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Introduction

With the current climate, communities see stronger wayfinding systems as a way to sustain economic viability.
Over the last twenty years, urban areas from small town main streets to the downtown districts of the largest cities have developed wayfinding and identity systems to enhance their brand, ease navigation and reinforce key destinations. With the current climate, communities have seen stronger wayfinding systems as a way to sustain economic viability. These important wayfinding projects have developed to the point where they have been integrated in the Manual on Uniform Traffic Control Devices, published in magazines and books and accepted as part of municipal bond and other financing programs.

Yet there is very little information available to planners and city officials who want to develop these programs and learn from the cities that have been most successful. Given that these projects may take two years from conception to final installation, this information is crucial. In addition, there is little support to help city leaders make the case for spending the effort and dollars to make these programs possible.

The Sign Research Foundation (SRF) is a not-for-profit organization serving academia, planners/regulators and businesses by advancing the knowledge base in the topical areas of science, technology, art, marketing and regulation. Working along with the International Sign Association (ISA), SRF presents this workbook and an associated online education program to provide a comprehensive overview of the steps towards a successful wayfinding program, including financing, conceptualization, the approval process, implementation and ongoing management. The workbook also provides best practices from successful programs and guidance for hiring consultants including environmental graphic designers and sign fabricators. Finally the book provides a current roadmap for the approval process with community leaders, government officials and other stakeholders.

The Sign Research Foundation hopes that towns and cities will be encouraged to use the tools and guidance contained in this book to take a leadership role in developing a wayfinding program that enhances their community.
Wayfinding elements can enrich and enhance our experiences with urban environments.

The Case for Wayfinding Systems

We live in a world where cities can be navigated through a smartphone or other technologies and any information on a destination can be found within minutes. With all of these tools at our disposal, why are physical wayfinding elements even necessary? Municipal wayfinding systems serve an important and crucial role well beyond responding to the need for basic navigation, identification and information. Wayfinding elements – such as monuments, directional systems, directories, interpretive and even regulatory signs – can enrich and enhance our experiences with urban environments.
Defining a Sense of Place

You are here, but how do you know where here is? Municipal wayfinding systems not only direct visitors to destinations, but also serve as a teaching tool that educates the visitor on the boundaries, destinations and key features of the urban environment. This creates a “legible city” where wayfinding and identification elements support the overall urban structure and experience.

Urban geographer Kevin Lynch developed the legible city concept in his book, *The Image of the City*. In his research, Lynch suggests that all cities have a specific vocabulary that residents and visitors can “read” in the streets, landmarks, nodal areas and unique districts. Designers discovered that by utilizing a system of gateways, signage and streetscape elements, they could enhance the legibility of the respective city. Today, the Lynch method of testing legibility through personal cognitive maps has shown the effectiveness of successful municipal wayfinding systems. London, England has the largest municipal wayfinding system in the world, referred to as Legible London. (See Case Study for full summary.) The guidelines for Legible London were developed utilizing the cognitive mapping process. Studies have validated the increased urban understanding by visitors and residents who used the wayfinding system which includes signs, directories, print maps, and mobile applications.
Highlight Complementary Destinations

In an age where GPS systems allow us to find our primary destination quickly and easily, visitors may end up bypassing lesser known destinations of potential interest. Wayfinding programs seek to bring awareness of the museums, retail districts, historical areas and landmarks that visitors may not know about and that may not be included in modern navigation technologies.

An example of the power of a municipal wayfinding system to impact less prominent destinations is in Lancaster, a small city in central Pennsylvania. After installing a city-wide wayfinding system in 1999, attendance at five major destinations in the city increased by 10% in one year.

In addition, the city recorded that name recognition went up in particular for secondary destinations like the Art Museum and Central Market. Both of these locations show the value of the investment made in implementing and effective municipal wayfinding system within their community.

The City of Lancaster, PA, wayfinding gateway and directional sign program by Sussman/Prejza both brands the city and directs visitors to smaller destinations and parking. The system is credited with a 10% increase in attendance a year after the system was put in place.
Enhancing the Urban Commercial Brand Supports the Entire Community

Municipal wayfinding systems are not limited to identifying and directing visitors to city and related institutional destinations. The inclusion of standards as well as promotion of high-quality commercial on-premise signs, including-free standing monuments and building mounted identifications and marquees, play a key role in enhancing the overall brand of the community.

Research by Charles R. Taylor, Matthew E. Sarkees, and Hae-Kyong Bang, detailed in their book Understanding the Value of On-Premise Signs as Marketing Devices for Legal and Public Policy Purposes, illustrates that on-premise signage plays a significant role in enhancing the positions (value) of both small and large businesses within the community, and will in turn enhance the value of the real estate they occupy, the business levels that they achieve, and the resulting tax revenues to the city. In addition, large commercial signs, when properly coordinated with the city, can serve as valuable gateways and landmarks. Landmarks like the CITGO sign in Boston, MA, PSFS Tower in Philadelphia, PA, or the Domino Sugars sign in Baltimore, MD, are important urban touchstones that define the commercial importance of the city.

The world famous Chicago Theatre in Chicago, IL, is an on-premise commercial sign and landmark that enhances the entire community and brands the city through frequent appearances on television and movies.

The Domino Sugars sign in Baltimore, MD, is a historic sign that enhances the entire community by serving as both a gateway and landmark.
Traffic Controls and Parking Identification

When it comes to vehicular wayfinding signage, locating a destination is not the only key issue. Vehicular wayfinding signage is also utilized to control desired traffic circulation patterns and aid motorists in efficiently identifying both public and private parking lots and garages by utilizing consistent wayfinding and identification standards defined in the system. Incorporating new media and data tracking technologies into municipal wayfinding systems also can provide real-time information on traffic flow and parking availability.

Implementation of effective vehicular wayfinding systems within communities can aid in creating safer driving conditions by providing drivers clear directions at strategic locations, thus reducing driver confusion and distraction while traveling busy streets.

Consistency and Consolidation (De-Clutter)

It has been common for individual districts, retail areas or campuses within cities to implement unique wayfinding and signage systems. Sometime these are very effective, but in other cases can create inconsistencies in brand, style and design within a single community. Lack of system consistency can result in obsolete, inconsistent or low-quality elements that can compromise the brand value of the community to visitors and residents alike. In addition, a proliferation of specialized banners, redundant neighborhood gateways and private interpretive projects created urban environments that appear disjointed and disorganized. A well-defined and comprehensive municipal wayfinding system will contribute to creating a consistent urban brand, a sense of organization, improved vehicular flow and safety while maintaining a perception of quality for the system, the city and its amenities.

Legibility research at the Pennsylvania State University has shown that inconsistent and cluttered environments can adversely affect viewer legibility and vehicular safety by relaying too many incomplete and ineffective messages.

In Albuquerque, NM, the municipal wayfinding system, developed by Jettwalker, Inc. with Lance Wyman, integrates wayfinding, identification and street lighting to consolidate elements and reduce the number of individual sign locations.
Case Study: Legible London
The primary objective of the system was to promote the value of walking in London.
The project developed by Applied Information Group focused on enhancing pedestrian experiences in five major areas:

**Transportation**
Improving pedestrian accessibility in the city would lessen the burden on London’s notoriously congested transit and road systems.

**Society**
More pedestrian traffic on the streets would lessen the opportunity for criminal activity and encourage social interaction.

**Environment**
Walking is the most environmentally friendly mode of transportation and reduces communities’ carbon footprints.

**Commercial**
An improved pedestrian understanding of neighborhoods, landmarks and amenities increases the opportunities for people finding and using commercial resources in these areas.

**Health**
Walking improves general health and well being and is a key tool in fighting obesity and many other health issues.


