The Sign Industry:

Sign Classifications and Functions

The sign industry comprises companies and individuals involved in sign design, manufacturing, construction, maintenance, and research. The industry is both large and varied, but for analytical purposes, it may be divided generically into four discrete segments: (1) public sign, (2) outdoor/off-premise sign, (3) incidental or temporary sign, and (4) on-premise sign. These segments are defined by the sign's characteristics and relationship to the activities performed on or referenced by the "host" property. The companies that produce signs tend to specialize by segment or category, as do the trade organizations serving the industry and its users.[1]

The Public, Noncommercial Sign Industry

The public sign industry is involved in the production of noncommercial public service signs, and is best represented by the signage program for the federal interstate highway system. Generally, three sign types are involved: regulatory, directional, and warning.

Under the 1958 and 1965 Federal Highway Acts, signage in this category is strictly controlled. The public service sign must conform to precise federal standards with respect to size, height, shape, color, and placement. In addition, it must be easy to read and conspicuously contrast with the locational background.[2] Much research and

1. For example, the on-premise industry is represented by, among others, the International Sign Association, World Sign Associates, and the United States Sign Council. Since the mid-1920s, the Outdoor Advertising Association of America, Inc. (OAAA) has been the principal representative of the outdoor advertising sector.
2. Public service signs typically include traffic-control devices and signs that concern direction, public facility identification, special event announcement, and information of general interest to the public (e.g., time and temperature data).

Local governments often enact special restrictions and prohibitions on temporary signs, generally based on the argument that their haphazard use is detrimental to several legitimate governmental interests, including aesthetics and traffic and pedestrian safety.

time have been spent to develop a comprehensive and constructive federal interstate highway public signage program. Consequently, it is not surprising that most other sign programs developed by public entities are greatly influenced by federal public signage programs and policies.

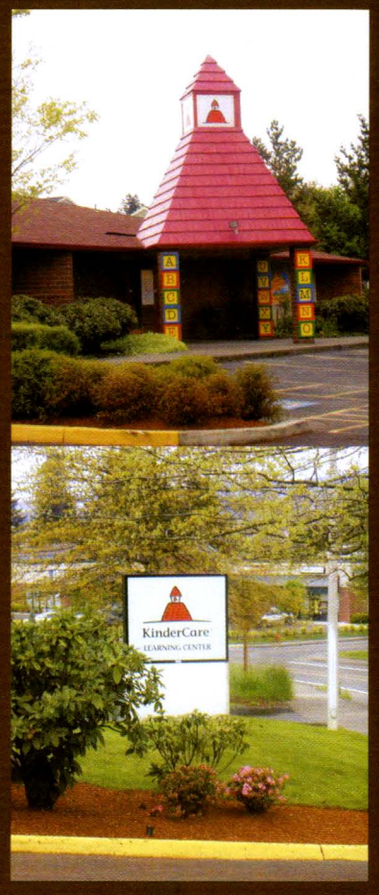
National directives, developed by the Federal Highway Safety Division of the Federal Highway Administration (FHWA), are published in the *Manual on Uniform Traffic Control Devices* (*MUTCD*).[3] The *MUTCD* establishes the minimum guidelines and standards of care that state agencies must exercise in constructing and regulating signs on primary and interstate highway systems. It addresses such details as size, height, color, and type from the standpoint of safety. To comply with federal law, each state has adopted the *MUTCD* or an equivalent code. (The Science of Signage section of this book discusses the *MUTCD* in greater detail.) A companion publication provides the base for sign regulations developed in conjunction with the Americans with Disabilities Act (ADA).

While federal signage-control programs focus almost exclusively on safety factors, most municipal sign codes are more concerned with land-use regulations and zoning intended to enhance the community as a whole. Since federal and local regulatory approaches to signage specifications oftentimes conflict, it is recommended that anyone concerned with readability and conspicuity standards contact the operations director of the Federal Highway Safety Division (FHWA, 400 7th Street, S.W., Room 3419, Washington D.C. 20590) to obtain information about the federal regulations.

