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Sanborn Fire Insurance Maps: History, Use, Availability

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Sanborn fire insurance maps are an excellent resource for anyone researching specific American communities, buildings, or industries from the mid-nineteenth to the mid-twentieth centuries. High production standards insure uniform information over time. To extract the most information, the user needs to understand the original purpose of the maps and how to interpret the visual elements. In addition, the researcher needs access to the right maps.

History of Fire Insurance Maps

The American fire insurance industry dates to the mid-eighteenth century. For the first eighty years, small privately-owned firms or partnerships were in the majority. A disastrous New York City fire in 1835 wiped out many of the smaller companies. This gave advantage to well-capitalized stock companies better able to afford high losses, especially if they could spread risks over wider geographical areas. The basic problem in covering a broad area was risk assessment at a distance, but changes in map publication promised a solution. Lithography, invented just before 1800, was cheaper than engraving. It could not, however, provide the accuracy needed for map-making because the artist had to draw the pattern in reverse on the stone. A new method appeared in 1847 for producing correctly-oriented drawings and transferring them in reverse to the stone, thus improving accuracy.[i]

In 1850, George T. Hope, secretary of the Jefferson Insurance Company of New York, decided that large-scale maps would be useful in calculating fire risks. He gathered a committee to direct the project and to formulate standards and symbols. Then, he hired William Perris, an English engineer, to survey and produce the map according to the committee's standards. The scale was 50 feet to an inch, and colors represented construction materials for each building. This Hope-Perris map of 1852 may be the first large-scale map made in America specifically for insurance underwriting. Perris published several revisions down to 1859; afterward, his son and son-in-law took over the revisions and added a map for Newark, New Jersey, as the Perris and Browne Company.[ii]

Other insurance companies followed Hope's example. Around 1855, Aetna Fire Insurance Company began hiring surveyors to map cities in which it operated. The Civil War slowed the process for a time, but the war's aftermath stimulated business. In 1866, Aetna hired a Massachusetts surveyor named D. A. Sanborn, to map several towns in Tennessee. These unpublished maps never appeared outside Aetna's offices.[iii]

Daniel Alfred Sanborn (1827-1883) already had a project in hand when Aetna hired him. He produced his *Insurance Map of Boston*, volume 1, in 1867 with the imprint of "D. A. Sanborn, C. E., 117 Broadway, New York." Later that same year, he established the D. A. Sanborn National Insurance Diagram Bureau in New York. He obviously saw the advantages of creating fire insurance maps independently and selling them to any companies wanting to buy. Sanborn's company dominated fire map production well into the twentieth century. In 1899, Sanborn bought out Perris and Browne to become Sanborn Perris Map Company. This allowed the company to claim its foundation as 1852 rather than 1867, but in 1902, the name shortened to Sanborn Map Company.[iv]

Over the years, Sanborn made maps for more than 12,000 cities and towns in the United States, Canada, and Mexico. The standards in their *Surveyor's Manual for the Exclusive Use and Guidance of Employees* were exacting. Map sheets were 21" X 25" and scaled at 50 feet to an inch. Since the company typically received fewer than 20 orders for any given sheet, they lithographed maps in black and white and then hand-colored them with wax-paper stencils and watercolors. A map consisted of one or more sheets, depending on the area covered, and Sanborn delivered them loose or in post-binders. Some large cities might fill many binders. By the twentieth century, sheets ran between $12 and $200, depending on the technical detail; commercial districts were more expensive than residential areas. The company first updated maps by issuing corrected sheets. To some extent, the frequency of reissues is a measure of a town's economic development. As costs rose, the company printed slips to paste on old maps and reissued whole sheets less often. Sanborn prided itself on its rapid provision of corrections. In 1934, the company delivered corrections Monday after a Saturday fire at the Chicago Stockyards.[v]