Based on these value metrics Applied Information Group developed a research program to illustrate how a comprehensive wayfinding system would increase pedestrian access to the city and deliver on these value objectives. The resulting system increased visitor pedestrian use extensively, particularly during the 2012 Summer Olympics. Surveys to gauge tourist comfort showed the wayfinding system as a key factor in finding urban neighborhoods and destinations.

The Legible London concept is to build the pedestrian experience around five-minute journeys exemplified in maps that would show five-minute areas. This is also reinforced on the Legible London website and mobile applications. Research indicated that the best design approach for achieving the highest pedestrian value would be to use information landmarks that would support a greater wayfinding program.
What Comprises a Wayfinding System?

Successful systems utilize common design cues including color, typography, shape, logo, material and nomenclature.

Peeling the Onion

A wayfinding system has many moving parts that fit together. To structure how all these elements work, it is important to look at the individual elements as a series of layers that a visitor encounters when experiencing an urban environment. This encounter begins at the vehicular edges of the region and continues into downtown. Finally, it culminates in pedestrian main streets and destinations. While all of these layers of experience do not need to be clearly linked through design, successful systems utilize common design cues including color, typography, shape, logo, material and nomenclature.

Wayfinding systems mean different things to different people based on their experience. Wayfinding can be experienced on a highway, in a park or in a pedestrian mall. The key to successful wayfinding in urban areas is how these different experiences are linked.
Gateways and Area Identification

Gateways define the entry into a distinct place with a defined identity. Gateways exist on a number of levels in an urban area including:

Regional Gateways: Sign and landmarks that identify entrance to a regional area which can include government entities (states and counties), heritage areas and economic zones (industrial and commercial corridors).

City Gateways: Signs and landmarks that identify a city or town. City gateways can be freestanding or attached to other landmarks including bridges, buildings and parks.

District and Neighborhood Gateways: Signs that identify a unique district in a city. These can include clearly defined mixed use districts (Downtown, Chinatown, Historic District), neighborhoods, and large park areas.

Area Identification: Signs that identify less defined areas with distinct cultural (art districts), commercial (main street corridors or areas of unique commercial entities) or political (government nodes) importance.

From top to bottom: Miami Beach City Gateway, MERJE Design; Highland Park Neighborhood Gateway, Cloud Gehshan Associates; Narberth Borough Bridge Gateway, VSBA, LLC. From top to bottom: Haverson London Borough Gateway, Jason Bruges Studio; King of Prussia Gateway, King of Prussia BID.
**Vehicular Wayfinding**

These elements direct motorists to districts, cities, parks, heritage areas, destinations and parking. Vehicular wayfinding is meant to be seen at high speeds in public right-of-ways and is heavily regulated by departments of transportation. These signs include:

Controlled Access Road Signs: Signs that direct to destinations on the interstate highway system. These signs are designed and planned based on strict Federal Highway Administration guidelines and are administered by the individual states.

Regional Signs: Signs that direct to cities, parks, agricultural facilities (golf courses/winery), institutional and commercial destinations and heritage areas outside of urban areas. Regional signs can be administered by state bodies, by individual counties, or by aggregated counties and towns. These signs often include distance information.

Large Scale Signs: In urban areas outside downtowns and neighborhoods these signs direct to large scale destinations and urban districts.

**Pedestrian Wayfinding**

Design elements that direct pedestrians to destinations inside of a defined district or neighborhood. Pedestrian wayfinding signs include:

Downtown and Neighborhood Signs: These smaller scale vehicular signs are located inside downtowns, neighborhoods and districts. They direct to a large range of destinations and parking. These signs can also include trailblazers that lead motorists back to interstate and state roads.
Pedestrian Directional Signs: Signs that direct pedestrians directly to destinations.

Map Signs: Pedestrian maps that define the urban district and the key landmarks and destinations within that district.

Directories: Maps that also contain a directory of destinations with additional information including addresses, phone numbers or interpretive descriptions.

Interpretive Identity: Signs that combine destination identification and interpretive information.

On-Premise Commercial Landmarks: Free-standing or signs attached to buildings that identify commercial or corporate destinations that also serve as urban landmarks.

Parking: Signs that identify parking garages and lots.

Destination Identity

Landmark elements that direct to specific destinations. Destination identity signs include:

Institutional Identity: Free-standing signs or signs attached to buildings that identify a government, cultural, educational, transportation or health institutions.

Identity/Gateway: Identity signs can also serve as gateways to educational, corporate, transportation and healthcare campuses.

From top to bottom: San Juan Capistrano Map/Directory, Hunt Design; Wissahickon Park, Cloud Gehshan Associates; Hudson River Interpretive Kiosks, Joel Katz Design Associates.

From top to bottom: World Trade Center Pedestrian Kiosk, C&G Partners; Hong Kong Connect 12 Building Identity, Calori & Vanden-Eynden.
Urban and Street Identity

These support signs, urban furniture and banners help support and identify unique urban districts and include:

Street Signs: Signs that designate city streets and can also identify unique districts.

Regulatory Signs: Signs that regulate street activity that can also identify unique urban districts.

Street Furniture: A range of street elements that can support urban identity including benches, trash receptacles, lights, landscape and parking meters.

Public Art: Public art and display that can also serve as urban landmarks.

Civic Banner Programs: Temporary banner and lighting programs that support identity as well as ongoing activities.

Visitor Centers: Kiosks and buildings that provide information on city and district activities.

Media and Print Support

In addition to physical elements, web sites, mobile media, print maps and directories provide additional support for wayfinding. In most successful systems, graphics are closely integrated with physical design elements.
Case Study: City of Charlotte, NC
The City of Charlotte wayfinding system is among the most extensive in the entire country.

City of Charlotte, NC
The City of Charlotte wayfinding system is among the most extensive in the entire country and embodies sign elements into a wide variety of environments including highways, city roads, pedestrian areas, parking and public transit. The system, planned and designed by Two Twelve and in association with DAWA and Brinkley Design, was developed in stages starting with the pedestrian program in 2007 and is still under development.
Key elements include:

**Interstate Wayfinding**
These innovative interstate signs use color to identify the four major urban districts defining Uptown Charlotte.

**Vehicular Wayfinding**
Vehicular signs start at the interstate exits with gateways signs that identify the four districts and introduce drivers to the graphic and informational language of the system.

**Pedestrian Wayfinding**
These signs contain map, directional and transit information while defining key areas of the Downtown.

**Parking Signs**
The program of signs, both static and dynamic, include a system of space availability indicators developed by Kimley-Horn and Associates. The dynamic sign elements are updated via sensors in each garage. Additionally, the data is transmitted wirelessly to the city’s parking management system, providing real-time information to users accessing the city’s parking website.
Getting Started

Like a bridge or a highway, wayfinding programs affect a number of constituencies who need to be consulted throughout the planning, design and implementation process.

Getting Started

Beginning an urban wayfinding project requires a great deal of preparation before establishing a plan or unveiling a design concept. Like a bridge or a highway, wayfinding programs affect a number of constituencies who need to be consulted throughout the planning, design and implementation process. The key to project success is the involvement and preparation of stakeholder constituencies at the outset.
Working with Stakeholder Groups

There are dozens of different constituencies that must be consulted in specific ways and managed through different groups and committees. These groups include:

Steering Committee
A steering committee's role is to assist in decision making throughout the entire planning, design and implementation process. The steering committee is usually small (5-8 people) and include stakeholder representatives that can take a leadership role in key areas of the process. Steering committee members are also responsible for communicating decisions to larger stakeholder constituencies.

