

Flightless Phoenix: Fire Risk and Fire Insurance in Urban Canada, 1882-1886

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Volume 16, Number 1, June 1987

URI: <https://id.erudit.org/iderudit/1017946ar>

DOI: <https://doi.org/10.7202/1017946ar>

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Publisher(s)

Urban History Review / Revue d'histoire urbaine

ISSN

0703-0428 (print)

1918-5138 (digital)

[Explore this journal](#)

Cite this note

Norris, D. A. (1987). Flightless Phoenix: Fire Risk and Fire Insurance in Urban Canada, 1882-1886. *Urban History Review / Revue d'histoire urbaine*, 16(1), 62-68. <https://doi.org/10.7202/1017946ar>

Article abstract

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Research Notes/Notes des recherches

Flightless Phoenix: Fire Risk and Fire Insurance in Urban Canada, 1882-1886

Darrell A. Norris

Résumé/Abstract

L'assurance comme moyen d'adaptation au risque d'incendie urbain, précède les mesures effectives destinées à maîtriser les incendies dans les cités, villes et villages au Canada. Le danger d'incendie est plus aigu dans les petites localités que dans les grands centres, cependant les premières sont moins enclines à se protéger avec une assurance comportant une couverture adéquate. Cet article examine l'industrie canadienne des assurances contre l'incendie à la fin du 19^e siècle, et analyse les implications de 494 incendies majeurs survenus durant les années 1880. Il semble évident que ces incendies majeurs ont contribué à restreindre la participation des petites localités dans l'édification commerciale et industrielle de la société urbaine proto-moderne au Canada.

Adaptation to urban fire hazard through the medium of insurance preceded effective means of containing fire risk in Canada's cities, towns, and villages. Fire hazard was more acute in small places than large cities, yet the former were least apt to be protected by adequate insurance coverage. This paper reviews the Canadian fire insurance industry in the late nineteenth century, and considers the implications of 494 major reported fires during the 1880s. The evidence suggests that major fires in minor places contributed to their diminishing role in the commercial and industrial fabric of proto-modern Canadian urban society.

Urban fires are testimony to our imperfect mastery of heat, light, and kinetic energy sources, to our use and misuse of flammable, volatile or explosive materials, and to our collective capacity for error, neglect, avarice, and vicarious pleasure. Since the dawn of urban living, we have built, burned, and built anew. Fire has always been an agent of urban morphological change, whether persistent and cumulative, or sporadic and catastrophic.

Nineteenth-century urbanization and industrialization created new sources of fire hazard, greatly augmented the concentration of urban property at risk, and perpetuated or even exacerbated settings in which minor blazes could develop into major conflagrations. These problems were particularly acute in North America, where new, hasty,

imperfect, and profitable modes of urban life and livelihood outpaced rudimentary means of fire prevention and control. Canadians, who were predominantly housed and employed in wood structures,¹ and sustained in large measure by the milling, fabrication, and export of wood products,² were notably prone to the ravages of urban fires. In Canadian villages, towns, and cities, virtually ideal circumstances existed for the outbreak and spread of fire. Break out and spread it did, destroying large areas of Quebec City (1845 and 1866), Toronto (1849), Montreal (1852), Halifax (1859), and Saint John (1877), to cite just a few of the major conflagrations documented by J. Grove Smith in 1918.³

Canadian urban society *adapted* to fire hazard before it transcended rudimentary means of eliminating or containing the threat of conflagration. Foremost among these adaptations was the growth of the fire insurance industry. In contrast, aside from the proliferation of volunteer and municipal fire brigades, even the most elementary means of

containment were belatedly introduced and sporadically applied. Rigid building codes, systems of inspection, reliable high pressure water systems, and reasonably fireproof living and working conditions were all largely twentieth-century features of the Canadian urban scene.⁴

Fire hazard and its effects were dramatic and well-documented in Canada's largest cities, and historical research has emphasized these settings.⁵ Urban historians have tended to focus on major conflagrations as possible catalysts of municipal reform and morphological change, but Taylor has expressed doubts about the general applicability of these ties.⁶ The fire problem was confined neither to Canada's large cities nor to their major conflagrations, yet the impacts of less spectacular fires in smaller urban places have commanded little scholarly interest. Nonetheless, modern and historical evidence both indicate that city size differentials of fire risk, fire protection, and fire insurance rates, were all to the detriment of small urban centres.⁷

