What Is Environmental Graphic Design?

Our need to hear and be heard, see and be seen, touch and be touched, that is, to communicate with our fellow humans, is fundamental to our well-being and, indeed, our survival.

Long before paper was invented, humans made marks on objects, such as cave walls, in their surrounding environment. The intent of making these marks, or signs, was to communicate information visually. This communication imbued these marks with meaning and they became a shared language among the people who made and understood them. (See Figures 1.1 and 1.2.) As such, environmental graphic design, or EGD, which can be defined as the graphic communication of information in the built environment, is one of the world's oldest professions.

And you thought something else was.

Since the invention of paper and the electronic screen, most people think of graphic communication as taking place primarily in those two media. But just like early humans making meaningful marks on environmental objects, in the present era an enormous amount of information is communicated on signs and other objects located in the built environment.

The contemporary incarnation of EGD is a relatively new, cross-disciplinary field that has gained recognition and importance over the past 40 years. Sure, signs existed prior to that point, but they tended to pop up in an ad hoc, unplanned, almost reactionary manner—in other words, pretty much as an afterthought. (See Figures 1.3 and 1.4.) As cities grew and mobility increased, making the built environment more complex, people's need for information to better understand, navigate, and use their surroundings also grew. Simultaneously, technological developments, such as photomechanical reproduction techniques and computer-driven cutting devices, aided accurate large-scale rendition of graphic elements, such as typefaces and symbols, on signs. Thus, the need for proactive, systematically planned, visually unified signage and wayfinding programs emerged.

If you don't think EGD is important, ask yourself: Could you understand how to use a large international airport or an urban rail transit system if there were no signs at all, or if the signs were a disparate mishmash of messages, graphics, and physical forms? The answer is most definitively no! As such, contemporary signage and wayfinding programs give a singular, unified voice to an environment or a site within it.





Looking to the future, there has been much speculation whether mobile computer devices with digital mapping and augmented reality applications will spell the end of physical signs. We say no, for many reasons, two of which are: Physical signs don't need a mobile device, signal, or battery power to operate; and not everyone is equipped with mobile computer devices. While there's no doubt that the various wayfinding applications on such devices have enhanced the way millions of people navigate the built environment—and will continue to do so—the word *enhance* is key. Our belief is that physical signs are here to stay, and that mobile digital devices offer rich opportunities for augmenting the communication function of those physical signs. More about digital communication systems,

- **1.1** Before the written word, graphics communicated information and recorded events, as in these cave paintings at Lascaux, France.
- **1.2** Environmental graphics from ancient Rome.







- **1.3** A collection of ad hoc signs in Greece.
- **1.4** Unplanned and uncontrolled signage in a building lobby.

including mobile devices, appears later in this chapter and in Chapter 6, "The Hardware System."

To underscore the relative youth of EGD as a field, consider that the terms *environmental graphics*, *signage*, and *wayfinding* were barely in use 40 years ago. In fact, the word *signage*, whose origins are attributed to Canadian designer Paul Arthur, didn't even appear in U.S. dictionaries until the 1980s. Nevertheless, in the 1970s, a group of designers found themselves designing graphics for a coordinated group of signs rather than for print. And because they often worked in architectural offices, and their design work related to architectural spaces, their work product was often referred to as *architectural graphics* or *architectural signing*.

These architectural graphic designers realized that there were significant differences between their design and print design (digital design didn't exist then)—most notably that architectural graphics encompassed the planning and communication of information on three-dimensional (3D) objects in the built environment, which is far more complex than designing a two-dimensional printed piece, such as a poster, book, or brochure. As these architectural graphic designers discovered each other and the commonalties of their professional interests, they joined together to form the Society of Environmental Graphic Designers (SEGD). The words relating to SEGD were slightly changed several years ago to the "Society for Environmental Graphic Design" to focus on the field rather than its practitioners, and changed again in 2014 to the "Society for Experiential Graphic Design."