Management Committees and Task Forces
Often wayfinding programs have unique needs that require the efforts of a specialized group to focus on narrow topic areas. This can include tasks like approvals, financing and maintenance; or dealing with unique community issues. An example of the latter can be found in a task force developed for a wayfinding program in the Upper Perkiomen Valley, a community of small towns and villages in eastern Pennsylvania. Because each town and village will be responsible for implementing the guidelines developed for the entire area, a task force was set up specifically to navigate the financing, design issues, implementation and management particular to the towns while a steering committee managed the overall design and guidelines process.

General Stakeholder Group
Public projects require community outreach and input to be successful, and wayfinding programs usually require a greater degree of transparency than a typical infrastructure project. Reaching out to the broader public requires the development of a stakeholder group consisting of political and community leaders, key destinations, funding agencies and the media. These groups in turn communicate with the public. General stakeholder groups usually have a very limited say in day-to-day program process decisions, but should be informed and able to comment on key decisions, particularly related to design. In today's era of social media, the public meeting input is often being supplemented online, with public comments and feedback possible outside the scope of a single public meeting.

Who Spearheads the Project?
Wayfinding projects often take from 12 months to 2 years to get from initial planning to installation. In addition the projects often need to move through a difficult bidding and installation process followed by years of ongoing management. It takes organizations with long-term management capabilities to take on these programs. The expansion of special service and business improvement districts that are managing an array of city services from funding to maintenance has led to an increase in wayfinding systems over the past 20 years. While larger cities have quasi-public groups with full-time staff, smaller cities and towns often need to make do with a single city manager or streets official. In these cases, the need for structured steering committees become even more important, with community volunteers taking on many tasks including seeking financing, managing meetings and coordinating community outreach.
Working with Government Officials and Community Leaders

With non-profits, special service districts and economic development organizations often taking on the task of developing and managing the wayfinding programs, government and civic officials take a support role. But their inclusion is crucial to successful implementation. Government and civic leaders usually play one of three roles in the project development process:

Promoters: Politicians and community leaders that can help secure financial support, stir community action or ease the approval process. Promoters include top elected officials and civic leaders like the head of the local chamber of commerce.

Approvers: Government officials responsible for issuing approvals for the program from the overall plan to the design and final implementation locations.

Defenders: Wayfinding programs are not free of politics and need government and community leaders to defend design and financing decisions.

Why so few privately developed wayfinding programs? In Europe, most wayfinding and identity programs are developed by private companies like JCDecaux while in the U.S. non-profit and quasi-governmental organizations are often the program developers. This has much to do with how cities are run in different geographies. European cities have a top-down management approach where most decisions are made from a central authority. In the U.S., decision making is often pushed down to community and specialized organizations, working with city leaders. (Above project is the Dublin, Ireland, wayfinding program; Specialty Bush Shelter in Copenhagen, Denmark; Interpretive Touch Map in London, England; by JCDecaux).
Getting Started: A Stakeholder Framework

Stakeholder framework: A stakeholder project map is a handy tool for linking the process of wayfinding development with potential stakeholders, by defining the groups responsible for specific program tasks, and the stakeholders that would work best with each group.
Case Study: Philadelphia, PA

The City of Philadelphia’s wayfinding program is among the longest duration actively managed system in the country.

Philadelphia, PA
The City of Philadelphia’s wayfinding program was initiated in 1988 with the first signs installed in 1992 making it among the longest duration actively managed system in the country. The program was a pioneer in many of the stakeholder and management systems seen today.
Project Leadership
The project started as the DirectionPhiladelphia vehicular wayfinding program in Center City Philadelphia. The Foundation for Architecture, a non-profit city institution, led the stakeholder process, managed the Sussman/Prejza design team, and implemented and managed the program.

The program eventually spread into many areas and neighborhoods outside of Center City, including a system developed for Fairmount Park with the Fairmount Park Association. The organization partnered with the Center City District, a special services district, in the development of a pedestrian program and the University City District in the expansion of the program into West Philadelphia. Joel Katz designed the expansions. Eventually both special service districts took over management of the system with the Center City District managing expansion.

Stakeholder Development
The project was spearheaded by a steering committee made up of leading institutions and city officials, which managed the planning, design development and approval process. A large stakeholder group of participating destinations, city and institutional leaders was kept informed of key program developments and had the opportunity to participate in meetings involving larger design and implementation decisions.

City Participation
The city of Philadelphia officially took ownership of all the wayfinding system components and played an active role in financing, approving and securing Department of Transportation approval for the complete program through the Streets Department.

The DirectionPhiladelphia wayfinding program started in the historic core of the city and spread through the city with the leadership of The Foundation for Architecture.
The key to successful system financing is to understand the complete design and implementation process, while identifying a range of financing solutions.

**Financing a Wayfinding System**

One of the most difficult parts of developing a wayfinding system is developing an approach to financing the process. Often funds can be used for some areas and not others. The key to successful system financing is to understand the complete design and implementation process, while identifying a range of financing solutions.
Planning, Design, Fabrication and Management Costs

Generally the financing of wayfinding systems is divided into four major areas:

**Planning:** The cost of initial planning includes the design brief, planning scope and conceptual design of the system. These costs are generally from $10,000-$50,000 (depending on the size and complexity of the project) and usually are paid for by grants, donations or directly from an organization’s budget.

**Design:** The cost of designing the full program including design development, approvals, documentation and bidding. Design fees can range from $35,000-$500,000 and, like planning fees are often paid for from grants, organizational budgeting and city line budgeting. Sample design budgets include:

- Neighborhoods and Main Streets: $5,000 - $10,000
- Small Town: $10,000 - $25,000
- Small Downtown or Mid Sized City: $25,000 - $50,000
- Large Downtown: $50,000 - $100,000
- Entire Cities and Regional Areas: $100,000 - $200,000

**Fabrication and Installation:** The final cost of shop drawings, fabrication and installation can range from $100,000-$5,000,000 and is financed through an assortment of local, state and federal programs. Sample fabrication budgets include:

- Neighborhood and Main Streets: $10,000 - $25,000
- Small Town: $25,000 - $50,000
- Small Downtown or Mid Sized City: $50,000 - $75,000
- Large Downtown: $75,000 - $150,000
- Entire Cities and Regional Areas: $150,000 - $300,000

**Ongoing Management:** The cost of cleaning, replacing and expanding the system. Management is financed through a range of approaches including destination fees, business levies and internal budgeting.

Note: This is a general overview of design and fabrication budgets representative of 2013, when this study was published. Some projects including specialty gateways, landmarks, lighting, streetscape and media projects could cost more and should be analyzed as unique projects. In addition, there is a great deal of variability in the size and scope of projects that can affect pricing.

Leading Sources of System Financing

**Grants and Donations**
For initial planning and design stages, financing must be as flexible and unencumbered as possible. There are a number of local and state grant opportunities for sign programs ranging from foundations to regional planning organizations. Other leading sources of planning and design money are direct donations from commercial and institutional interests. Donations are also a great source of funding for unique program areas including gateways and park programs.

Integration of new technologies often attracts local grant support. The Mercer County Park System wayfinding program in New Jersey developed by Winfield & Co. is a combination of signs, maps and mobile applications. It was funded by Open Space Preservation grants which is a fund established by the State of New Jersey to purchase, maintain and support historic properties.
Business Improvement District (BID)
The last 20 years have seen a dramatic increase in the number of Special Assessment, Business Improvement and Property-Based Improvement Districts (BID/PBID). A BID/PBID can assess an annual tax on a property which can be used for maintenance and for promoting the district identity by the means of wayfinding, events and business activities. These districts also have the authority to improve streetscape infrastructure by using special taxing powers to provide for specific projects or overall improvements. These districts also can issue bonds for capital costs on large improvements.