The universal nature of late-nineteenth-century fire hazard is also evidenced by the efforts of the Goad, Sanborn, and other companies to prepare building appraisals and fire insurance plans for a very large number of urban places, many of which were mere villages.⁸ Adaptation to fire hazard in small and peripheral urban places lagged the measures implemented in large cities, a striking example being the hierarchical diffusion of municipal reservoirs and hydrant systems. Yet, given their built fabric, industrial base, and commercial activities, fire hazard was intrinsically more acute in minor urban centres than it was in Canada's major cities.⁹ Thus, although morphological and structural change might seem most likely as an aftermath of big fires in big cities, a more profound but subtle urban-industrial transformation may have been induced by differentials of fire hazard and response in the urban system as a whole.

This paper is in two parts. First, a chronology of one adaptation to fire hazard is traced by examining the growth of the fire insurance industry in Canada. Second, the paper explores the pattern of reported major fires in Canada between 1882 and 1886. It is shown that small or medium sized fire insurance companies could not safely provide secure coverage of small towns prone to conflagration. It is also suggested that businesses and industries in these settings often lacked coverage sufficient to ensure their survival in the event of a major fire. Reported insurance coverage of major fires is shown to have varied between different types of fire, between Canada's principal regions, between different levels in the urban hierarchy, and according to the scale of damage inflicted. Finally, it is shown that the per capita cost of major fire damage was substantially greater in minor places than in towns or cities. Given all these differentials, I think that Canada's late-nineteenth-century fire problem bolstered a broad shift of economic activity from small to large urban centres and from small-scale to large-scale firms. In other words, fire hazard underscored a contemporary

urban morphological and structural transition which led ultimately to metropolitan and corporate primacy in Canadian urban society.

Fire Insurance in Canada

In 1869, two years after Confederation, fire insurance companies operating inter-provincially under Canadian federal government regulation accounted for \$188 million in insured risks. By 1887, their business had more than tripled to \$635 million.¹⁰ The leading companies were British; they commanded over 60 per cent of the market in 1869 and were even more entrenched nearly two decades later (Figure 1). British dominance of the industry was briefly toppled by Canadian firms in the mid-1870s. Confidence in the latter, however, was seriously undermined by company failures resulting from the Saint John conflagration of 1877. American fire insurance companies maintained a weak foothold in the Canadian market. The federally regulated companies were few in number, large in scale, and equipped to spread their insured risks over a wide geographic area. The striking British penetration of the Canadian market during the 1880s (Figure 1) reflects the entry of new firms, for almost half the 21 British fire insurance companies serving Canada in 1887 had entered the Canadian market during the preceding decade.¹¹

Fire insurance companies operating under provincial government regulation were numerous and generally small. In Ontario, for example, most of the provincially controlled companies were small mutual concerns serving limited geographical areas, often no more than the farmers in a single township. Together, 49 such companies accounted for \$77

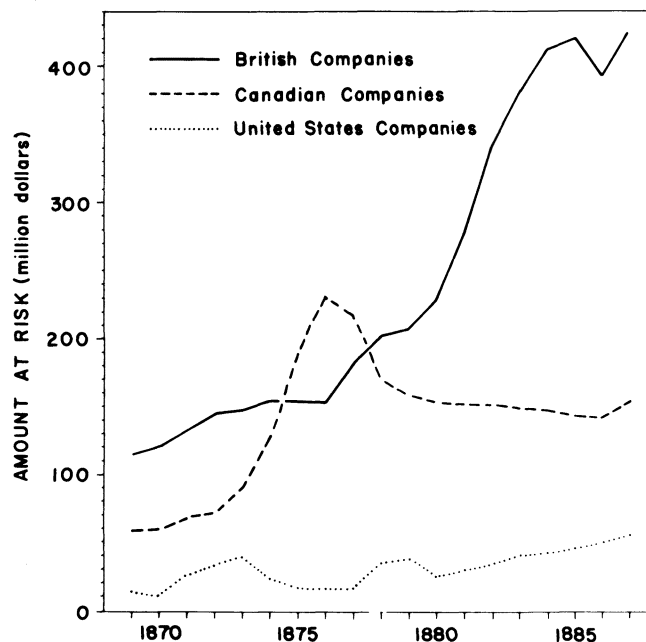


FIGURE 1. Growth of fire insurance in Canada, 1869-87.