By World War I, Sanborn held a virtual monopoly in the fire insurance map-making business. A few small regional companies remained but none could offer Sanborn nationwide competition. Still, the fire map industry was past its prime. Due to complaints about the high cost of Sanborn maps, the National Board of Fire Underwriters formed a committee in 1914 to look into the possibility of creating and distributing its own maps. Ultimately, Sanborn added some of the committee's members to its own Board of Directors and surrendered to some supervision by them. When individuals and companies cut costs in the Great Depression by dropping insurance, insurance companies needed fewer updated maps. Sanborn countered sales losses by offering discounts for cash purchases, more paste-on services, and cloth sheet-mountings for longer life of the maps. World War II restrictions on

construction did not improve conditions for Sanborn. After the war, the company produced some smaller scale (200 feet to the inch) spiral-bound formats to reduce costs. Postwar insurance companies used new record-keeping methods and added their own engineering departments, further cutting into Sanborn's business. In 1967, Sanborn reduced its activities to maintaining maps for a limited number of communities (23 currently). The company still exists as a division of Environmental Data Resources (EDR) of Southport, Connecticut, which uses the historical maps in environmental and industrial surveys.[vi]

Using Sanborn Maps

At first, it might seem that maps created for the sole purpose of establishing insurance risk would be too specialized to apply to any other activity. In fact, the technical detail, the uniform standards of the maps' creation, and the geographical and chronological ranges available make the maps extremely reliable for many purposes. Historians and genealogists study them for clues to a community's or a family's past. Urban and land use planners look at community development for keys to future growth. Architectural historians and preservationists, restoration architects, construction engineers and demolition contractors find details for the restoration or safe removal of buildings. Environmentalists look for old hazards. Economists, demographers, and market analysts study the maps to understand local or industrial development. Property owners may be merely curious about a home or business or may want to restore it for its economic or tourism potential. Geographers and geologists find topographical and other changes in an area; one can track erosion of the Vicksburg bluffs or hurricane-induced changes on the Gulf Coast shoreline by using suitable Mississippi maps. Archaeologists survey potential dig sites; accuracy of measurements from known landmarks can be within a foot or two.[vii] Hobbyists find Sanborn maps invaluable. Bottle collectors identify potential sites to inspect. Collectors of fire-related memorabilia find both information about local firefighting facilities and locations of fire-damaged sites in the maps. The maps can also help identify sites and approximate dates of photographs.

The user should always remember that Sanborn maps are instruments of risk assessment and that any symbols, abbreviations, and colors used relate to that objective. By using these and other written information on the maps, the researcher can get a clear historical perspective on a structure, a neighborhood, or a community. In any case, the map user should take time and care in studying the map to extract all the information available. Because of the technicality of this section, the reader may find it more useful as an adjunct to actual inspection of a Sanborn map.[viii]

Sanborn maps range in length from one page to thousands, depending on a community's size. Bear in mind that most maps show only built-up areas where property owners were likely to insure holdings.[ix] Usually, the downtown or industrial areas, residential areas near downtown, and rapidly growing neighborhoods appear. Some writers insist that minority or poor neighborhoods are left off because the poor

rarely purchase insurance.[x] In Mississippi, at least, that is not true. Many building identifications include the race of the inhabitants, owners or patrons, helping demographers or others studying neighborhood changes. Excluded neighborhoods were sparsely settled or of uniform construction and risk (such as frame dwellings); often, the index map will specify the nature of unmapped areas, such as "4 fr. dw'gs" (four frame dwellings). A short map of two or three pages usually has a title on the first page; longer maps may have a full title page, including an index map with a listing of streets and "Specials" (named buildings, businesses and institutions). In either case, the first page of a map contains a notation of prevailing winds and population and a description of water sources and any available fire department or firefighting equipment. Oddly, the Greenville, Mississippi, maps of 1887 and 1890 show the prevailing wind as west, but in 1896 the wind changes to south and northeast. A local insurance agent signs each map verifying its authenticity and accuracy. Revision certificates include both the revision and original dates. The revision stamp is important since it suggests that uncorrected pages were still correct at the later date.