Tax Increment Financing (TIF)
Tax Increment Financing provides a way for municipal authorities to help finance new capital projects. This happens by taking advantage of expected property tax returns (after the property is designated as blight and is determined as a redevelopment project area) where it can borrow against expected increased tax revenues to build infrastructure. Often, the sign system is financed in whole or in pieces as part of a much larger streetscape improvement or infrastructure project like a bridge or paving program.

State and Federal Funds (TEA-LU, CDBG)
There are multiple state and federal sources that can be used to fund system fabrication and implementation. One such program is the Transportation Equity Act: A Legacy for Users (TEA-LU), a federally funded program for infrastructure improvements to highways and roads. Usually this money is folded into large city street improvements. A stand-alone source of federal funding is through the Community Development Block Grant Program (CDBG) of the Department of Housing and Urban Development (HUD) which is often used to support urban streetscape projects, and National Scenic Byway Grants which fund regional programs.

In addition to federal funding, most states have programs for urban improvements through their respective commerce departments, which also receive federal funding.
Impact Fees
When a large commercial enterprise is developed – like a stadium, casino, or shopping center – the developer may be required to pay impact fees to mitigate the additional traffic in the area. These fees can be used for streetscape and wayfinding improvement.

Instruments for Ongoing Funding
Wayfinding systems require changes, maintenance and expansion. Over time a number of cities have developed financing approaches that can provide ongoing support. The model for this approach is state transit-oriented development (TOD) programs where commercial establishments and institutions pay a fee to be on highway and roadway signs. Those funds then that support the implementation and maintenance of these programs. Special Service Districts and Economic Development zones often employ user fees, including charging listed destinations based on the number of messages. In addition, many downtown districts employ a tax on commercial businesses that can be applied to ongoing management and maintenance costs. In Europe, cities including Paris and Berlin use commercial advertising fees from kiosks, bus shelters and public restrooms to fund wayfinding signs. Some North American cities like Los Angeles and Toronto have created signage districts in specific areas of the city where public commercial advertising can be used to fund street furniture and wayfinding programs.

Top 5 Leading Financing Sources for Wayfinding Programs
- Tax Increment Financing District
- Transportation Equity Act (TEA-LU)
- City Capital budget for Economic Development
- Community Development Block Grants
- Institutional and Corporate Grants

In Toronto, Kramer Design Associates working with Astral Media Outdoors developed a collection of street furniture integrated with the wayfinding program.

The city of San Diego, CA, found a creative approach to financing their ongoing system through parking meter fees. The city created a special parking district downtown where a percentage of meter fees could be utilized to develop and maintain the wayfinding program.
Case Study: Phoenixville, PA

Phoenixville is developing a wayfinding program consisting of vehicular signs, gateways and park signs.

Phoenixville, PA

Phoenixville is small borough outside of Philadelphia that is developing a wayfinding program consisting of vehicular signs, gateways and park signs. The borough sought multiple sources for financing and worked closely with Craig Berger Management Consulting, design firm ex;it, and a steering committee led by City Manager, Jean Krack. The total cost of the program from planning through implementation is estimated at $250,000.
Planning
The $16,000 initial planning cost was split between a grant from the Delaware Valley Regional Planning Commission and cash and in-kind donations from the borough.

Conceptual Design and Development
The design phase was funded with $35,000 from the Phoenixville Community Health Foundation and the borough.

Prototype Development, Fabrication and Implementation
For the park trail signs, $40,000 was raised from the Schuylkill River Heritage Center, the Natural Lands Trust and private developers adjoining the trail. For the gateways and wayfinding signs, $150,000 was raised through the Chester County Revitalization Program.

Management
Ongoing management will be provided by the borough through existing streetscape maintenance contracts. The money was raised over the course of 18 months, with the planning phase used to apply for design funding and with the concept design used to apply for implementation funding.
Over the last 20 years governments have updated codes to meet the requirements of wayfinding and identity systems.

Managing the Regulatory Framework
Wayfinding systems are designed to be integral parts of public space, which are highly regulated by local, state and federal government entities. Over the last 20 years governments have updated codes to meet the requirements of wayfinding and identity systems. Still there often are a number of gaps between the needs of a successful program and the existing regulatory structure. Developing a regulatory framework is every bit as important to the success of the project as financing or design. It creates the environment to make a project possible and effective.

Since commercial on-premise identity and wayfinding signs are important to the overall community brand, this chapter will review the regulatory hurdles found in both public or institutionally managed wayfinding systems and private on-premise signs with an impact on the urban environment.
The Disconnect Between Best Practices and Regulations

A number of regulatory roadblocks stand in the way of developing wayfinding systems that reflect a mismatch between best practices defined by research, history, precedent and regulations. Most of the key regulatory issues and conflicts can be summed up in two statements:

**Codes Require Wayfinding Elements to be Too Big or Too Separated from the Environment**

The entities that govern wayfinding signs focus on the safety of the motorist, though interestingly, not the pedestrian. These entities tend to focus more heavily on roads with a higher speed limit. Their concerns may be legitimate for high speed roads, but often create a regulatory mismatch between low-speed pedestrian-oriented urban streets and large-scale highway environments.

**Codes Require Commercial and Gateway Signs to be Too Small and Dim**

On the flip side are zoning codes for shopping and commercial centers that require signs to be too small and less legible. Since commercial signs are an important complement to urban programs, particularly for larger shopping and entertainment centers, this in fact leads to legibility issues for finding destinations.

For a regulatory framework to be successful, this mismatch must be approached in a way that improves the entire environment. In the case of a single or small group of signs, this often means seeking a variance or legal exception based on unique circumstances. An entire wayfinding program requires developing sign codes and guidelines based on sound research and an honest analysis of the specific urban conditions.

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**b. Street Name Sign**

The new FHWA Manual on Uniform Traffic Control Devices (MUTCD) has a section dedicated to community signs. This has alleviated many of the issues between signs designed for highways and those designed for urban areas, but still requires successful interpretation by local department of transportation officials who administer the guidelines.

The International Sign Association has developed extensive research reports detailing the importance of legible signs for both commercial success and safety. These reports have been used to seek variances, but even more importantly, to impact code reforms.
Most of the public believes that codes and policies are determined by research and precedent. But this often isn’t the case. Committees may use very little underlying research to make decisions and may be influenced by advocacy. Legitimate research has led to great successes in improving the environment including reforming the FHWA Manual on Uniform Traffic Control Devices (MUTCD) and the development of more legible model codes from communities. While original research can be time consuming and costly, simpler approaches may lead to the same results. Existing research combined with examples from successful wayfinding programs may be used.

The development of Clearview, PA, by Donald Meeker included research by the Pennsylvania Transportation Institute that showed that the new typeface was more effective than those currently used on highways. This resulted in the eventual transition to Clearview for new highway signs in addition to other reforms including the use of upper and lower case letters.

The unfortunate tendency of sign codes is to create blanket solutions whether the signs are in urban, rural or suburban areas. When codes are not appropriate for specific conditions on the ground, the resulting signage is unlikely to meet the needs of the community.

Best practices from similar environments offers a successful approach to developing regulatory codes. Best practices may be obtained through organizations like the International Sign Association (ISA) or through observations based on sign codes of desired environments. This may help establish a code structure that most closely fits the environment. In addition, case studies of successful systems like those profiled in this manual can be used to develop a successful regulatory framework.
When negotiating with code officials, success is more likely if the discussion is framed around a respect for the current code structure. This conversation should involve developing a strategy based on strong knowledge of existing codes, careful consideration of which codes need to be changed or re-interpreted and an approach that seeks reform for all future projects instead of carving out small exceptions. A respectful approach usually achieves a better chance of success than using political pressure or seeking one-time gains.

