

The Horse & the Urban Environment

The following is an extended excerpt from "The Centrality of the Horse to the Nineteenth-Century American City," an article by Joel Tarr and Clay McShane explaining the serious environmental hazards horses presented when used in large numbers and how that related to the emergence of the automobile. Dr. McShane is a professor of history at Northeastern University while Dr. Tarr is a professor of urban and environmental history and policy at Carnegie University.*

While the nineteenth century American city faced many forms of environmental pollution, none was as all encompassing as that produced by the horse. The most severe problem was that caused by horses defecating and urinating in the streets, but dead animals and noise pollution also produced serious annoyances and even health problems. The normal city horse produced between fifteen and thirty-five pounds of manure a day and about a quart of urine, usually distributed along the course of its route or deposited in the stable. While cities made sporadic attempts to keep the streets clean, the manure was everywhere, along the roadway, heaped in piles or next to stables, or ground up by the traffic and blown about by the wind. In 1818, in an attempt to control the manure nuisance, the New York City Council required that those who gathered and hauled manure, so-called "dirt carting," to be licensed, also restricting aliens to this type of carting activity. Thousands of loads of manure were gathered on special "manure-yards" to undergo a process of "rotting," and "gangs" of men were employed to overturn the manure and to expose it to weathering. In 1866, the Citizen's Association Report on the Sanitary Condition of the City observed that, "The stench arising from these accumulations of filth is intolerable."

Nineteenth century urbanites considered the stench or miasmas produced by the manure piles a serious health hazard, but cleaning was sporadic at best. Manure piles also produced huge numbers of flies, in reality a much more serious vector for infectious diseases such as typhoid fever than odors. By the turn of the century public health officials had largely accepted the bacterial theory of disease and had identified the "queen of the dung-heap" or fly, as a major source. Inventors and city officials devised improved methods of street cleaning and street sweeping became a major urban expense. Increasingly, however, it became obvious that the most effective way to eliminate the "typhoid fly" (so named by L.O. Howard, chief of the Bureau of Entomology of the Department of Agriculture and a leader in the campaign against flies), was to eliminate the horse.

Because of the manure on the streets, especially when rain created a quagmire, "crossing sweepers" (like those in London), appeared, to help ladies and gentlemen wade through the liquid manure. Citizens frequently complained about the "pulverized horse dung" which blew into their faces and houses and which covered the outside displays of merchants. The paving of streets accelerated the problem, as wheels and hoofs ground the manure against the hard surfaces and amplified the dust. Writing in [Appleton's Magazine](#) in 1908, Harold Bolce argued that most of the modern city's sanitary and economic problems were caused by the horse. Bolce charged that each year 20,000 New Yorkers died from "maladies that fly in the dust, created mainly by horse manure."

Although not as serious a problem as the manure, the noise created by horses' iron shoes and the iron-tired wheels of cars and wagons on cobblestone streets was a constant annoyance. Benjamin Franklin complained in the late-eighteenth century of the "thundering of coaches, chariots, chaises, wagons, drays and the whole fraternity of noise" which assailed the ears of Philadelphians. Boston and New York both passed ordinances banning traffic from certain streets to protect hospitals and legislative chambers from the noise. As late as the 1890s, a [Scientific American](#) writer noted that the sounds of traffic on busy New York streets made conversation nearly impossible, while the author William Dean Howells complained that "the sharp clatter of the horses' iron shoes" on the pavement tormented his ear.

If the horse created many problems for the city, it was also true that urban life was extremely hard on the horse. The average streetcar horse had a life expectancy of about four years, and it was common to see drivers and teamsters whip and abuse their horses to spur them to pull heavy loads. Overworked and mistreated urban horses often died on the city streets. In 1866, the [Atlantic Monthly](#) described Broadway as clogged with "dead horses and vehicular entanglements," and in that year the mistreatment of the urban horse stimulated Henry Bergh to found the American Society for the Prevention of Cruelty to Animals. Streets paved with cobblestones or asphalt were slipperier than dirt roads, and a horse that broke a leg would have to be destroyed. Veterinarians

recommended that city draft horses be shod with rubber covered horseshoes, but few followed this advise. In 1880, New York City removed 15,000 dead horses from its streets, and late as 1916 Chicago carted away 9,202 horse carcasses. Special trucks were devised to remove dead horses; since the average weight of dead horses was 1,300 pounds, one text on municipal refuse advised that "trucks for the removal of dead horses should be hung low, to avoid an excessive lift."

Because of their size and numbers, the disposal of dead horses presented a special problem. In New York City, for instance, horse carcasses, as well as those of other animals, were sometimes dumped with garbage into the bays or the rivers, often floating there or washing up on the beaches. Dead animals, however, also had value, and they were frequently collected and processed by fat, offal and bone-boiling firms. In the late 1860s, an "offal dock" stood at the foot of West 38th Street in New York City. From there, the carcasses of horses as well as other dead animals and offal from the city's slaughter houses was either dumped in the bay or sent to a rendering plant outside the city. Any animal parts that had a special value were removed beforehand to be made into various products such as gelatin, glue, and fertilizer. By 1880, most large cities contracted with a specific rendering house to take all dead animals. Because they were productive of extreme nuisance, cities attempted to keep these rendering firms outside their borders (at least 10 miles from downtown), but often without success.

Horses did not disappear from cities overnight. Rather, they went function by function. It has already been noted that, while horse-powered machines persisted in manufacturing until about 1850, they were largely replaced by other energy sources in the following decade. The next use of urban horses to disappear was pulling streetcars. Their demise was very rapid, as between 1888 and 1892 almost every street railway in the U.S. was electrified. A few small companies kept horses for about another decade because they could not get permission to electrify, but they were a minor element in the industry. The rapidity of the change is explained primarily by the incredible technological advantage of electric traction in terms of speed in spite of its capital intensiveness. Another benefit was that the pollution from streetcars was reduced, and moved from a non-point mobile source (the horse) to a fixed point source, the coal-burning electrical generating plant. In addition, cities no longer had to worry about removing dead traction horses from their streets.

The coming of the automobile dealt another large blow to the horse. Experimental motor cars had been around for a long time, but cities had always banned them. The crisis of the 1890s and early twentieth century, involving public health fears about pollution, traffic jams, and rising prices for both hay, oats, and urban land, made municipal governments and urban residents much more ready to switch to autos. A number of articles in popular magazines repeated the argument by a writer in Munsey's Magazine that "the horse has become unprofitable. He is too costly to buy and too costly to keep." The process of substitution went faster in the U.S., than in Europe, because American incomes were higher, cars and fuel cost less, and distances were greater. Leisure drivers came first, since the early car was purely a luxury vehicle. (When Woodrow Wilson rode a carriage in his 1917 inaugural, the last president to do so, he marked the end of the horse as a status object.) By 1907, urban doctors and some members of footloose occupations (salespersons and construction engineers, for example) had adopted cars. Mechanized cabs became commonplace around the same date. In 1906, motor buses replaced horse-drawn omnibuses on Fifth Ave., New York City, likely the last omnibus service left. In 1912, New York, London, and Paris traffic counts all showed more cars than horses for the first time. The drop in Model T prices that followed after Henry Ford opened the first assembly line plant in 1913, led to the adoption of cars by commuters. Most cities experienced their first diurnal traffic jams throughout the central business district in 1914.

**"The Centrality of the Horse to the Nineteenth-Century American City" (with Clay McShane); The Making of Urban America, (Raymond Mohl, ed.), NY: SR Publishers, pp. 105-130, 1997.*