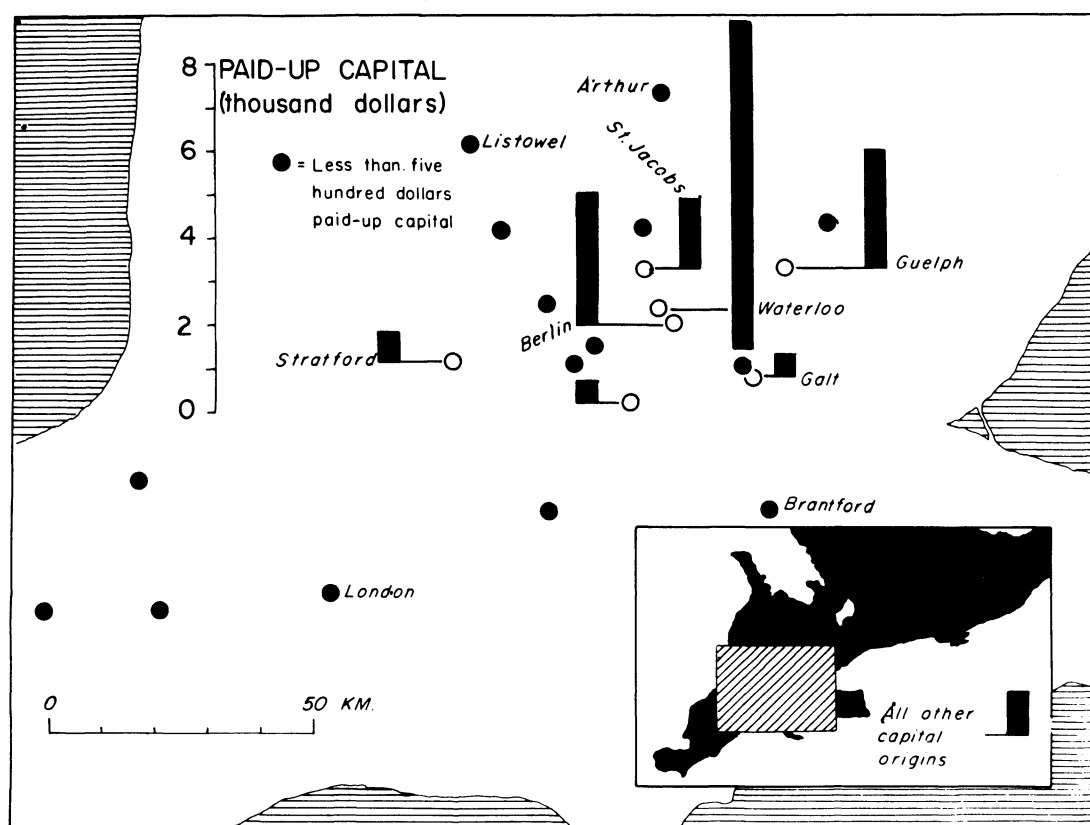


FIGURE 2. Capital origins of the Mercantile Fire Insurance Company of Waterloo, Ontario 1886.

million in insured risk in 1878, the first year in which Ontario figures were published.¹² These small firms imitated contemporary American practice, a legacy of the New England factory mutual system of the early nineteenth century.¹³ The firms were also of comparatively recent vintage; 30 of the 49 Ontario mutual companies in 1878 had been established since 1870. The mutual companies were generally confined to insuring small-scale, isolated, non-hazardous risks;¹⁴ their limited assets and cash reserves could not survive an urban conflagration. The mutuals typically provided an effective umbrella of fire insurance coverage for rural Canadian society. By the close of the nineteenth century there were 84 such companies in Ontario, covering property insured at more than \$200 million.¹⁵ Thereafter, this sector of the fire insurance industry grew relatively slowly.