In contrast, seeking one-time only variances based on quasi-judicial advocacy can often backfire when developing larger guidelines and systems. Variances, unless they are due to unique circumstances, often undermine the validity of the code and make it more difficult to expand programs over time.

Framing Perceptions

(Left column) 7-11, Sheetz, and Wawa are the three leading convenience stores in Pennsylvania, Ohio, Maryland and New York but their identity and wayfinding needs are vastly different based on their locations. Sheetz is in more rural and exurban areas and Wawa is in more suburban and urban areas. 7-11 is in all these areas but has lately focused on creating tightly a developed identity for expansion in downtown cities.

(Center column) The Georgetown SC, wayfinding program by Corbin Design illustrates the special needs of wayfinding in historic towns. The design firm developed a full study of the issues specific to the town before developing the system.
Case Study: Miami Beach, FL
The gateway and wayfinding program for the city became a model for development of a regulatory approval.

Miami Beach, FL
The gateway and wayfinding program for the city began in 2001 with design development beginning in 2003. The program became a model for development of a regulatory approval process that allowed further development of programs in Florida and other states. The design firm MERJE, working with a stakeholder group led by the City of Miami Beach, established the regulatory structure.
Regulatory Guidelines
A key part of the early project was the development of design guidelines that focused on addressing specific code issues that would be reviewed by the Department of Transportation. These standards for sign size, messaging, color and type allowed the project team to develop a strategy on which codes needed to be followed strictly, where leeway was allowed and what restrictions had to be changed.

Research
While the project team was successful in getting approval for all their design guidelines, one area needed additional research, the approval of a non-MUTCD compliant typography, Futura. To have Futura approved, MERJE worked closely with the Larsen Institute at Penn State to develop a research process that showed that Futura was more legible than highway Gothic, the standard for font approval.

Framing Perception
The early and pro-active approach of the city and design team to involve local and state officials, as well as a strong knowledge of existing codes, was just as important as the development of guidelines and research. This created an atmosphere where there was clear respect for existing precedent while understanding the need to make changes for a successfully designed system.

*The research report for typeface testing is in the resource section of Chapter 5.
Managing the Design Process

Even the simplest wayfinding system is a complex undertaking.

Planning and Design Process
Even the simplest wayfinding system is a complex undertaking. The planning and design phase often can take up to two years. Additionally, no matter the size of the municipality, whether a small town or major metropolitan area, a complex and bureaucratic approval process can slow things down.
Pre-Planning

Design Brief
Before hiring planners and designers it is important to develop a brief that outlines the key mission, goal and scope of the potential project. The design brief also provides an approach for selecting designers and planners as well as provide a scope for the entire project. Chapters 2-6 lay out most of the key issues, considerations and content required as part of the design brief, including:

Mission Statement: This statement lays out the rationale and goals for a project. (See chapter 2 for approaches to the development of specific goals for systems.)

Potential Design Elements: A list of design elements being considered. (See chapter 3 for a description of design elements that can be included.)

Stakeholders: This requires identifying key focus groups that provide feedback at all phases of the project including steering and management committees. (See chapter 4 for a description of stakeholder groups)

Confirmation of Scope Area and Definition of Preliminary Destinations: This identifies key destinations included in the project as well as the overall area. This approach should include a preliminary hierarchy based on the type of design elements being developed and can include:
- Areas including a geographic region, an entire city, a neighborhood, campus or corridors;
- Arrival mode including vehicular, pedestrian or public transportation; and
- Functions including primary/secondary/tertiary visitor destinations (by visitation), amenities, retail/commercial, trails or parking.

Regulatory Issues: A list of key regulatory issues and the government entities required for approval. (See chapter 6 for a description of key regulatory issues.)

Financing and Implementation Plan: A framework for completing the design and fabrication process around financing. The financing plan will also help define a set of scenarios for how the design and development process will be developed and phased over time (See chapter 5 for a full review of system financing).

Combined Planning and Design: The same design and planning team is hired to develop the entire approach at one time.

Separated Planning and Design: A project plan and concept is developed that is used as the basis of a separate design agreement.

Design/Build: The design team is paired with a fabrication team either through the prototype stage or the complete project.

Management Contract: One team is included to develop the system, manage fabrication and maintain the system.

The town of Chamblee, GA, wanted to utilize an extensive wayfinding and identity program to advance the image of the city as a place for innovation. The detailed design brief allowed for the hiring of a design firm, Sky Design, as well as detailed process for development, financing and implementation.
Planning

The project team refines the scope and strategic approach to the project. This part of the process can also result in preliminary design descriptions and recommendations. This stage can be developed as part of a larger design process or as a stand-alone project that will inform a larger design project or a number of design projects. The planning process consists of the following elements:

Research Process: This phase may include reviewing of best practices from existing projects; analyzing pedestrian and vehicular circulation routes; surveys of field conditions and analysis of existing sign messaging protocols. The research process can also include visitor, resident and stakeholder surveys, as well as focus groups.

Strategy and Management Approach: A series of recommendations for the design, implementation and management of the program. The strategy stage also offers the opportunity to rethink ideas established during the pre-planning stage including the role of stakeholders, the financing plan and even the original goals of the project.

Preliminary Design Concept Report: This report should articulate design elements through descriptions or best practices. It also should include the initial structure of the program, such as a draft destination hierarchy (with criteria for destination selection), preliminary routes and sample locations. This step should be initialized during the end of the planning stage or the beginning of the design process.

Design

The design phase is usually a two-part process: schematic or concept design and design development. This approach allows greater ability to manage the design, stakeholder review and approval processes, as well as ensuring buy-in to a chosen concept at strategically defined benchmarks. The two-part process is advisable for large urban areas or complex wayfinding program with multiple stakeholder groups.

The process can be combined in some circumstances in small communities where budgets and/or timeframes are restrictive and the wayfinding system is simple.

Schematic or Concept Design: A preliminary design is developed by referencing feedback from the survey and analysis in the strategy phase. Single or multiple design concepts are developed for stakeholder input including placement of elements, magnitude of the final built product, budgeting, material selection and design standards. Developing a design concept also provides stakeholders with the opportunity to revisit goals established in the strategy phase.

Design Development: Schematic or conceptual design elements evolve into a fully realized design. Typography, colors, materials and attachments are developed in more specific detail, based on
feedback from the conclusion of the previous phase. They are then examined through a review process, which may include multiple public meetings. Many cities and towns make key stages in the design process public, with meetings presented on television and design variations published in the newspaper.

Regulatory Review: During the design development process, specific code and regulatory issues are reviewed for initial approval by local and state entities. It is important that these groups are informed during the design process with leading issues established during the planning stage, and provide full design approval before the project is bid. (See chapters 6 and 8 for more details on the regulatory process and key legibility issues.)

Value Engineering: Before the design is complete, it must go through a process where the overall scope and design elements are analyzed to ensure they meet pricing estimates established in the initial project strategy. This information allows the design team to perform any related coordination with the client group and stakeholders to ensure funding is in place for the implementation of the program, or if the program needs to be re-engineered to meet funding realities.

Mockups: Temporary mockups and testing of wayfinding elements should occur early during the design development stage. These add an additional layer of assurance that the design is meeting project goals. Mockups can range from rough models to test legibility and scale, to more complete details that show color and materials.
Final Plan: The stakeholder steering committee should review all documentation to make sure it is ready to be submitted for approvals. This includes:
- Formal destination hierarchy and criteria for destination selection;
- Route and circulation plans;
- All designed wayfinding elements;
- Specifications for all materials, technologies and construction processes;
- Specific location plan(s) of all elements; and
- Message schedules.