Signature Buildings and Storefront Trade Dress

When people discuss the classification of signs, they frequently ignore any recognition of the storefront itself, including the visually assertive signature building (which, in combination with national advertising campaigns, functions very much as a billboard). The use of standardized storefront, color schemes, or building and site design is quickly expanding beyond fast food restaurants and gasoline service stations to include banks, "big box" retailers, and more. This form of trade dress is an important type of street advertising communication which, in combination with national advertising campaigns, performs a function similar to the outdoor advertising bulletin or spectacular.

On the other hand, the small business community, particularly those businesses operating out of leased buildings, tends to primarily utilize traditional ground-mounted or building-mounted signage. These are the most affordable forms of signage and the easiest to define – and regulate. Sadly, the frequent focus of regulations on the structure of the speech apparatus, rather than on the information or speech function of that apparatus, has tended to concentrate attention on traditional signage and ignore the overall storefront, harming small businesses and giving great communication advantage to corporations, chains, and franchises.



Incidental signs include credit-card symbol signs and similar signs incidental to the business.

The Incidental and/or Temporary Sign Industry

The "incidental" sign industry, also part of the private, commercial sector, produces miscellaneous or temporary signs, which have a limited physical and economic life and are seldom illuminated. Signs of this type include political and real estate signs, credit-card symbol signs, and also pennants and banners. Generally, these signs are considered personal property, and their land use is designated incidental (not accessory). Many signs in this category are mass produced, often by local sign or screen-printing shops.

Local governments often enact special restrictions and prohibitions on such signs, generally based on the argument that the haphazard use of these signs is detrimental to several legitimate governmental interests, including aesthetics and traffic and pedestrian safety. Although regulations may be struck down if a court finds they are irrational or overly restrictive, the present judicial trend is to permit restrictions if (1) they are reasonable on the grounds of safety and aesthetic objectives, and (2) they do not overly censor the free flow of marketplace information or, even more importantly, the expression of political opinion or belief.

For example, in *Linmark Associates, Inc. v. Township of Willingboro*,[4] the Supreme Court held that a local government may not prohibit the use of temporary real estate signs in residential areas because such a prohibition unduly restricts the flow of information. This is not to say, however, that a local government may not place reasonable restrictions on the size, number, and location of real estate signs in furtherance of a legitimate interest (such as aesthetics). However, the government must convince the court

3. U.S. Department of Transportation, Federal Highway Administration, *Manual on Uniform Traffic Control Devices for Streets and Highways, 2000 ed.*
4. 431 U.S. 85 (1977).

Temporary signs include banners, posters, and other devices that are used for a limited time.

that its regulations are necessary to achieve a legitimate governmental interest or its regulations were not aimed at curtailing information.

In *City of Ladue v. Gilleo*,[5] the plaintiff, Margaret Gilleo, was prohibited from displaying an antiwar sign on her lawn by a city ordinance that banned all residential signs except those within ten exempted categories; her sign did not fit into one of these categories. The Court ruled that the ordinance violated the First Amendment rights of homeowners because (1) it totally foreclosed their opportunity to display political, religious, or personal messages on their own property via an important and distinct medium of expression – lawn signs, and (2) the city had failed to provide adequate substitutes for such an important medium. (For an expanded discussion of these cases and others see the Legal Considerations in Sign Regulation section of this book.)

The On-Premise Sign Industry

The on-premise sign industry also falls into the private, commercial sign sector. The phrase "place-based communication and graphic systems" may better describe the complexity of on-premise commercial communication than the term "signage"

The use of temporary real estate signs in residential areas may not be prohibited because doing so would unduly restrict the flow of information.

because today, commercial messages may be communicated on the premises via many means other than traditional on-premise signage.