With the birth of the SEGD, the term *environmental graphics* replaced *architectural graphics*, for two reasons. First, *architectural* was viewed as too limiting, in that this form of graphic design is often geared toward nonarchitectural open spaces, such as roadways, cities, theme parks, and

The SEGD (Society for Experiential Graphic Design) is a global community of professionals who create experiences that connect people to place. Through educational programs, its website www.SEGD.org, publications, and research, SEGD's mission is

to provide learning opportunities and resources for professionals involved in Environmental and Experiential Graphic Design (EGD/XGD), promote the importance of the discipline in establishing place, and continue to refine standards of practice for the field. SEGD members are leading developers of wayfinding programs; placemaking and identity projects; immersive media environments; exhibition and experience designs; and design research, strategy, and planning.

SEGD, 1000 Vermont Ave., Suite 400, Washington, DC 20005, 202.638.5555,www.segd.org

so on—that is, the larger sphere of the built environment. Second, the term *architectural graphics* could be confused with the drawings architects create to document their building designs.

As noted above, in 2014 the SEGD changed the referential word for the "E" in "SEGD" to "Experiential" to broaden the SEGD member base. This has created some confusion and consternation as to what EGD activity is, particularly in the context of this book. As with the first edition, EGD is considered to focus on environmental graphic design, that is, the design of graphics in the built environment.

Regardless of whether the "E" refers to "environmental" or "experiential," the SEGD has grown to become the premier professional organization for all designers who practice EGD. And *signage* is now in the dictionary.

The Spectrum of EGD Activity

We've established that contemporary EGD activity involves the development of a systematic, informationally-cohesive, and visually unified graphic communication system for a given site within the built environment. Such sites can range from a single building to a complex of buildings to a city or to a transportation network connecting multiple sites on a regional or national scope—all of which have complex communication needs. EGD can respond to those environmental communication needs in three distinct but often overlapping arenas. As shown in Figure 1.5, these have been identified by one of our colleagues, Wayne Hunt, as:

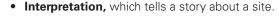
 Signage and wayfinding, which orients people to a site and helps them navigate it.



1.5 The three main components of EGD and how they can overlap.



1.6 Directional and identification sign at Philadelphia's 30th Street Station.



• Placemaking, which creates a distinctive image for a site.

Although this book focuses on physical signage and wayfinding design—and in particular static, nonelectronic signage—the above three communication facets of EGD and their interaction apply to both the physical and digital realms, and warrant a bit more exploration.

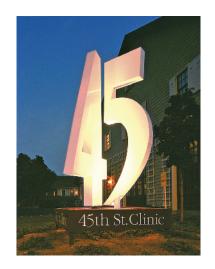
Signage and Wayfinding

Signage and wayfinding are most commonly expressed in unified sign programs that informationally and visually knit together a site, a collection of related sites, such as regional parks or global corporate facilities; or networks, such as a transportation system. Examples of signage and wayfinding programs are shown in the Gallery section at the end of this book, as well as throughout this chapter and others in the book. In the sense that well-designed sign programs serve to visually unify a site, signage can perform a placemaking role by establishing a unique identity and sense of place, thereby creating a brand image in environmental form. (See Figures 1.6 and 1.7.) In addition to wayfinding and placemaking roles, signage programs can also communicate other kinds of information, such as warning, operational, and interpretive information, as examined further in Chapter 4, "The Information Content System."

Although the terms *signage* and *wayfinding* are often used interchangeably, it's very important to keep in mind this distinction in mind: Typically, the primary objective of a signage program is to help people find their way through an environment, whereas effective wayfinding solutions often involve more than signage alone. (See Figure 1.8.) Clear, well-defined pathways and other visual cues, such as prominent landmarks, all aid wayfinding, as do printed maps, human guides, and, more recently, mobile computer devices that utilize GPS and augmented reality technology.

A key objective in wayfinding design, which our colleague Per Mollerup terms "wayshowing," is to enable each person to form a mental map of a site or environment, so the clearer the physical layout of a site, the clearer those mental maps will be. In other words, even the most carefully conceived sign program can't solve all the problems of navigating a site that contains confusing, circuitous pathways. In such cases, the sign program is like using a Band-Aid to patch together a rather large wound: It's some help, but not a panacea. Think about it: How many times have you blamed the signs when you're having difficulty navigating a complicated highway interchange? In many such cases, the signs themselves aren't the problem; they can only do so much to guide you through what *is* the underlying problem—a poorly laid-out interchange.