Index maps usually show a broader area than the actual sheets cover. Colored rectangles, with page number superimposed, group city blocks together by page. The map makers placed noncontiguous areas together on a sheet to save space; on the index map, those areas have the same color and page number. Underwriters needed to keep track of how much property they insured in a given area so that a company's liability is limited to a manageable amount.[xi] To help the underwriter with this task, the company assigned each city block a unique number or letter. Block numbers appeared on both the index map and the actual sheet. These numbers remained constant from date to date, but if renumbering did occur for any reason, the old number appears in parentheses below the new number on later maps. The best use of space determined page orientation, and a compass rose on each sheet or inset ensures alignment.

Sanborn maps display neighborhood factors that might spread fires or help in fighting them. Street names and numbers printed on the maps help locate property. Maps show water sources, whether wells, cisterns, or mains along with their capacities. Small filled circles mark hydrant locations. At intersections, open circles with footage marked inside denote height as evidence of pressure from gravity flow. These circles may be absent where a community is on level ground. "Wall out of plumb" and similar notations mark hazards for firefighters. Occasionally, one sees a building footprint "to be built" or "to be removed" to aid underwriters until the next revision. Rail lines reveal danger from sparks or a delay in the fire department reaching a fire. Rough or unusual terrain also shows up as a possible obstacle to firefighting. "No exposure" printed along a property means that fire is unlikely to spread from that direction due to terrain or lack of nearby hazards.

The first thing most people notice about Sanborn maps is color. Color coding dates back to the Hope-Perris map of 1852, and Sanborn followed the same scheme. Colors on structures reflect basic construction materials. Yellow always represents wood; red (pink) is brick or masonry; blue is stone or concrete; gray is metal; and green

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is a special material not always identified. Brown indicates a fireproof building (often adobe). Two or more colors together show multiple materials in use. For instance, yellow with a red band around it represents a wooden house with a course of bricks part way up the first story; a red band between attached yellow structures shows a masonry firewall between the structures. A pink building with yellow along one side is usually brick with a wooden porch. Symbols identify structural features that contribute to relative flammability. Commonly, these included building height, height of a fire wall above the roof, type of roofing material, and outside windows, doors, and shutters on each level. These symbols appear in a block on the first page of a map set.

Building usage is a fire risk issue. For instance, a large "X" drawn across the footprint marks a stable. On the assumption that a stable contains hay and straw, it will probably burn more rapidly than a similarly constructed building nearby. Standardized abbreviations show usage. On the residential side, there are dwellings (D or Dw'g), boarding houses (Board'g), tenements (Tenem'ts) and apartments (Apts), with the occasional outer building marked as Servants [quarters]. When cars came along with their loads of flammable fuels, maps began abbreviating "A" or "Auto Ho" for garage or "A in B" for auto in basement. Outer buildings may or may not be identified. As a sidelight, buildings abbreviated "F.B." (female boarding) expose a red-light district; this is not a moral judgment but a useful sign that someone would always be home to raise the alarm in case of fire in the vicinity. Churches, on the other hand, are often vacant during the week.

Commercial buildings usually appear more detailed than dwellings. Businesses and factories may show either by company name or primary use. One can estimate the community's sophistication and the products and services available from this. Sometimes, distinctions between businesses may not be clear to the modern user. For instance, early Greenville, Mississippi maps show a block with a hand laundry (brick) at one corner, a Chinese laundry (wood) in the middle, and a steam laundry (also brick) on the other corner. The steam laundry's boiler was an addition marked in green for an unspecified "special material." The Chinese laundry in the middle might be the greatest fire risk of the three, depending on how they heated water. Descriptions of factories or commercial buildings noted flammable raw materials or products stored on site, interior lighting or skylights, fire precautions (such as fire buckets), and extra personnel (including night watchmen).