It is rare to find an on-premise sign company that is also involved in the outdoor/off-premise sign industry. Prior to their banning with the passage of the 1958 Highway Act, many of the electrical spectaculars (which were made of neon, had moving parts, and required constant maintenance) were owned by on-premise sign companies. As that phenomenon disappeared from the landscape, so, too did the mixture of the on- and off-premise sign industries.

Types of On-Premise Signage

On-premise signage generally falls into one of two categories – "free-standing" and "building-mounted." Free-standing signs include monument signs, pole signs, A-frame (or sandwich board) signs, portable signs, and inflatable signs, to name a few. Building-mounted signage includes projecting signs, wall (fascia) signs, roof signs, banners, murals, and canopy/awning (or "face lift") signs. These signs are considered "traditional" signage.

Product franchise corporations such as McDonald's and gasoline chain retailers such as BP Oil have developed very effective "nontraditional" forms of signage – the most obvious being signature buildings. Other examples of this alternative signage include product displays and dispensers, or special site lighting and landscaping. All alternate forms of place-based systems and devices are used interchangeably by market-wise, well-capitalized retailers to offset sign regulations that limit size or placement of the more traditional sign.

In most sign codes, the on-premise sign is treated as an "accessory" land use, even though intimately associated with the primary use. Many local taxing authorities consider that on-premise signs constitute a taxable real estate interest.

On-Premise Sign Manufacturers

Since European settlement of the North American continent, signs have played a varied and important role in the so-called "built" environment – they have accompanied, guided, and informed us as our economy moved from a primarily agricultural base to a primarily industrial/manufacturing base, and today are an essential component of an economy centered on the sale of goods and services.

Signs have been used as wayfinding devices for thousands of years, since individuals in early civilizations began venturing beyond their immediate neighborhoods. Their consistent use as on-premise advertising devices is believed to have begun in European societies in the early 18th century, when shops and inns attached colorful sign boards and posters to their places of business to compete for the trade of passersby. Over the next 300 years, on-premise signs evolved to the sophisticated and greatly varied visual expression systems we see today.

The production of on-premise signs also evolved over hundreds of years – from scattered small shops in which signs were typically handcrafted, printed, or painted by a few local artisans and apprentices, to the present industry, which in the United States alone consists of 40,000 firms, generating $8.5–$9 billion a year, and employing several hundred thousand people.[6]

A local government cannot bar residents from expressing their political, religious or personal messages on their own property.

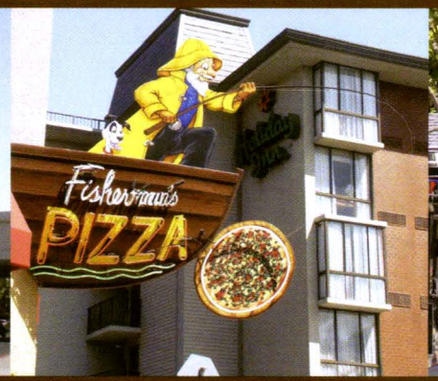
The largest segment of the industry, generating approximately $5.1 billion in annual sales, is electric sign manufacturers. These companies produce both custom or one-at-a-time signs, and standard, mass-produced signs. The latter group largely consists of signs made for national franchise and major chain-store clients that require uniform signage for their outlets.

Depending upon the size or location of the franchise or chain store, the signage for a site may cost as much as $100,000. Firms that specialize in nonelectric signs (for example, hand carved or sandblasted wood or masonry signs, awnings and canopies, and others that are not internally illuminated), sign maintenance contractors, and