Wayfinding is an active process, requiring mental engagement and attention to the environment one is trying to navigate. That is why in a



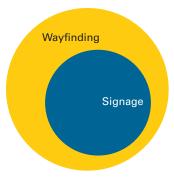
1.7 An identification and placemaking sign for a health clinic.

sports car rally, the navigator is just as important as the driver. The fact is, however, that many people are better at understanding information given to them verbally and so would rather ask someone how to go from point A to point B than to follow the signs or read a map. Signage and other visual wayfinding cues can, however, help even these people navigate their environment when there's no one around to ask.

Interpretation

Interpretive information tells a story about the meaning of a concept or theme (e.g., democracy or science), an object (e.g., the Constitution or





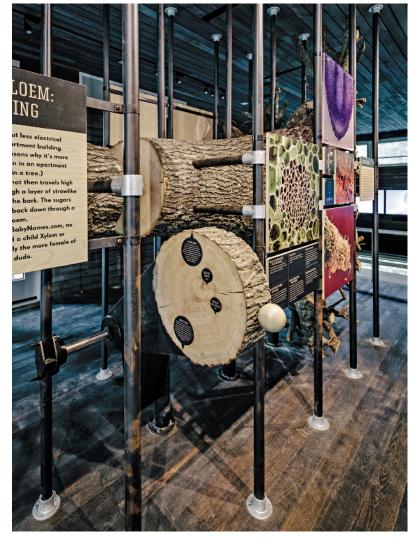
1.8

- **1.8** Signage plays a major role within the broader realm of wayfinding.
- **1.9** Directional signage combined with interpretive information for a walking trail in Victoria, Australia.

1.10 Interpretive signage tells the story of Atlantic City's early beginnings.

1.11 Interpretive information is often displayed in exhibits, such as this exhibit on sustainability for the Boy Scouts of America's Summit Bechtel Reserve in West Virginia.

an aircraft), a site (e.g., an automobile manufacturing plant or a national park), an event (e.g., the battle of Gettysburg or the Jamestown flood), a historical figure (e.g., Franklin Delano Roosevelt or Martin Luther King), a corporation and its products, and so on. Interpretive information is most often expressed in the form of *exhibitry*, which can be composed of a site itself, physical artifacts, audiovisual (A/V) and interactive media, static images and graphics, casework, and more. Interpretive exhibits can be temporary or permanent or exterior or interior. Exhibits can serve a placemaking role in that they often become destinations unto themselves. Interpretive information intersects with signage, in that interpretive information in the form of text and images can also be displayed in signage programs. (See Figures 1.9 through 1.12.)





1.10





1.12 Interpretive and orientation panels on a kiosk unit in Bellingham, Washington.

Placemaking

Placemaking creates a distinctive image for a site, and can be expressed in several ways. As already discussed, signage and interpretive exhibits can create a sense of place, as can gateways, portals, gathering points, and landmarks. What separates placemaking, in the EGD sense, from other forms of placemaking is the explicit communication of information through both static and digital channels.

Without this explicit communication intent, placemaking becomes an exercise of architecture, interior design, sculpture, theater, and so on. This is not to discount that EG designers may team with any of those disciplines in order to create placemaking objects or events, which are often monumental—typically in scale, but sometimes also in quantity—even if sometimes temporary.

New York's Grand Central Terminal or an exquisitely designed restaurant interior may convey a wonderful sense of place but they are not placemaking in the EGD sense, because their inherent purpose is not to communicate information. Times Square, on the other hand, derives its entire sense of place from the sheer concentration of signage—both static and electronic—surrounding it. And because the intent of all that signage is to communicate, even if primarily marketing messages, Times Square does represent placemaking in an EGD sense. (See Figures 1.13 through 1.15.)