The largest of the provincially regulated firms were joint stock companies. In Ontario, there were four of these in 1878, all of very recent vintage.¹⁶ Only the largest and first of the four, Toronto's Queen City Fire Insurance Company, survived to face the new century.¹⁷ An operation such as the Mercantile Fire Insurance Company of Waterloo, Ontario, was ill-suited to survive the claims arising from even one small town conflagration. The company's sphere of operation and capital investment was decidedly regional (Figure 2), and its \$8 million in insured risks in 1886 were backed

by a mere \$85 thousand in assets,¹⁸ barely enough to cover one major blaze.

The growth of the fire insurance industry was paralleled by a reduction in the cost of insurance. In the early 1870s, twelve cents per annum for each hundred dollars of coverage was typical, whereas an eight cents charge characterized the late 1880s¹⁹ and was still the norm in early twentieth century Canada.²⁰ The inflated rates of the 1870s reflected the caution spawned by Chicago's experience in 1871 and that of Boston a year later. After the conflagration in Saint John in 1877, Canada's record of major urban fires abated somewhat. The potential for disaster did not, however, evidenced by early twentieth century outbreaks in Ottawa-Hull (1900) and Toronto (1904).²¹

Among the major companies, claims paid out normally ranged between 50 and 80 per cent of premiums collected.²² This figure was close to 300 per cent for the major British fire insurance companies in 1877, burned as they were by the Saint John fire. Their survival bears witness to the scale and geographical scope of major British insurance interests.

Despite the growth of the fire insurance industry, nineteenth-century Canadians were notably under-insured by modern standards. Per capita fire insurance gradually gained

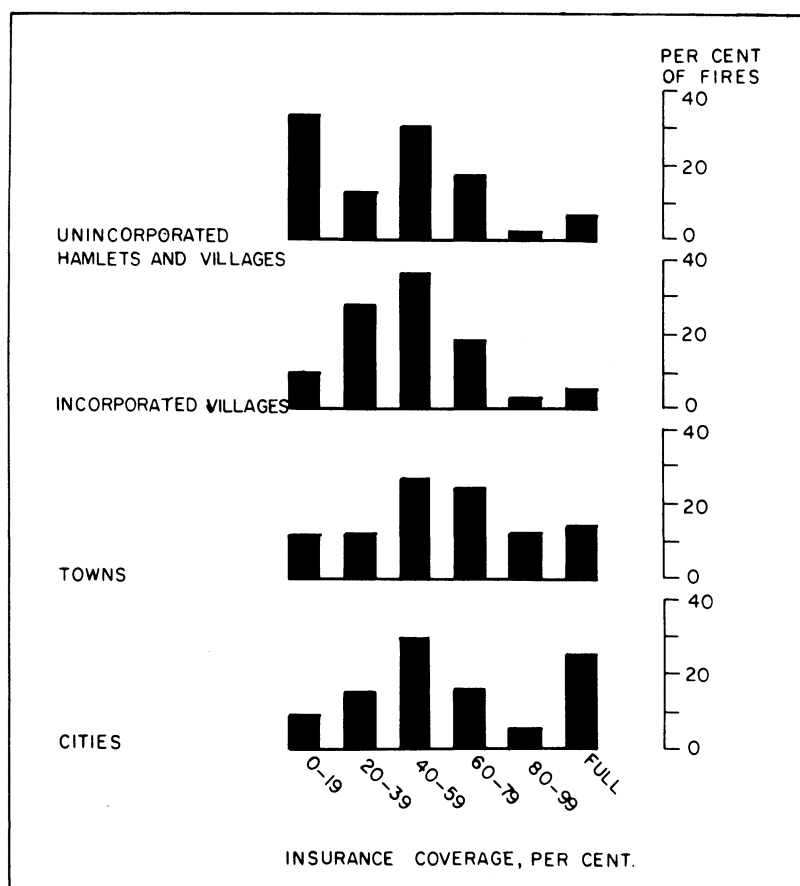


FIGURE 3. Urban size differentials in insurance coverage: Ontario, 1882-86.

ground between Confederation and the Great War, grew rapidly during the nineteen-twenties, and accelerated most rapidly after 1950. In constant dollar terms, Canada achieved a twenty-fold growth in per capita fire insurance between 1870 and the mid-1950s. Much of this growth, however, reflected the accumulation of real property per capita rather than the diffusion of the fire insurance habit. Even by the early 1950s, almost one quarter of property losses due to fire were uninsured, a fraction unchanged since the late 1920s.²³ Inequities of insurance coverage were even more marked in late nineteenth century Canada, and served to exacerbate the differential impact of fire damage in various geographical settings, then and later.²⁴