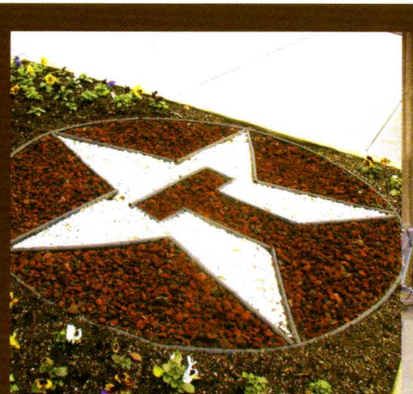
5. 512 U.S. 43 (1994).
6. Swormstedt, Wade. "The 1999 State of the Industry Report." *Signs of the Times*, July 2000 ed. According to Swormstedt and others knowledgeable in the industry, these figures may be understated because sign manufacturers, especially those producing standard signage for large franchise or chain store accounts, routinely do not report sign maintenance and installation payments or service contract fees as accounts receivable or income derived from sales. Additionally, many signage experts argue that franchise/chain standard buildings, storefronts, and trade dress function as signs, and that the accounts payable associated with such improvements should be included - but are not - in industry revenue figures.

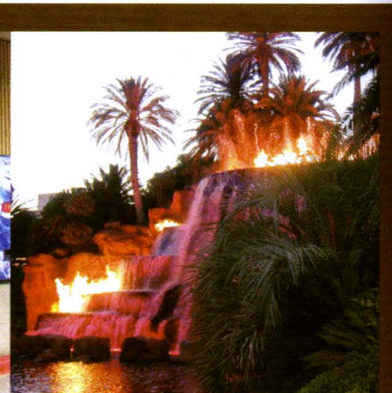
Free-Standing Signage

Building-Mounted Signage



Nontraditional Signage





sign installation contractors make up the other large groups within the industry.

Designers and manufacturers of architectural sign systems for major institutions (such as campuses, hospitals, and museums), for regional shopping centers or malls, and for destination cities or districts (such as Las Vegas and Times Square) are yet other subsets within the industry.

Companies that manufacture on-premise signs run the gamut in terms of size. They range from large corporations grossing nearly $200 million per year and employing thousands of people, to sizable corporations grossing more than $5 million per year with hundreds of employees, and from midsize firms grossing several hundred thousand dollars per year and employing five to 20 or more people, to small shops that gross less than $100,000 per year and employ only one to four people (Swormstedt 2000).

The present sign industry in the U.S. consists of 40,000 firms, generating $8.5-$9 billion a year, and employing several hundred thousand people.

Sign companies generally group their products into four major categories – freestanding, roof, wall, and projecting – plus a more specialized category generically referred to as temporary-miscellaneous/incidental. This latter category includes, for example, window signs, "for sale/lease" signs, pennants, flags, banners, credit-card emblems, and public informational or directional signs (for example, "restrooms" and "exit").

Large to midsize companies are capable of manufacturing many different types of signs – both custom and standard – in all four major categories. These manufacturers use a full complement of materials to produce a myriad of electric signs, which may be made of luminous tubes, vinyl, plastic, plexiglass®, aluminum, stainless steel, or various combinations thereof. Some companies also produce electronic message centers, such as time-and-temperature signs, and other variable-text message systems that can be changed regularly. Some large to midsize companies also produce temporary signs, either assigning the task to a division in their own company, or subcontracting the work to other companies.

Small firms have more narrow production capabilities and, consequently, tend to specialize. Another subgroup of the industry, sometimes generically defined as "letterheads," produces small, one-of-a-kind signs, including vehicle graphics and painted windows, using special materials and techniques such as wood, metals, hand painting, and airbrushing. Other firms primarily produce fabric signs such as awnings and canopies. A relatively new segment of the field comprises franchised retail sign shops that produce banners, paper signs, and other temporary signs on a quick- turnaround basis.

Until recently, American sign companies generally operated either close to home or on a national scale. Small and midsize firms worked and sold product primarily within the region in which they were located, while the larger companies, with national corporate clients, delivered product throughout the country and often had production facilities or divisions in several regions. Today, computer technology has made it possible for smaller firms to cut production costs, improve design and engineering skills, diversify to both custom and standard products, and compete at the national level. The result is that it is becoming more and more difficult to label sign companies as either "small and local" or "large and national," or as "custom" or "standard," or to define their customer base or market share.[7]

On-Premise Sign Technology

Electric signs came into being with Thomas Edison's invention of the first commercially practical incandescent lamp in 1879. By 1900, Edison had perfected his equipment sufficiently to light the entire front face of New York's Flatiron Building, introducing America to the lighted outdoor advertising sign. Between 1900 and 1923, incandescent signage enjoyed increasing use and public acceptance.