- 1.13 Placemaking at the entrance to Williams Gateway Airport in Mesa, Arizona, with sculptural flight elements.
- **1.14** Banners are effective thematic placemaking elements as depicted in this study for the ANZ Stadium, Sydney Olympic Park.

The Importance of EGD Today

As explained, the difference between EGD and other types of design is the explicit purpose of EGD to communicate meaningful information via words, symbols, diagrams, and images. Because of this expressed communication function, EGD plays a key—and increasingly recognized—role in how people use and experience the built environment.

Furthermore, the signage and wayfinding aspect of EGD is being recognized as a key contributor to a sense of personal well-being, safety,





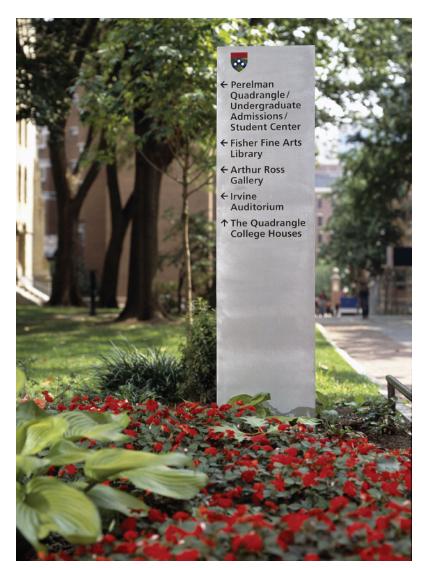


1.15 A kiosk provides orientation and interpretive information at the same time it creates a sense of place for New York City's Chinatown district.

and security in unfamiliar and often high-stress environments, such as airports, hospitals, and cities. Additionally, EGD has gained importance for its capability to create a sense of place for a given site and for its power to reinforce a brand image.

Signage was once considered a necessary evil—or worse, an afterthought—but a growing number of people in the design, construction, development, marketing, and policy arenas have gained an understanding of signage and EGD's role in humanizing and demystifying the complexities of the built environment. They have found that well-designed signage and environmental graphic programs not only fulfill their communication function of informing, directing, and identifying but also serve to enhance the aesthetic and psychological qualities of an environment.

Certainly, EG designers are often part of the consultant team assembled by architects for a building design or renovation project, but EG design has finally come into its own, as well. Cities and universities are engaging EG designers, sans architects, to create signage and other EG design programs. Real estate managers are engaging EG designers, sans architects, to revitalize the image of a building or facility. Corporations and institutions, including transportation agencies, are engaging EG designers, sans architects, to unify environmental communication systems on regional, national, and global scales. Even general contractors and construction





1.16

1.16 (a) and (b) The contemporary version of the University of Pennsylvania's crest brands every sign in its campus-wide program.

managers are including signage as a line item in their procurement budgets. All this has happened, in part, because people have recognized that signage and EG design have a unique branding power. (See Figure 1.16.)

Signage and EGD: The Brand Connection

The importance of brand strategy and management has risen to top attention within many organizations, large and small, commercial and institutional. Brand strategies recognize that people come into contact with a brand via several types of "touchpoints," and seek to maximize not only the quantity of those touchpoints, but also the quality.

A comprehensive brand strategy embraces signage and EGD programs as important touchpoints that have the power to build brand images in three-dimensional, environmental form. This can take place through *harmony* or *imposition* strategies.

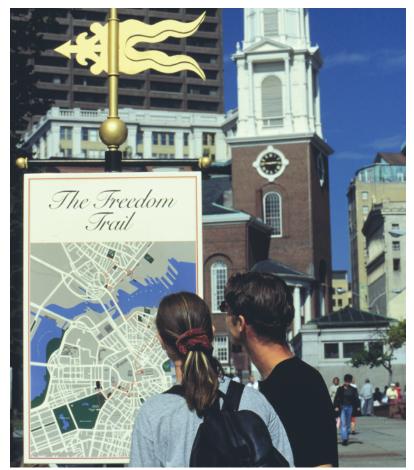
Using the harmony strategy, the visual characteristics of a sign program can reflect and reinforce the visual characteristics of a site's design or architecture to create a seamless, totally integrated identity. (See Figures 1.17 and 1.18.) The harmony approach works well when the signage program is being designed for an environment with a high level of visual unity, be it an existing site or, more commonly, a new development or major renovation, when design details can be coordinated among all the design professionals involved in the project.