Major Fires, 1882-1886, A Survey

Beginning in 1878, Henry Morgan, Keeper of the Records of Canada and subsequently Chief Clerk of the Department of State, published an annual miscellany entitled the *Dominion Annual Register and Review*.²⁵ The series was a compendium of parliamentary and other official records, obituaries, literary reviews, and generally unremarkable news items assembled in a "Journal of Remarkable Occurrences." Taken as a whole, Morgan's digests fail to whet even the most voracious appetite for Victorian trivia. He did, however, draw on Canadian newspaper reports of fires, pri-

marily those involving damage in excess of \$5 thousand, about \$1/4 million in present-day terms.²⁶ Morgan assembled a remarkable record of 494 such fires between 1882 and 1886, systematically recording their location, type, the number and ownership of premises destroyed, the damage inflicted in dollar terms, and its insurance coverage, if any.

It should be stressed at this point that Morgan's compilation does not provide a *comprehensive* record of major Canadian fires between 1882 and 1886, or even furnish a geographically unbiased sample. Southern Ontario's multitude of small town and city newspapers (and their prompt exchange of news items) accounted for almost 300 of the 494 reports assembled by Morgan. Outside of Ontario, Morgan's record was scanty for all but the major centres, notably Montreal, Winnipeg and Quebec City. The very newsworthiness of the largest blazes guaranteed their widespread coverage; thus Morgan's data for Western Canada were biased toward exceptionally serious and widely publicized fires.

I estimate that, in Southern Ontario, Morgan's record omitted one third of the fires causing at least \$20 thousand damage and over half the fires exceeding \$5 thousand loss.²⁷ Fires of the magnitude reported by Morgan probably accounted for less than 1.5 per cent of all blazes. This estimate is based on evidence assembled by the Dominion Fire

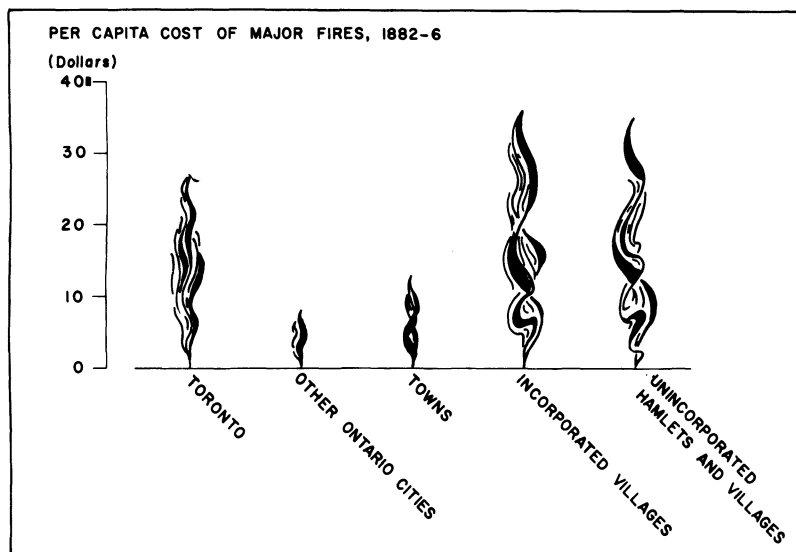


FIGURE 4. Urban size differentials in major fire hazard: Ontario, 1882-86.

Commissioner in the 1920s.²⁸ The extrapolation is corroborated by the fire records of the City of Hamilton in 1882, and by a sample of rural fires in 1886. Thus, the analysis which follows rests on a partial glimpse of the sheer extent of the late-nineteenth-century fire problem, and focuses on the most newsworthy blazes.