The next leap forward in electric sign technology was made by Georges Claude, a French scientist, who copyrighted a method he perfected of placing neon gas in color-coated glass tubing and electrically charging it to produce remarkably bright light. In 1923, Claude's technology was introduced to America when a Los Angeles car dealer ordered two identical blue-bordered signs with the single word "Packard" spelled out in orange neon letters. Because of its superior illumination and nearly endless design possibilities, Claude's "neon" replaced the incandescent bulb as a sign component within a decade of its appearance.

The market dominance of neon waned following World War II, due to the advent of fluorescent lighting as an internal illumination source and the rapid expansion of plastic technologies. By the mid-1950s, refinement of fluorescent lighting and development of paints that would adhere to a plastic sign face essentially revolutionized the industry, allowing signage to better coordinate with other facets of advertising media campaigns.

7. For example, the electric sign industry.

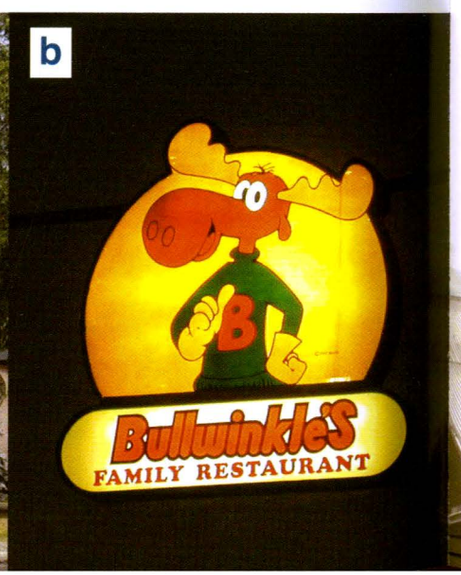
Sign companies generally group their products into four major categories:

a. Freestanding

b. Wall

c. Roof

d. Projecting



Following this revolution in static sign faces was the development in the 1970's of the electronic variable message center, which could electronically change copy or graphics. In the beginning, the technology limited the use of the signs to displays of time and temperature. The drafters of the 1965 Highway Act, unaware of the technological reasons limiting the signs' messages, restricted their messages to displays of time and temperature or other similar "notices of general public interest." In 1978, the federal law was changed,[8] and variable-message signs have been increasingly and successfully used for commercial communication ever since.

In the mid-1980s, the onset of wide-format digital printing allowed sign producers to expand plastics technology even further – to the point that photographic images could be printed directly onto vinyl, canvas, or photopaper. Today, inkjet, electrostatic, and thermal-transfer printers are the three primary equipment types used for wide-format images. State-of-the-art equipment is able to accommodate vinyl (or Mylar®) sheets that are 15 inches wide and up to 50 feet in length. The vinyl strips can be "tiled" to create a very large image. Though more commonly associated with outdoor advertising signage, the technology is quickly being adapted to, and adopted by, on-premise sign manufacturers.

As with digital printing, computer-aided sign production was introduced in the mid-1980s, and since then has been routinely used by midsize to large companies for design, engineering, and production. In these larger companies, standard equipment today includes not only large-format scanners and digital printers, but also digitized vinyl cutters, plastic and metal molding equipment, and routers for carving aluminum and stainless steel.

Because of its superior illumination and nearly endless design possibilities, "neon" replaced the incandescent bulb as a sign component within a decade of its appearance.