Using the imposition approach, signage can create or impose a unique, singular identity on a site—an identity that's completely independent of the site's visual characteristics. This approach works well for existing sites that have disparate visual elements, such as cities, college campuses, corporate facilities, and transportation networks, that can be linked together by the metabranding of the signage program. (See Figures 1.19 through 1.21.)

In an ideal branding situation, signage relates to an organization's or a site's other communication channels, such as its website, mobile device applications, and electronic directories in a seamless brand expression. This is often not easily accomplished, since many large organizations have different departments responsible for these various communication channels. For example, a university's marketing department oversees the website, its communications department oversees electronic screens, and the facilities department oversees physical static signage—and seldom are these departments' efforts coordinated. Add in the fact that each department may have different procurement procedures and it can become quite difficult to impose a unified brand persona across all of an organization's communication channels.

Whether a signage program brands by harmony or imposition, signage provides needed information to people using it, engendering feelings of goodwill and security, thus enhancing the quality of the brand experience. And since signage programs provide information that people actively seek, signage links this sought-after information directly to the brand. There is no doubt that good signage builds good relationships with any given

- **1.17** Freedom Trail signage harmonizes with Boston's historical sites.
- **1.18** Signage at the Owensboro Convention Center in Kentucky integrates and harmonizes with the facility's contemporary architecture.









- **1.19** The metabrand image of the Amtrak Acela signage links diverse station architecture from Boston to Washington, DC.
- **1.20** The 1984 Los Angeles Olympics signage linked a wide array of remote venues by imposing a strong brand image distinctive of the city's spirit.





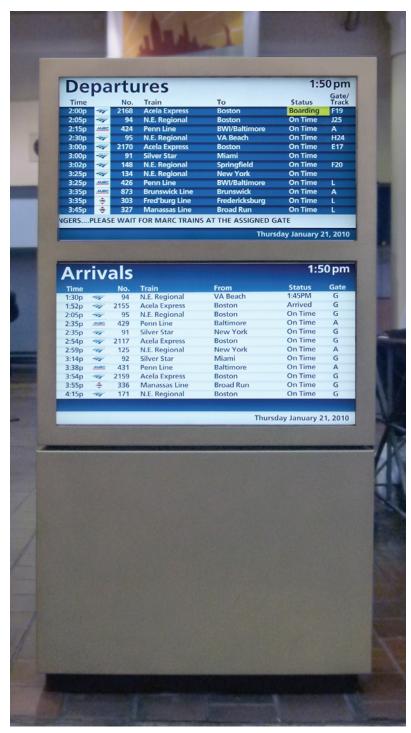


1.21 Signage for an AIGA conference imposes the event's theme onto the venue.

audience and that signage is a valuable component of a comprehensive brand strategy.

Digital Information Systems and EGD

Digital information systems that display graphics on electronic screens have become an important part of everyone's daily life, and since these systems serve a communication function, they have a relationship to EGD. This relationship is somewhat nebulous at this time but more clarity should evolve as the future progresses.



1.22 Digital signage: Amtrak train information signs provide arrival and departure information.

The focus of this book is on static, nonelectronic signage programs, but some discussion of the digital realm is in order. We'll start with some basic definitions of types of digital systems currently in use. These definitions build on those offered on the Digital Screenmedia Association website. More information on digital display units is presented in Chapter 6, "The Hardware System."

Digital Signage

Digital signage refers to electronic display screens, which are typically large but increasingly include smaller tablet-sized screens, deployed in a permanent, fixed position to display information content to a mass audience. Digital signage content is typically preprogrammed and noninteractive, that is, not selected by individual user, and is often of an advertising or entertainment nature. In fact, the term *digital signage* is currently somewhat misleading because most "digital signage" is used to display advertising content, not wayfinding or other informational content that helps people navigate an environment. That said, digital signage is being used for EGD applications, such as flight or train schedule information and exhibit interpretation, and more will emerge with time and as the cost of infrastructure and deployment diminishes. (See Figure 1.22.)