Final Approval: This concludes the planning and design processes, with a final review of route plans, message schedules and design elements. A separate survey and review should be conducted with the stakeholder steering committee, city leaders identified in the early planning stages and local and state code officials.

Fabrication

With all the plans approved, the wayfinding elements can be constructed. This can prove to be the most challenging and stressful element of the project. All the planning and design work must be translated into a program that can be built, installed and maintained. Civic projects also have many rules for fabricator selection, complicating the documentation and administration at this stage. These are the important areas that define this stage in the process.

Bid Documentation: With final approval, all documents should be prepared for a public or negotiated bid. The level of documentation should be developed to match the bidding process. Publicly bid projects require exact specifications to ensure that proposals are as closely aligned as possible. Negotiated projects can include more general specifications where the fabricator could propose alternative solutions and approaches.

Prototypes and Rollout Administration: For any large scale wayfinding system with multiple elements, a prototype stage must be included as part of the overall bidding process. This involves fabricating a single wayfinding element, which can inform the final review. This is especially necessary for public bids in which the lowest bidder will be selected. A prototype can ensure that fabricators and entities awarding the bid understand the project. Prototypes can be developed by a single fabricator and used as a bidding tool or be required by all fabricators submitting a bid.

The town of Banff and Banff National Park in Alberta designed by the Entro | G+A shows how a prototype exploration and rollout plan can produce a successful implementation of complex signs, landmarks and banners.
The Bidding Process: Bidding civic projects requires careful planning and review. Involving the designer and steering committee in the selection process can ensure that the approved design is translated into the final fabrication of design elements. For projects with very different elements, a separate bidding process may better identify fabricators with specific expertise.

Construction Administration: With a fabricator selected, the project lead, designers, managing committee and key officials move into administration, monitoring and approving construction from fabrication to installation. Communication remains vital, especially for projects involving electrical components, deep foundations or structural work. It is important for the design team to stay involved during this phase, particularly to review submissions, coordinate requests for information and ensure the fabrication contract is being met.

Installation

With the product installed, the time has arrived to assess the completed system and develop a planning framework for management of the program. During the final installation phase there are three major tasks to complete the project:

Final Review: Any final issues can be resolved before closing the fabricator contract. Like the overall construction administration process, final reviews should be among multiple stakeholders and civic officials. Reviews should take into account completeness and quality as well as safety issues that may not have been foreseen during the design and planning stages.

Final Testing: While extensive testing should occur during the mockup phase, additional testing after the project is complete can inform further development. This can be particularly helpful if the system involves multiple phases. Are there enough wayfinding elements to do the job? Is the maintenance program adequate? Were there unforeseen costs? A final test can both save money and ensure future program success.

Final Guidelines and Management Plan: The final review should be incorporated into guidelines for ongoing expansion, management and maintenance. This ensures that decisions made during the design process are aligned with the final fabricated, installed and tested elements. These decisions are then incorporated into a guidelines book that can serve as a management tool for the system moving forward.

The Baltimore, MD, wayfinding program designed by Two Twelve Design Associates began in the Center City area and has spread into many of the neighborhoods of the city due to the leadership of the downtown group that maintained guidelines for continued adaptation and implementation over time.
Case Study: Los Angeles, CA
The LA Walks offers one of the largest and most complex wayfinding systems in the United States.

Los Angeles, CA
The LA Walks offers one of the largest and most complex wayfinding systems in the United States. The project was developed by a coalition of nine Business Improvement Districts (BIDs), with a goal of making downtown easier to navigate for pedestrians and motorists.
Planning
The planning and design team was a partnership between Hunt Design and Corbin Design. This group was led by Urban Place Consulting, who managed funding, overall planning and installation. Early analysis showed that there was a need for 13 total districts in the downtown to include well-known destinations like Bunker Hill and the Jewelry District. Based on an early goal to develop a system oriented to pedestrians and public transportation, the wayfinding approach also included directing motorists to garages and pointing pedestrians to destinations with directional signs and maps.

Design
The system was developed around unique symbols with colors and messaging that allows for easy differentiation on maps and directional signs. These symbols are effectively used on rolling maps that provide a key view of downtown and more specific information for a four-block area. Additional directional message signs support the map.

Approvals
A close negotiation with the California DOT took more than two years and resulted in modifications to the existing system, including changes in color and text height to conform to California’s interpretation of the Manual of Uniform Traffic Control Devices.

Implementation
The fabricator, Fluoresco, worked with the project lead and designers to develop a program that would withstand the intense urban environment. Sturdy materials, such as embedded fiberglass, were used. The final project, which was implemented over three months, cost $2 million.
Every planner or city official starts a project with one clear goal: To develop a quality program that fits the unique needs of the community.

Design Issues
Every planner or city official starts a project with one clear goal: To develop a quality program that fits the unique needs of the community. How that goal translates into specific decisions produces innumerable issues that should be explored before starting the planning process.
Planning

Development in Stages or All at Once?
There is often a great deal of pressure to complete a wayfinding program in one project. While this approach has much to benefit it, particularly in smaller communities and downtown areas, there are a number of positive reasons to stage projects, either by community or by wayfinding element. Developing a program in one area allows for greater testing of the system, as well as a trial run for the approval, fabrication and implementation process.

Developing individual segments of a system as stand-alone projects may benefit the overall design, particularly with elements that incorporate unique technologies and methodologies. This also allows for a fabricator selection process that best fits the specific skill sets for the project, while maintaining consistency across the system.

Regional sign projects like the Yadkin Valley, NC, wayfinding program by MERJE Design provide a toolkit that can be implemented in stages. The map support and website developed for the program serves as a tool for understanding the entire area while physical elements are installed.
Identity

Should programs be fully integrated into one system or include unique freestanding elements?

Many wayfinding projects are designed to fit into one fully integrated system, where everything from gateways, to streetscape elements, to the internet all share similar graphics, typography and format. This approach has become particularly popular with the rise of Special Service Districts which focus both on branding themselves and the community they are in.

This level of branding can create issues over time. Communities like companies, go through periodic rebranding, which impacts the very expensive and permanent wayfinding project elements. Many communities acknowledge this by designing some parts of the system for constant change (maps and pedestrian directories), and other parts to remain permanent (vehicular wayfinding signs and gateways).

Communities also should be wary about designing for changes that occur over the life of the system. Cities and towns that are undergoing rapid expansion should consider avoiding the use of design elements that require constant change unless they are designed for that change.

Top: The Brandywine Valley, PA, system has few cues that link it to a place but the simplicity and utility of the program has allowed it to stay highly effective and relevant for over 30 years.

Bottom: The Houston, TX, wayfinding system designed by Gensler contained enough unique design elements that it was able to easily adapt to a change in one key branded element that impacted the entire system.

The Uptown Normal, IL, wayfinding and identity program by Cardosi Kiper shows the success of an integrative approach to wayfinding with branding, by focusing the program on the business district, with simple graphics, clearly linked to more universal wayfinding issues.
**Design**

*Are signs the best option for a wayfinding system?*

Whenever wayfinding projects are discussed, the first thought goes to directional signs. For many communities though, these are not always the best option. Some towns are small enough where most of the major vehicular destinations are in one small area, while others require only pedestrian or parking access. Even for identity programs, a sign may not prove as effective as banners, window displays or landmarks. The key is to view the needs of the community with an open mind, before committing to specific system approach.