Laser technology is also being adapted for cutting and routing tasks. This will increase productivity and accuracy beyond what is capable with digitized equipment. Additionally, light emitting diode (LED) technology is becoming more and more sophisticated, producing even light and true color, with minimal maintenance. As this technology advances, the electronic message center will be increasingly adaptable to all weather, traffic, and topography conditions. Fiberoptic technology may soon be available to sign companies. And research in reflective light sources and materials is an ongoing activity.

The onset of wide-format digital printing allowed sign producers to print photographic images directly onto vinyl, canvas, or photopaper.

The technology used in the sign-making process evolves rapidly, making capital investment an ongoing and sometimes costly necessity for sign companies. However, because technology builds on what has worked before, the costs of new innovations are lessened, and the savings are passed on to purchasers. Therefore, what was once affordable only to large corporations is increasingly accessible to midsize corporations – and probably in the near future, accessible to small companies as well. For example, digitized routers entered the market at a cost of approximately $500,000; today, it is possible to buy a product superior in nearly every way to those first machines for approximately $100,000 or one-fifth of the original cost.[9]

As technology comes within the economic reach of more and more sign companies, expansion and diversification will follow, making it more and more difficult to neatly categorize companies by product or sales region based upon size. Additionally, some smaller companies have opted to terminate direct sales to end users and have become full-time subcontractors, manufacturing signs or sign components strictly for sale to other companies. Companies choosing this option may be distributing large quantities of product on a national scale, while appearing to the casual observer to be small, local producers with limited sales and distribution horizons.

Outdoor/Off-Premise Sign Industry

The U.S. outdoor/off-premise sign industry is part of the private, commercial sign sector. Although it is often portrayed as comprising approximately 1,200 companies, that number is misleading. In truth, the outdoor/off-premise sign industry is dominated by three or four media conglomerates with impressive lobbying clout (and their lobbying interests tend to supercede those of the smaller outdoor/off-premise sign companies that cater to the advertising needs of local businesses). This is in contrast to the structure of the on-premise sign industry (primarily made up of small businesses) which has far greater difficulty in securing reasonable and fair legislative treatment that takes its unique needs into consideration.

Like radio or television advertising, outdoor advertising is sold based on gross rating points per thousand exposures. The Traffic

8. The federal Highway Acts of the 1950s and 1960s delegated responsibility for controlling signage along interstates and primary highways to the Federal Highway Administration. Early on, the agency concluded that the legislative ban of flashing" signs for safety reasons, except for dissemination of general interest information, included the electronic variable-message center. Following intensive research and congressional hearings, in 1978 the agency changed its mind regarding the sign. Today the device is performing many communication functions for both the public and private sector. In fact, state ad federal highway departments are increasingly utilizing the device to alert motorists of traffic conditions ahead; ironically, the intent of such utilization is to prevent accidents.

9. One excellent example of this phenomenon is provided by the personal calculator. Many readers may recall that when Hewlett-Packard first introduced the "pocket" calculator in the mid-1970s, the device weighed about a pound, could not possibly fit in one's pocket, and retailed at $450 through pricey electronics stores. Today, Casio, for example, produces a small calculator that performs more functions than the original Hewlett-Packard model, weighs a few ounces, nicely fits in a pocket, and sells for $4.98 at most supermarket checkout counters.