Sanborn maps have few readily discernible errors. One Southwestern researcher found the compass rose off from true north on several maps, possibly a magnetic anomaly or the presence of iron mine tracks below the towns. Comparing the 1902 and 1908 Albuquerque, New Mexico, maps, he found buildings rotated out of position or otherwise misplaced, perhaps from inaccurate town plats employed in the initial survey.[xii]

In spite of Sanborn's high standards, there may be misleading elements. Towns rename or renumber streets from time to time, making it difficult to find a particular

property. The maps may appear partially out of scale as well. In places where underwriters might need more room for notes, "widened" calls attention to the extra space left in a street; the company noted the actual street width on the map. Hardest to understand is why a building does not appear on a map when it is obviously of older construction than the date of the map. Several possible answers may exist. The building may be in an uncharted neighborhood. Street name or number changes may obscure the actual location. Someone may have moved the house from a different location, an occurrence less unusual than one would expect. Older construction techniques may continue past the introduction of new methods, and this may cause a researcher to believe the building is older than it really is.

Availability of Maps

Before using Sanborn maps, one must find maps suited to the need. Some authorities suggest that Sanborn made maps for every city with a population more than two thousand, which is probably true.[xiii] They mapped many smaller towns as well. On the Gulf Coast, Mississippi City had about one hundred residents when first mapped. Political or legal importance was not a trigger. Several counties in Mississippi have no representative communities mapped, not even county seats. Probably, the company created a map when an insurance agent requested one. In addition, very small communities might appear on maps of larger neighboring towns. The best source (outside Sanborn's own archives) for identifying maps is *Fire Insurance Maps in the Library of Congress: Plans of North American Cities and Towns Produced by the Sanborn Map Company: a Checklist*, produced by the Library of Congress's Geography and Map Division in 1981. R. Philip Hoehn's *Union List of Sanborn Fire Insurance Maps Held by Institutions in the United States and Canada* is more limited but still useful. Reproduction of images may extend availability, as well, but copyright law, conservation, and local policies come into play here.

The Library of Congress has the single largest collection of Sanborn maps outside the Sanborn Map Company itself, holding approximately 750,000 sheets, the majority deposited by from the company for copyright. These depository copies are in their initial uncorrected states or they are reissued corrected sheets. In 1967, the U. S. Bureau of the Census turned over to the Library of Congress 1,899 binders the Bureau had used in creating census tracts. These bound maps included paste-on corrections provided by Sanborn's updating service.[xiv] Within the strict limits of copyright, the Library of Congress provides copies. The least expensive are black and white photo-reproductions, which omit some detail of the original colored maps, but photographic and microfilm copies are also available. In 1997, the Library of Congress entered an agreement with EDR (Sanborn's parent company) to scan approximately one million maps held between them and to make them available on the Library of Congress web site.[xv] Unfortunately, this project fell through over contractual problems.[xvi]

Chadwyck-Healey launched a project in the early 1990s for making Sanborn maps widely available through microfilm. The company began filming maps from the

Library of Congress. Against advice, they chose to film in black and white, again losing detail from the colors. Microfilm is expensive but it provides some access outside the Library of Congress.[xvii]

Several recent projects provide limited access to Sanborn maps through the internet. ProQuest bought out Chadwyck-Healey and used the microfilm acquired through the purchase to begin mounting state sets on the web around 2001. These images, like the microfilm, are black and white, but ProQuest is considering rescanning originals for color in the future if it becomes economically feasible to do so. Right now, they offer access only by an annual subscription. Not all states are available: the actual enhancing and digitizing of the images evidently depend on having at least one subscription sold for a state before making the state available. The Ohio Library and Information Network and Ohio Public Library Network took a different approach. They arranged to mount images of Ohio communities (again from the Chadwyck-Healey microfilm) on the web, but access is limited to citizens of Ohio only.[xviii]

One stand-alone project sets precedence for further web access. The J. Willard Marriott Library at the University of Utah created digital images of its own collection of Utah maps. Due to copyright restrictions, they chose to limit the project to maps produced before 1922. The images are in color, and they have made these available to anyone accessing their web site.[xix]