Many of the fires reported by Morgan were confined to single properties, commonly industrial or commercial premises.³⁰ These fires were often disastrous in dollar loss terms, but at least their effects were confined to one site. In other instances, however, the major fires documented by Morgan destroyed a variety of premises, owing to the fire's uncontrolled spread to nearby buildings. Such fires did not necessarily inflict enormous dollar damage; that depended on what there was to destroy in the path of the fire. A conflagration of a hamlet or village might, by big-city standards, involve quite modest property losses, yet nonetheless administer a crushing blow to a small community's economic base. The cases of uncontrolled spread are of special interest because they suggest the degree to which places were incapable of containing a fire once it broke out. Minor urban centres were very susceptible to such uncontrolled fire spread, whereas the major Eastern cities were relatively free of this hazard. Only 2 of the 64 reported major fires in Ontario's four largest cities (Toronto, Hamilton, Ottawa, London) involved extensive spread. One of the two, the Toronto fire of August 3, 1885, caused more than a \$1/2 million in damage as it consumed numerous factories, warehouses, wharves, and vessels along the city's waterfront.³¹ In Quebec and the Maritime provinces, only 7 of the 74 reported fires in Montreal, Quebec City, Halifax, and Saint John involved uncontrolled spread.

The conflagration, although it was a constant *threat* in the major cities, was a relatively commonplace *event* in small places, because of their limited ability to contain an out-

break. Port Perry Ontario was an incorporated village with fewer than 2,000 inhabitants in 1881.³² The village suffered three uncontrolled blazes between 1882 and 1886. The first, in October 1883, destroyed a hotel and nearby properties.³³ The second, nine months later, destroyed Port Perry's business district, involved 97 owners and occupiers of property, and caused \$344 thousand in estimated damage.³⁴ The third inflicted a further \$50 thousand damage in February, 1886.³⁵ This triple blow to a small community was exacerbated by the fact that less than 45 per cent of the reported property losses in Port Perry were covered by insurance.

During the same five year period the economic base of several other towns and villages was eroded in a similar manner. The most serious losses occurred in Leamington, Ridgetown, Alliston, and Stirling, which were all, like Port Perry, Ontario villages with fewer than 2,000 inhabitants.

Under-insurance of the damage inflicted by uncontrolled fire spread was a national problem. Two thirds of the 104 fires of this type reported by Morgan were less than fifty per cent covered by insurance. Such under-insurance was characteristic of less than half of the mill or factory fires reported by Morgan and only one quarter of the fires in commercial premises. It appears that, particularly in small places, fire spreads more easily than the means to contain it, or defray its cost.

Close to half the fires reported by Morgan were confined to industrial establishments, a total of 243 major blazes between 1882 and 1886. A noteworthy feature of these fires is that reasonably adequate insurance coverage was most characteristic of the biggest industrial fires. More than half the industrial fires causing at least \$10 thousand damage were at least fifty per cent covered by insurance, whereas only 19 per cent of smaller industrial fires were that well insured. The latter typically consumed small-scale mills

manufacturing wood or grain products. Within Ontario, Morgan documented fire outbreaks in six dozen such mills, and thirty fires in other types of industrial establishments. Small-scale saw, planing, grist and flour mills were a typical feature of Ontario towns and villages,³⁶ and it is therefore not surprising to find that, of the reported under-insured industrial fires only two occurred in Ontario's four largest cities. As in the case of uncontrolled spread, small places were prone to industrial fire hazard, yet apparently ill-equipped to survive its effects. Under-insured small industrialists would have been hard put to rebuild and resume production in the wake of a major fire. As Spelt demonstrates, the 1880s intensified a trend toward larger scale industrial production in major Ontario centres.³⁷ He also mentions a few instances in which a major fire obliterated a key small town industry or prompted its relocation.³⁸ Although we cannot claim that the incidence of industrial fires in small places *caused* the shift in location and scale of Ontario's manufacturing base, it was most definitely consistent with that transition.

Insurance coverage was apparently more adequate in Canada's two largest cities than in their respective provinces. Close to three-quarters of the blazes in Toronto and Montreal were at least fifty per cent covered by insurance, whereas less than half the reported fires in Ontario and Quebec were that well covered. Morgan's evidence suggests that the problem was even more serious on the eastern and western margins of Canada, for only one third of the major reported fires in the Maritimes and West carried at least fifty per cent insurance coverage. The evidence for these two regions is, however, very scanty, and biased toward the most dramatic and newsworthy outbreaks. Yet even in the city of Winnipeg, for which Morgan seems to have had quite good information sources, only one of a dozen major fires was reasonably well-covered by insurance, a picture very different from that conveyed by Montreal or Toronto.