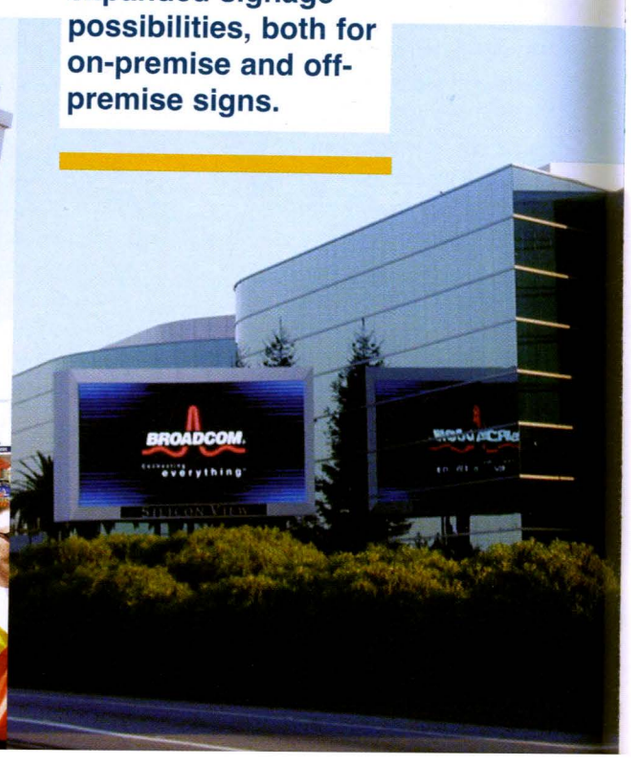
Audit Bureau (TAB) is the national authority on the circulation measurement of outdoor advertising. The TAB compiles data on the amount of traffic (the circulation) passing painted bulletins, 30-sheet posters, 8-sheet posters, and bus shelter or bench advertising.

The outdoor advertising industry is divided into standardized and nonstandardized outdoor advertising. The nonstandardized segment specializes in custom messages, which are intended, as a part of locational-based advertising efforts, to remain relatively unchanged for a long period of time. Ordinarily, these structures appear on secondary and rural highways, and provide information and/or direction (for example, "Joe's Restaurant Exit 25"). Customarily, nonstandardized structures or displays are not audited by the TAB. If TAB data is unavailable, traffic counts and circulation information will have to be acquired from local sources such as state departments of transportation.

The standardized segment specializes in placement of outdoor advertising structures and displays on major highways and thoroughfares in a defined marketplace or trade area. Sophisticated sales techniques and a high degree of organization distinguish this industry segment. Standardized structures are by far the most controlled of the outdoor signage systems, regardless of the actual physical parameters of the structure. As a result, sign copy or graphics, or both, generally possess a high design standard. Standardization of "billboard" sizes has enabled regional and national advertising campaigns to be conducted with a higher degree of cohesiveness and cost-effectiveness.

Outdoor advertising campaigns are often linked to other major media campaigns. The advertising message is itself standardized to enhance recognition and recall of the business and the product or service it offers. The largest outdoor advertising companies primarily offer standardized media advertising, and their sign structures are almost entirely located in urbanized areas. Three companies dominate this sector of the industry today: Viacom, Clear Channel, and Lamar. These media giants sell at least 75% of their gross volume in poster or media showings for all markets out

Advancements in electronic technology have dramatically expanded signage possibilities, both for on-premise and off-premise signs.



So-called "standardized billboards" are generally located on major highways and thoroughfares in urban areas as part of a larger media campaign.

of advertising agencies located in New York, Chicago, and Los Angeles.[10] Typically one or two of these major companies operate within any given locality, and only they are capable of offering an advertiser access to a media showing. Smaller companies are often forced to sell bulletins or paints individually.

In addition to performing a major-media advertising role, outdoor advertising may also be utilized by a particular business or service for specific informational or directional purposes. For example, an advertising structure located on a transportation artery may direct the traveler to a particular business located just a few miles ahead. During the 1980s, the largest outdoor advertising company in the United States was 3M, which did not provide standardized media advertising. Its outdoor advertising sign structures, located primarily in rural or suburban areas, were used primarily for what is referred to as nonstandardized information/directional purposes.

Art, Science, and Graphic Design

Generally speaking, the earliest professional sign designers were talented printers, painters, engravers, woodworkers, and carpenters, but generally not professionally trained. Today, however, university-educated graphic designers compose and direct sign-face design, while structural and electronic components are the province of degreed engineers and highly skilled technicians. And some of the very large companies have their own research and development departments.

In most respects, sign-face designers, both independent contractors and those employed in sign companies, work very much like all other graphic designers. For example, the designer works with a client to create an object that conveys a desired image or message to the targeted viewer, drawing on training, prior experience, and personal aesthetic sensibilities to create a mix of images, colors, letters, and materials that are both visually compatible and likely to be favorably noticed.