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**Legibility**

*Where should scale and legibility truly matter?*

To departments of transportation, the main legibility issues that matter are size and contrast for vehicular signs. For many communities, the key issue is finding the right size design for the unique needs of a place. Testing for scale should not just be part of the approval process, but also should be a key test for the effectiveness of wayfinding elements in the environment. Testing for proper scale through the use of photo montages and mockups are an important part of the design development process, and should be utilized even during the early concept stages.
Materials and Technology

**Design for today or tomorrow?**
Wayfinding projects withstand a great deal of wear and tear including pollution, vandalism and ultraviolet light which require durable materials. At the same time wayfinding elements may become obsolete due to style or system changes. When developing a wayfinding program, measuring longevity should be an important part of the material specification process.

**How should cities approach digital and lighting technology?**
Digital technology including billboards, public art, facades and wayfinding, has grown increasingly common in cities and towns over the last few years as technology has dropped in price and become more accessible.

Approaches like the use of advanced lighting through projection and LED lighting also can play an effective role in enhancing community identity. These systems can provide many of the advantages of a digital system including change and movement at a lower price, and also is more durable over time. That being said, the cost of implementing and managing a digital system is still typically more costly than a static system.

[Image: Mixed use retail like the Americana in Glendale, CA, by Romero Thorsen, uses innovative lighting solutions for gateways, identity and wayfinding. LED sign technology developed by companies like Bliim, Element Labs and Traxxon, has merged lighting and digital technology creating a hybrid that is revolutionizing urban signs.]

[Image: The Millennium Fountain in Chicago, IL, designed by Jaume Plensa with the Barnycz Group, was a trend setter for highly interactive digital public art and placemaking.]
Case Study: Rockville Town Center, MD
The Town Center contains a number of innovative wayfinding system approaches.

Rockville Town Center, MD
The Rockville Town Center is among the leading examples of a public/private partnership for the development of a new mixed-use transit-oriented development. Centered on the Rockville Town Square mixed use project, the Town Center contains a number of innovative wayfinding system approaches.
Planning Innovation
Wayfinding elements including signs, gateways, street furniture, public places and directories were part of the planning process from the beginning of the site development process. This allowed these elements to be part of larger streetscape projects, which allowed for faster development due to early financing and pre-existing stakeholder groups.

Design Innovation
Because more than 70% of the project was developed through private funding, the level of integration of design elements with the streetscape, commercial buildings and parking facilities made for both a highly complementary design (by Selbert Perkins Design), and a mix of unique fountains and public spaces.

Ongoing Development
The Town Center plan is meant to be developed over decades. In recent years, a library, innovation center and apartment homes have been added. A series of guidelines including wayfinding as part of the larger urban design has maintained the cohesion of the project.

A full review of the project can be found at: http://www.terrain.org/unsprawl/27/
A wayfinding program is meant to last for a long period of time, sometimes as long as 20 years.

System Management

A wayfinding program is meant to last for a long period of time, sometimes as long as 20 years, so it can’t be considered “complete” after implementation. In addition, the environment changes over time, requiring a wayfinding program to be developed to consider expansion, destination change, design improvements and system damage.
Materials Selection and System Durability

Material selection plays a crucial role in system durability. Research on existing wayfinding programs has shown that a wide range of environmental factors from pollution, to ultraviolet light, to vandalism can shorten the life of a wayfinding program to a much greater degree than originally thought. The key to wayfinding program longevity is to specify materials and methodologies based on an intended lifespan that can range from 1 to 20 years. Material selection generally falls into these broad areas:

Paints and Coating: These items generally have the most visual manifestation of wear over time. Technology has extended longevity greatly in the last few years, but it is important not to underestimate the environment’s impact on fading. In addition frequent cleaning and changes can compromise painted elements.

Printing: Like paint, digital printing has improved greatly in durability. Where at one time it was thought that only baked printing processes like porcelain could withstand environmental rigors now a variety of printing approaches from printing on high pressure...
laminate to vinyl combined with weather resistant coating can stay durable over long periods of time. Like paint, printed materials fade under intense environmental conditions.

Substrates and Framing: Aluminum, steel, wood, stone and concrete are all underlying materials that can be utilized on projects. Durability falls not just with the materials themselves but also their connectors which often fail first. Adhesives in particular often fail after a few years, making the selection of mechanical fasteners and hinges crucial to the specification process.

Modular Systems: Modular elements including prefabricated boxes, removable messages, and standard connectors allow systems to stay durable with frequent changes, but with multiple parts, can be easier to vandalize.

The Dallas, TX, Design District by FocusEGD utilized steel I-beams and cut metal to stand up to harsh weather conditions and present an industrial image for the district.
Managing the System

Developing a durable wayfinding system is only half the battle. In addition, wayfinding programs must be managed. There are three key management areas that communities should consider:

Maintenance: From regular cleaning to repairs to replacement, maintenance is an ongoing issue that never goes away throughout the life of the program. Maintenance includes periodic cleaning as well as replacement of damaged elements.

Change: Managing the addition or subtraction of destinations as well as expansion into new areas.

Removal: Managing the streetscape environment including the removal of unauthorized signs and obsolete elements.

Finding groups that can consistently maintain and manage wayfinding programs is difficult. Costs can often range from 7-15% of total capital expenditures on a yearly basis, and people must be found that can dedicate their time to ongoing management. While larger cities have been leaving this task up to special services districts, smaller cities and communities often must rely both on city managers and contracts with private companies. When it comes to wayfinding management clear guidelines are crucial to ongoing success. Many successful programs post their guidelines in public places to ensure that the public understands which entities are responsible for program management.
Maintenance

Maintaining programs over time requires a great deal of diligence, as well as an understanding that maintenance should be incorporated into planning and design process, to ensure effective program maintenance when the program is implemented. Maintenance issues include the following areas:

Material Selection and Design: A wayfinding program should be designed to reflect the intended maintenance program as well as environmental hazards. For example, a wayfinding element that receives minimal maintenance should have few removable connections, while wayfinding elements that require ongoing management should be easy to open and take apart. In addition lighting and dynamic technologies should only be utilized on elements that will have extensive maintenance programs.

Designing a Program Around Needs: Wayfinding program management should be developed to respond to specific environmental hazards. Urban systems usually need extensive graffiti cleaning and sticker removal programs, while programs in industrial areas may require frequent replacement from collisions with vehicles. Usually it is a good idea to consult municipalities with similar systems to get an idea of maintenance needs and challenges.

Change: The number of changes in a wayfinding program has a major impact in how the elements should be both designed and maintained. If changes are frequent design elements should be modular, contain a ready supply of replacement materials and be easy to access. In contrast, a wayfinding program that rarely changes can be designed to be tamper proof and utilize more unique designs.
Case Study: Vancouver, BC

Vancouver enhanced all street furniture for the city, including bus shelters, maps, kiosks and newspaper boxes.

Vancouver, BC

Vancouver enhanced all street furniture for the city, including bus shelters, maps, kiosks and newspaper boxes in a project coordinated by the city’s TransLink, which manages all public transportation services. Kramer Design Associates and the IBI Group crafted a plan to design the system and build upon an existing streetscape program currently managed by JCDecaux.
Materials and Methodologies
A design analysis explored the environmental hazards of the existing system and compared Vancouver’s streetscape to similar systems in North America. The review recommended that the street furniture use interchangeable parts across the entire system and incorporate predominantly aluminum extrusions and connectors to withstand the moist environment. In addition, weatherproof frames were recommended to house changeable elements.

Management
Multiple sets of guidelines already were developed for the management program, based on group responsibilities. The new streetscape furniture will augment these existing guidelines. A wayfinding guideline manual was developed to manage system changes as was a street furniture maintenance guide. The latter was especially important as multiple agencies would be responsible for program management. Guidelines also included plans for placement of all new street furniture to maintain a consistent look across the system.

