smoke consumer. He had spent $10,000 on the devices, and none of them proved effective. When Chew was fined $10, Eustis “slammed on his hat and coat and remarked that it was a damned outrage that business men were persecuted in such a manner when they were doing the best they could. Whereupon the court asked Mr. Eustis to remove his hat,” the Minneapolis Journal reported.

Despite Eustis’s opinion that the ordinance was misapplied to honest businessmen, he was a vocal figure pushing for “a solution to the smoke nuisance” from a manufacturer’s perspective. In January 1905 he advocated that the city hire an expert to examine furnaces and advise building owners how best to reduce smoke—a seeming endorsement of the Real Estate Board’s and Commercial Club’s campaign for a smoke inspector. Eustis, however, took a less punitive view of the expert’s role: “A man is not a criminal because his chimney smokes,” he said, proposing education and scientific research rather than prosecution. One month later, Eustis invented a smoke consumer that he installed in his Corn Exchange, rendering it “nearly smokeless.” Commissioner Hall claimed that it was the best device he had seen.

The divergent arguments and approaches to smoke abatement in Minneapolis and St. Paul illustrate facets of the national debate on emissions during the Progressive Era. There are several possible explanations of why events developed differently in the two cities. Early efforts were hampered on both sides of the river by fears that enforcing regulations would lead businesses to flee to the other city. But two things may have led St. Paul to push enforcement sooner than Minneapolis. One was the enthusiasm and charisma of Commissioner Ohage, who exhorted St. Paul and the nation that “the old proverb that ‘smoke means prosperity’ is just
as untrue as that ‘the dirtiest hog is the fattest.’” The other was the construction of a beautiful, white marble capitol building, completed in 1905, that would be in danger of being sullied by smoke.36 Once St. Paul cleared the way legally and it became apparent that regulations and their enforcement were an effective abatement tool, Minneapolitans may have felt pressure to embrace the movement in order to stay competitive.

While manufacturers may not have held the same ideas as merchants about how and why smoke abatement should be achieved, most eventually agreed that it was advantageous to emit less smoke. From 1880 to 1910, local smoke-abatement regulations in the United States went from unconstitutional to commonplace. Commercial groups, civic groups, lawmakers, public officials, and the courts came to agree that smoke was a nuisance, and effective regulation became possible.

“A man has no more right to flood his neighbor’s house with smoke . . . than he has to throw garbage into the windows,” lectured Commissioner Ohage.37 He equated the emission of smoke, whether a byproduct of production or heating, with intentional trespass and damage to property—and property owners had protection against both. The right to pollute and the right to be free of pollution would continue to be contested and argued. But once communities recognized smoke as a nuisance, residents were empowered to defend themselves against it.

Notes

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7. From 1904 to 1909 the number of manufacturers in St. Paul grew from 614 to 719 and their output increased 54 percent in value, while in Minneapolis the numbers increased from 876 to 1,103 with a 30 percent increase in value of output; Castle, History, 1: 275, citing U.S. census figures. In 1890 the cities accused each other of census fraud for bolstering figures related to population and industry, but the rivalry had apparently calmed down by 1910; Mary Lethert Wingerd, Claiming the City: Politics, Faith, and the Power of Place in St. Paul (Ithaca: Cornell University Press, 2001), 15–19.

Gleaming white marble capitol building, possibly at its dedication ceremony, St. Paul, 1905


13. *City of St. Paul v. Gillfillan*, 36 Minn. 298 (1886), 300; *St. Paul Pioneer Press*, Dec. 25, 1886, p. 5; Appellant’s Brief, 36 Minn. 298 (1886). It was not unusual for state courts to require enabling legislation; see, for example, *City of St. Louis v. Heitzberg Packing & Provision Co.*, 141 Mo. 375 (1897).


15. *St. Paul Pioneer Press*, Jan. 20, 1892, p. 5; *State ex rel McCue v. Sheriff of Ramsey County*, 48 Minn. 236 (1892), 237–38. The attorneys’ arguments are summarized on the pages before the court’s opinion in the *Minnesota Reports* but are not available online.

16. The court reasoned (p. 241) that, since the law was aimed at reducing “the nuisance occasioned by dense smoke,” the type of business had no bearing on the level of nuisance. The statute was underinclusive because some businesses not covered by the exceptions might emit only an inoffensive amount of dense smoke; *St. Paul Pioneer Press*, Jan. 20, 1892, p. 5. The finding of unconstitutionality was contrary to the predictions of some authorities.

This ruling comports with Carol Chomsky, “Progressive Judges in a Progressive Age: Regulatory Legislation in the Minnesota Supreme Court, 1880–1925,” *Law and History Review* 11 (Autumn 1993): 383–440, which found the Court less willing to be flexible when it came to approving special legislation (e.g., affecting a particular location rather than the entire state) than it was in approving other types of regulation (particularly affecting the freedom to contract).


19. *City of St. Paul v. Haugbro*, 93 Minn. 59 (1904); Appellant’s Brief, 93 Minn. 59 (1904), 8, 9.

20. Here and below, Haugbro, 93 Minn., 62, 63 (quoting Harmon v. *City of Chicago*, 110 Ill. 400 [1894]).

21. *Minnesota Journal*, Aug. 2, 1889, p. 7, Dec. 26, 1889, p. 6. The commissioner’s claim is disingenuous; the second section of the ordinance stipulated that violators were owners or employees of railways, as well as “the owner, lessee or occupant” of any building. *Minnesota Ordinance*, Feb. 9, 1894, *Proceedings of the City Council*, vol. 20, p. 75. This ordinance was not amended after the ruling in *Johnson*.

22. *Minnesota Journal*: Dec. 13, 1900, p. 4, Dec. 26, 1889, p. 9, Mar. 16, 1901, 2d news sec., p. 4 (letters to editor); Sept. 26, 1903, p. 15 (arrests); Oct. 3, 1902, p. 7, Oct. 14, 1902, p. 9 (coal strike); June 13, 1900, p. 6 (merchants and city attorney). The latter is odd because Section 3 of the ordinance stipulated that enforcement was the responsibility of the commissioner of health and the superintendent of police.


Smoke inspectors from 100 cities attended the three-day convention, discussing the effectiveness of various local ordinances as well as health and efficiency issues. The event and the deliberations received significant press coverage, suggesting that smoke-abatement issues were of great interest to the larger community; see, for example, *Minnesota Journal*, Feb. 24, 1910, p. 9, June 26, 1910, 2d news sec., p. 1, July 1, 1910, p. 15. The renamed organization still exists; Bill Beck, “A History of the Air and Waste Management Association’s First 100 Years,” *East Michigan Chapter East Central Section Air & Waste Management News & Notes*, Summer 2007, p. 1, 4, 7.


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