Interactive Kiosks

Interactive kiosks are a form of digital signage in that they use display screens deployed in a fixed position with preprogrammed content, but they have the distinction of allowing individual users to access information or perform a transaction as selected by each user from the kiosk's preprogrammed information pool. The classic example of an interactive kiosk is an ATM. EGD examples include the New York City MTA's On The Go! interactive wayfinding kiosks, which display customized, user-selected travel and local information; and electronic building directories, which a user accesses to find a tenant in an office building. Users interact with these devices via touchscreen or keyboard/pad interfaces; gesture-based interaction may become more commonplace in the future. (See Figure 1.23.)

Mobile Devices

Mobile devices, also known as handheld digital devices or smart phones, are small, self-contained portable computer devices, such as phones or tablets, which people carry with them. Mobile devices are completely interactive and personalized by the individual owner of the device. By connecting to the Internet via phone/data or Wi-Fi service, mobile users have access to the universe of digital information and can select any information they want or need. Most mobile devices are



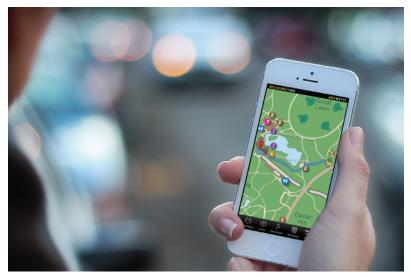
1.23 Interactive kiosks: New York City MTA On The Go! kiosks allow users to select customized wayfinding and other information from a preprogrammed menu of choices.

equipped with GPS technology, which locates the phone's geographic position; this in turn, has led to many mobile wayfinding applications, including the map applications that are native to most mobile operating systems. Since GPS currently only works outdoors, these wayfinding apps are suitable for navigating exterior environments, but developments in mobile interior wayfinding include use of augmented reality and Wi-Fi triangulation. In addition to the more generalized map apps, there are specialized wayfinding apps for specific locations, like the myNav: Central Park app, which provides wayfinding and other information about the park. (See Figure 1.24.) Also in the EGD realm, specific mobile apps provide enriched interpretive information to museum visitors.

As stated previously, the explosion of digital information systems has created some flux in the EGD world. The above basic definitions attempt to impose some order on the flux, but are necessarily brief and general. They don't get into the technical nitty gritty of the hardware and software infrastructures that deliver content to each of the above digital systems. This infrastructure is complex, expensive, in need of relatively frequent upgrading, and generally beyond the skills set of most EGD practitioners and sign fabricators, and certainly beyond the scope of this book.

Even digital content production can elude EG designers if it involves writing code or the production of video or animated content.

Yet content is the key to effective, engaging, relevant digital communication; after all, the digital sign, kiosk, or mobile device



1.24 Mobile devices: With wayfinding apps such as myNav: Central Park, users can carry useful orientation information in their pocket.

1.24

is just a blank screen waiting to be filled with content, similar to a blank canvas waiting to be filled with paint—and the quality of that content affects the user's perception of the message being conveyed. In this respect, EG designers can use their communication skills to shape and direct digital content's structure, theme, and visual appearance, often by partnering with technical specialists who can transform the EG designer's vision into pixels on a screen. EG designers can also use their 3D design skills in developing the appearance of the physical housings for deployed digital signage and kiosks, again often by teaming with the developers of the content delivery infrastructure.

The impact of digital information systems on EGD is profound and evolving, as is the world of digital communications itself. Some resources on current developments and trends include the websites and events of the SEGD, the International Sign Association, the Digital Screenmedia Association, and the Digital Signage Federation.