Unlike their counterparts in other media, designers of sign faces must assure that their designs in final form meet minimum highway safety standards for readability and conspicuity. In other words, sign design must

10. This occurred because, prior to modern printing techniques, showings had to be either printed on location or hand-painted locally on boards and rotated every two to six months. The paints required staffing of top artists, which isolated them to locations in major markets where such artists could be found. Los Angeles became one of the top areas for paints due to the number of local artists who also painted sets for Hollywood films.

accommodate what is necessary to make the sign sufficiently visible and legible to permit it to be seen, read, and understood by a driver in time to safely respond. Thus, the sign face designer must sometimes sacrifice art for the science of the transportation and traffic safety engineer.[11]

Major chains often use thorough consumer testing before changing their logos.

Often, sign designers are asked to develop a new logo or trademark, or to reproduce an existing one. To prevent a new design or concept from possible "appropriation" by a would-be client who may choose to have his or her sign produced by a competitor, designers will copyright their product. As discussed in the Legal Considerations in Sign Regulation section of this book, the corporate logos and trademarks with which we are all familiar are protected under the federal Lanham (or Trademark) Act, and cannot be reproduced or forcibly altered by a sign code without permission or acquiescence by the owner.

Sign companies that produce large numbers of identical signs for national or regional franchises and chains rely less heavily on in-house designers than those that customize signs to fit a site or building's specific setting and characteristics. This is so because the high-volume manufacturers are producing signs for which design, colors, shapes, sizes, and internal engineering mechanisms have been previously determined and standardized.

However, even though less reliance is placed on in-house designers by franchise and chain operations, customer preference often plays a key role in sign design selection. For example, several years ago Burger King Inc. spent more than $300,000 on consumer surveys to determine the impact of a slight change in its corporate logo, which is prominently featured on the on-premise signage of its franchisee sites. The company had a logo it preferred, but this preference was not shared by the consumers surveyed. When the logo change was made, the consumer choice prevailed. The reason for deference to consumers is that if a potential customer does not respond favorably to a particular sign, that sign has failed its primary communication function – to invite a commercial transaction by prompting a stop.

Unlike their counterparts in other media, designers of sign faces must assure that their designs in final form accommodate what is necessary to make the sign sufficiently visible and legible to permit them to be seen, read, and understood by drivers in time to safely respond.

The typical fast-food franchise's on-premise sign performs information, direction, and advertising functions concurrently.

Sign Classification by Information Function: An Impossible Task

Certainly signs are functional and, at least in theory, amenable to general categorization, such as "informational" or "directional" or "advertising" (commercial speech). However, signage serves the full communication spectrum – it informs, directs, invites, creates an image, reinforces other media advertising and marketing programs, and enhances brand identification and loyalty. It also builds goodwill – a measurable business asset.

One sign alone may actually perform all communication functions, particularly if it is part of an integrated media advertising program. For example, the typical fast food franchise's on-premise sign performs information, direction, and advertising functions concurrently. The communication functions become intertwined because of the multiple communication needs and processes present within the sign's vicinity. Therefore, classification of such a sign as "directional" or "informational" or "advertising" would not only be inaccurate, it would ignore the fundamental nature of signage's relationship to the built environment.

11. Signage "visibility" or "conspicuity" is a function that enables the observer to distinguish a letter, number, symbol, or graphic from its surroundings. Signage "readability" is a function that enables the observer to correctly perceive the information content of letters, numbers, or symbols grouped together in words, sentences, or other meaningful relationships. See, Claus and Claus, *Visual Communication Through Signage, Vol. 1, Perception of the Message*, ST Publications Inc., Cincinnati, OH 1974, pp. 1-2. Also see the *Manual on Uniform Traffic Control Devices*, published by the Federal Highway Administration.