Access to original maps is limited but various libraries around the country do have sets. In particular, between 1955 and 1978, the Library of Congress Geography and Map Division withdrew more than 288,000 duplicate sheets and offered them on exchange to other libraries. Mississippi State University acquired the available Mississippi maps.[xx] In later years, the library added more maps by direct purchases from the Sanborn Map Company and by gifts of other Library of Congress duplicates. Now, Mississippi State's collection includes maps for 116 communities across the states (the Library of Congress *Checklist* lists sets for 118 communities). The collection is open to the public. In 1971, the Sanborn Map Company gave permission to copy primarily because students were the main users. The main limitations to photocopying arise from the fragile nature of the maps and the need to preserve them for the future.

Notes

i.   Ristow, Walter W. "United States Fire Insurance and Underwriters Maps, 1852-1968." *Quarterly Journal of the Library of Congress*, 25 [no. 3] (July 1968): 198.

ii.   Ristow, Walter W. "Introduction to *Fire Insurance Maps in the Library of Congress: a Checklist*" on "Sanborn Fire Insurance Maps." http://www.lib.berkeley.edu/EART/snb-intr.html; Ristow, "U.S. Fire Insurance Maps," 198.

iii.   Ristow, "Introduction"; and Ristow, "U. S. Fire Insurance Maps," 198, 201.

iv.   Ristow, "Introduction"; Ristow, "U. S. Fire Insurance Maps," 201-202; Kim Keister. "Charts of Change." *Historic Preservation*, 45, no. 3 (May/June 1993): 46; and Hoehn, R. Philip. *Union List of Sanborn Fire Insurance Maps Held by Institutions in the United States and Canada*. Vol. 1: *Alabama to Missouri*. Foreword by Walter W. Ristow. Occasional Paper No. 2. (Santa Cruz, Calif.): Western Association of Map Libraries, [1976], v.

v.   Ristow, "Introduction"; Hoehn, vi; Nehls, Chris. "Sanborn Fire Insurance Maps, a Brief History." http://fisher.lib.virginia.edu/collections/maps/sanborn/web/about.html; and "Map Monopoly," *Fortune Magazine*, February 1937, 22, 42.

vi.   Ristow, "Introduction"; and Hoehn, vi.

vii.   Shkurkin, Vlad. "Fire Insurance Maps as Primary Historic Records." (paper presented to the Historical Society of New Mexico, Taos, New Mexico, 27 April 1984), http://www.utahice.com/sanborn/firemaps.htm.

viii.   Utah maps are the most readily available set on the web and might be useful to see how elements mentioned in the section appear. The J. Willard Marriott Library provides free access at http://www.lib.utah.edu/digital/sanborn.

ix.   "Maps and Atlas Collection: Sanborn Fire Insurance Company Maps." http://wisconsinhistory.org/libraryarchives/maps/sanborn.asp.

x.   "How to Read Sanborn Fire Insurance Maps." http://fisher.lib.virginia.ed/collections/maps/sanborn/web/details.html.

xi.   "The $124,000,000 NA Companies." *Fortune Magazine*, February 1937, 166.

xii.   Shkurkin, "Fire Insurance Maps."

xiii.   "Description and History of Sanborn Fire Insurance Maps." http://www.indiana.edu/~libgm/readhist.html.

xiv.   Ristow, "Introduction."

xv.   News releases, 6 June 1997, 9 June 1997, and 5 December 1997. "News from the Library of Congress." http://www.loc.gov/today/pr/1997/~.html.

xvi.   Arlitsch, Kenning. "Digitizing Sanborn Fire Insurance Maps[TM] for a Full Color, Publicly Accessible Collection." *D-Lib Magazine*, 8, no. 7/8 (July/August 2002). http://www.dlib.org/dllib/july02/arlitsch/07arlitsch.html.

xvii.   Ibid.

xviii.   Arlitsch, "Digitizing"; and "About Digital Sanborn Maps." http://sanborn.umi.com.html.

xix.   Arlitsch, "Digitizing."

xx.   Ristow. "Introduction," preface.