There is no final, definitive word on digital information systems and EGD, as the area of digital communications is in its infancy. As stated earlier in this chapter, digital signage, interactive kiosks, and mobile devices can complement and augment physical, static signage, particularly in a coordinated multichannel communications program, such as a branding campaign. Digital information systems will likely never completely replace physical signs, however, for various reasons: expense, relatively rapid technological obsolescence, power consumption, resource depletion, plus the fact that lots of people

You Can't Learn This in College

just like the reassurance and permanence—let alone the placemaking qualities—of physical signs and interpretive graphics. The challenge for the EGD community, including sign fabricators, is how to harness the rich potential of digital information systems for communicating relevant information about the built environment, together with more conventional media, such as static signage, in a coordinated, meaningful way. The possibilities are endless and the creative imagination is the only limit!

You Can't Learn This in College

EGD projects are typically complex, with many problems and subproblems, which cross the boundaries of various design disciplines. Accordingly, EGD is a cross-disciplinary specialty field that combines aspects of the graphic design, architecture, and industrial and interior design professions. (See Figure 1.25.) Currently, there are no comprehensive undergraduate EGD degree–granting programs in the United States (of which the authors are aware), although certain undergraduate design programs, typically in graphic design, do offer students exposure to EGD in a specific course. These courses either may be exclusively dedicated to EGD or incorporate EGD within a broader course of study, such as a brand identity design course. On the graduate level, lowa State University offers an MA in Environmental Graphic Design, the first EGD graduate program in the United States.

Due to the lack of comprehensive EGD educational programs, and because of the cross-disciplinary nature of the field, the only way EGD practitioners can fill gaps in their knowledge base is by learning in the workplace. For example, a graphic designer must learn about three-dimensional forms and materials, working in scale, interpreting architectural drawings, and basic drafting. An architect or industrial designer must learn about graphic communication purposes and

1.25 The spectrum of design disciplines and their products.

City Planning /	Landscape	Architecture	Interior	Industrial	Graphic
Urban Design	Architecture		Design	Design	Design
Cities, Towns,	Planned Open	Buildings	Interior	Objects for	Objects that
Campuses	Spaces, Parks		Spaces	Living & Work	Communicate

Macro ——

techniques, two-dimensional design principles, and graphic application techniques. This book aims to fill in those gaps for both aspiring and current practitioners, including students.

This book is also for clients who procure EGD services, including brand managers, communication directors, architects, landscape architects, urban designers, planners, public administrators, transportation officials, real estate developers, general contractors, and facility and construction managers. This book will help those who engage the services of environmental graphic designers gain an understanding of EGD processes and methodologies, leading to more effective working relationships with EG designers.

What's Ahead in This Book

This book will take you, the reader, into the wonderful world of EG design, with the focus on static, nonelectronic signage and wayfinding design, although many of its broad principles apply to the digital realm. Think of it as a guidebook, which leads you first into the design process as it relates to EG design, then reveals what we call the Signage Pyramid methodology, which Chris Calori developed in graduate school. This methodology divides signage into three interrelated focus areas or components: the Information Content System, the Graphic System, and the Hardware System. This divideand-conquer strategy makes it easier to solve the complex problems and subproblems posed in the design of a comprehensive signage program. Along the way, you'll also find lots of tips, and a relatively small dose of opinion.

Ultimately, this book is about the design process and methodology that leads to the end product of a built, functioning signage program. The Gallery section at the end of this book showcases the built signage programs that are products of the process while the photos and diagrams throughout the book reflect aspects of the process itself. The photos in the book represent the work of our office, as well as that of several leading EGD consulting firms, primarily firms located in the United States but also some located throughout the world.

As you read, keep in mind that every signage and wayfinding project is different—different sites, different sizes, different clients, different everything! So the generalized, idealized process and methodology presented in this book won't directly mirror the process for each and every signage project an EG designer or client has encountered or will encounter. But though signage and wayfinding design is complex,

it's not rocket science. There are few hard-and-fast rules, and there are many ways to approach many of the items discussed in this book. There's also a multitude of signage and wayfinding issues and technicalities that this book doesn't address. In sum, we recommend you use this as a big-picture book, and adapt what you learn to your own projects.