Morgan's survey of major Ontario fires suggests that fire insurance coverage was least adequate in small unincorporated places, and most characteristic of the province's cities (Figure 3). In the former, and in Ontario's incorporated villages as well, full or even adequate insurance coverage was the exception rather than the rule. What accounted for this hierarchical regularity? By the 1880s, access to fire insurance was, in theory at least, uniform throughout Ontario's urban system. Even a cursory examination of contemporary provincial and county business directories reveals a network of insurance agents which spanned the province, their agencies often a sideline to other businesses. If access to insurance underlay the disparities illustrated in Figure 3, it must have been expressed in the cost of premiums in hazardous environments, and probably too in the reluctance of companies to accept policyholders in high-risk situations.

In per capita terms, the social cost of major fires was, according to Morgan's figures, three times as great in

Ontario's smallest places as in its towns (Figure 4). Among its cities, only Toronto stood out as being prone to high per capita losses between 1882 and 1886. Toronto's unique position in this respect may reflect a bias of coverage in Morgan's record of major fires. It may also be due to the fact that in Toronto major fire outbreaks consumed premises and contents whose scale and value were already metropolitan, not merely urban.

Conclusion

Overall, the evidence suggests that the fire problem was much *more* severe in small places than in large urban centres, and that the most expedient response to the problem, fire insurance, was decidedly *less* prevalent in minor places than in towns or cities. As a result, the main streets, mills, warehouses, hotels, and craftsmen's shops — the framebuilt fabric of village activity — were all-too-often reduced to ashes with no redeeming Phoenix. The toll exacted by this combination of circumstances is obviously impossible to gauge from Morgan's record alone. His survey is a mere glimpse of the fire problem and its repercussions in late nineteenth century Canada. As the century drew to a close, radical changes in modes of production, marketing, finance, communications, and the scope of municipal government had imperilled the ability of small places and minor enterprises to successfully cope with conditions which governed success or failure in proto-modern urban Canada. The legacy of these changes would be vanished hamlets, streetscapes-punctuated by vacant structures and lots, and overgrown ruins of lost rural industries. Fire hazard, and the inequities of fire insurance, were just two elements among the many factors which undermined the vitality of small places. But, as a widespread medium of change, the major fire in a minor place was a severe, highly visible often irreversible, and certainly symbolic blow to the fortunes of a community. True, morphological change was prompted by a *tabula rasa*, but only if the means and incentive existed to start anew. When those ingredients were absent, fire prompted extinction, not renewal.

NOTES

1. In 1891, 81.5% of Canada's houses were built of wood. *Census of Canada, 1890-91*, Volume 1 (Ottawa: 1893), 8, Table 11.
2. Wood, wood products and paper accounted for almost 28% of Canadian exports by value in 1891, M.C. Urquhart and K.A.H. Buckley, *Historical Statistics of Canada* (Toronto: 1965), 174-5.
3. J. Grove Smith, *Fire Waste in Canada* (Ottawa: Commission of Conservation Canada, 1918), 277-89. Smith described 59 conflagrations in Canada between 1750 and 1917.
4. *Ibid.*, 59-69.
5. F.H. Armstrong, "The First Great Fire of Toronto, 1849," *Ontario History* 53 (1961): 202-21; F.H. Armstrong, "The Rebuilding of Toronto after the Great Fire of 1849," *Ontario History* 70 (1978): 3-38; Jon Fear, "Ottawa's Lumber Interests and the Great Fire of 1900," *Urban History Review* VIII (June 1979): 38-65; John Weaver and Peter De Lottinville, "The Conflagration and the City: Disaster and Progress in British North America During the Nineteenth Cen-

- turey" (Paper presented at the Canadian Historical Association Annual Meeting, London, June 1978).
6. John H. Taylor, "Fire, Disease and Water in Ottawa: An Introduction," *Urban History Review* VIII (June 1979): 7-37.
 7. National League of Cities, *The Grading of Municipal Fire Protection Facilities* (Washington: 1967), 22-3; Dominion Fire Prevention Association, Association of Canadian Fire Marshals, *Statistical Report of Fire Losses in Canada, 1930* (Ottawa: 1931), 6.
 8. Robert J. Hayward, "Insurance Plans and Land Use Atlases: Sources for Urban Historical Research in the Public Archives of Canada," *Urban History Review* II (June 1973): 2-9; and by the same author, *Fire Insurance Plans in the National Map Collection* (Ottawa: Public Archives of Canada, 1977). By 1910 the Charles E. Goad Company had mapped over 1,300 communities in Canada.
 9. Smith, *Fire Waste in Canada*, 74.
 10. *Canada, Sessional Papers* (henceforth *C.S.P.*) 21 (1888), 10:9, 12-13.
 11. *Ibid.*, 18.
 12. *Ontario, Sessional Papers* (henceforth *O.S.P.*) 12 (1880), 21.
 13. John Bainbridge, *Biography of an Idea: The Story of Mutual Fire and Casualty Insurance* (Garden City, N.J.: 1952).
 14. See for example, *O.S.P.* 20 (1888), 2, 81.
 15. *O.S.P.* 32 (1900), 10.
 16. *O.S.P.* 12 (1880), 21. These were the Queen City Company of Toronto (established in 1871), the Mercantile of Waterloo (1875), the Standard of Hamilton and the Union of Toronto (1877).
 17. *O.S.P.* 32 (1900), 10.
 18. *O.S.P.* 20 (1888), 2, 9-10.
 19. *C.S.P.* 21 (1888), 10:9, 12-13.
 20. Dominion Fire Prevention Association, Association of Canadian Fire Marshals, *Statistical Report of Fire Losses in Canada, 1931* (Ottawa: 1932), 5.
 21. F.H. Armstrong, "The Rebuilding of Toronto," 4-12.
 22. *C.S.P.* 21 (1888), 10:9, 12-13.
 23. Dominion Fire Prevention Association, Association of Canadian Fire Marshals, *Statistical Report of Fire Losses in Canada, 1928* (Ottawa: 1929), 4; Canada, Department of Insurance, *Statistical Report of Fire Losses in Canada, 1951* (Ottawa: 1953), 9.
 24. In Ontario 17% of property loss by fire was uninsured during both periods 1927-31 and 1950-54. Comparable figures for the Prairie Provinces were *circa* 20% in both periods, for the Maritime Provinces *circa* 32%. Figures were obtained from Dominion Fire Prevention Association and Department of Insurance Fire Losses Reports for the years covered.
 25. Henry J. Morgan, *Dominion Annual Register and Review* (henceforth *D.A.R.R.*) 1878 (Toronto: 1879).
 26. A rough estimate, based principally on Mitchell's commodity price index for the period 1868-1925, in Urquhart and Buckley, *Historical Statistics of Canada*, 291.
 27. Assuming that he disregarded no fires exceeding \$50 thousand damage, and extrapolating from the frequency distribution of fires by scale of damage suffered for the period 1927-31, reported by the Dominion Fire Prevention Association.
 28. In 1927, for example, 31,259 of 31,728 fires inflicted less than \$10,000 property loss (less than \$5,800 in 1882-86 equivalent terms), Dominion Fire Prevention, Association of Canadian Fire Marshals, *Statistical Report of Fire Losses in Canada, 1927* (Ottawa: 1928), 5.
 29. Hamilton Public Reference Library, MS. Fire Department Records 1882. Only 3 of 105 reported fires exceeded \$5,000 damage; *O.S.P.* 20 (1888), 2, following 177. In more than half the known instances damage claims fell short of \$100, only 5.6% of claims exceeded \$1,000.
 30. The two maps were compiled from Henry J. Morgan, *D.A.R.R. 1882* (Toronto: 1883), 228-31; *D.A.R.R. 1883* (Toronto: 1884), 201-05; *D.A.R.R. 1884* (Toronto: 1886), 357-402; and *D.A.R.R. 1886* (Montreal: 1887), 330-37.
 31. Morgan, *D.A.R.R. 1884*, 382.
 32. *Census of Canada, 1881*, Volume 3 (Ottawa: 1881), 90, Table XXII.
 33. Morgan, *D.A.R.R. 1883*, 205.
 34. Morgan, *D.A.R.R. 1884*, 345.
 35. Morgan, *D.A.R.R. 1886*, 331.
 36. Jacob Spelt, *Urban Development in South-Central Ontario* (Toronto: 1972), 124-5.
 37. *Ibid.*, 172-3.
 38. *Ibid.*, 182.