Maintenance
The street furniture program was designed to be easy to change and durable for a street environment in close contact with pedestrians. Recommendations included encasing advertising and wayfinding elements in a uniform, modular frame that would allow for quick changes and withstand frequent cleaning.

Vancouver, BC, coordinated street furniture program kiosks with solar power screens. Analysis of existing conditions showed a need for extremely durable materials, to withstand the moist climate and stand up to frequent maintenance.

Toronto was used as a model for bus shelter maps and information.
Highlights and Further Readings
The Case for Wayfinding Systems

Chapter 2 Highlights

- Wayfinding Systems enhance the urban brand by improving the legibility, navigation, understanding and accessibility of the environment.
- Wayfinding Systems support the urban brand by reinforcing the history, architecture and landmarks that define a place.
- Wayfinding Systems create an organizational structure for destination hierarchy which enhances the identification and utilization of lesser known destinations and districts.
- Wayfinding Systems improve traffic flows, safety and ease in finding parking and allowing vehicular traffic to convert to more valuable pedestrian and transit use.
- Wayfinding Systems reduce visual clutter by consolidating information in defined standards which contribute to solidifying a consistent urban brand identity and character.

Case Study: Legible London

Further Reading

Kevin Lynch, The Image of the City

Philip Garvey, Pennsylvania State University Research Report, Clutter and Wayfinding

Emily Badger for the The Atlantic Cities, The Surprisingly Complex Art of Urban Wayfinding

Charles R. Taylor, Matthew E. Sarkees, and Hae-Kyong Bang, Understanding the Value of On-Premise Signs as Marketing Devices for Legal and Public Policy Purposes

What Comprises a Wayfinding System

Chapter 3 Highlights

- Wayfinding elements can be viewed as a series of connected layers based on a user’s experience in the urban environment.
- Wayfinding elements differ when viewed through the perspective of vehicular, pedestrian or identity components.
- Design elements can be linked by destination, color, typography, logo or material.

Case Study: City of Charlotte, NC

Getting Started

Chapter 4 Highlights

- Stakeholder groups should be divided by responsibility and task.
- Project management and implementation should be controlled by groups that can manage both stakeholder participation and specific program resource needs.

Case Study: Philadelphia, PA

Further Reading

International Downtown Association (www.ida-downtown.org)
Contains multiple articles and approaches on stakeholder development.

Craig Berger, Wayfinding: Designing and Implementing Graphic Navigational Systems

Glenn A. Bowen, Community Development: Journal of the Community Development Society 2005, Local-level Stakeholder Collaboration: A Substantive Theory of Community-driven Development

Alexander Garvin, The Planning Game

Gail Diebler Finke, Identity Magazine, Direction Philadelphia: A New Direction for Managing Public Sign Projects
System Financing
Chapter 5 Highlights
– Different funding sources are effective for different phases of the design, implementation and management process.
– Special Service Districts and Tax Improvement Financing Districts can roll system financing into larger streetscape initiatives.
– Capital funding for sign programs can come from standalone federal and state grants, or can be integrated into larger infrastructure and building programs.
– Cities can fund program implementation and ongoing management through fees from destinations, commercials interests, parking and other user fees.

**Case Study: Phoenixville, PA**

Managing the Regulatory Framework
Chapter 6 Highlights
– Understand how codes are developed and the mismatches between codes and best practices.
– Utilize research to make the case for regulatory changes.
– Use precedent and best practices to determine the code framework that fits specific environments.
– Show respect for the existing regulatory framework when developing a strategy for change.

**Case Study: Miami Beach, FL**

Further Reading
**Transportation Equity Act** Web site (http://www.fhwa.dot.gov/safetealu/summary.htm)

**Community Development Block Grant Program**

**International Downtown Association** Web Site (www.ida-downtown.org)

**International Sign Association and Sign Research Foundation**
(www.signresearch.org)

**Federal Highway Administration, Manual For Uniform Traffic Control Devices**
(http://mutcd.fhwa.dot.gov/)

**Research by the Pennsylvania State University Larson Transportation Institute**
led by Phil Garvey and Martin Petrucha
– Legibility of Conventional Road Guide Sign
– Typography and Format
– New Font and Arrow for National Park Service
– Guide Signs

**Further Reading**
– Sign Legibility, The Impact of color and Illumination
– Sign Visibility, Effects of Traffic Characteristics and Mounting Height
– Sign Legibility, Overview and Calculation – Methodology, Sign Legibility Index
– On Premise Signs: Determination of Parallel Sign Legibility and Letter Heights

Trip Gabriel, New York Times, **Fuel and Food Are Quick, but the Fealty Is Forever**
Managing the Design Process
Chapter 7 Highlights
– Before hiring a design or planning firm, create a fully developed design brief.
– The planning stage should include a possible re-invention of the initial design concepts.
– Mockups and prototypes should be integrated into the design review and fabrication bidding process.
– Complete design guidelines based on final review and testing.

Case Study: Los Angeles, CA

Further Reading
The Environmental Graphic Design Awards web site (www.segd.org)
Contains many best practice examples of urban wayfinding programs including pictures, credits, and summaries.

David Gibson, The Wayfinding Handbook

Chris Calori, Signage and Wayfinding Design

Craig Berger, Wayfinding: Designing and Implementing Graphic Navigation Systems

Andreas Ubele, Signage Systems and Information Graphics

Reid Ewing and Keith Bartholomew, Pedestrian and Transit-Oriented Design

System Management
Chapter 8 Highlights
– Before starting a sign program make sure to educate stakeholders in the key planning, design, and implementation issues.
– A wayfinding system should be planned and designed based on longevity decisions made early in the process.
– Continuous legibility testing should be integrated into the design process.
– Think beyond signs when developing a system.

Case Study: Rockville Town Center, MD

Further Reading
Per Mollerup, Wayshowing: A Guide to Environmental Signage Principles and Practices

Design Issues
Chapter 9 Highlights
– Materials should be selected based on the intended longevity of the program.
– Development of design guidelines with clear roles and responsibilities outlined ensures a more viable management program.
– Future maintenance concerns should impact the design process.
– Maintenance programs should reflect unique environmental hazards and the need for change in the system.

Case Study: Vancouver, BC

Further Reading
City of Alexandria Wayfinding Program Guidelines

Direction Philadelphia Program Guidelines
Acknowledgements

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Credit List

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Unless otherwise stated all photos credits are to the design firms listed.

Chapter 2: The Case for Wayfinding Systems

City of Midland, MI
Designer: Cloud Gehshan Associates
Fabricator: Huron Signs

The BART/MTA Mapping and Wayfinding system
Designer: Studio L’Image
Fabricator: Priority Architectural Graphics

City Of Lancaster, PA
Designer: Sussman/Prejza

Albuquerque, NM, Wayfinding
Design: Jettwalker Inc. with Lance Wyman and Vaughn Wedeen Creative

Legible London
Design: Applied Information Group
Fabricator: Wood and Woods

Chapter 3: What Comprises a Wayfinding System

Haverson London Borough Gateway
Designer: Jason Bruges Studio
Fabricator: Francis & Lewis International Ltd.

Miami Beach City Gateway
Designer: MERJE Design
Fabricator: Gable Signs

Narberth Borough Bridge Gateway
Designer: VSBA, LLC.

King of Prussia Gateway
Designer: King of Prussia BID with Craig Berger and Fitch Brands
Fabricator: AGS

Highland Park Neighborhood Gateway
Designer: Cloud Gehshan Associates
Fabricator: Urban Sign

Gore Valley Regional Wayfinding
Designer: Corbin Design

Port of Los Angeles Wayfinding Sign
Designer: Selbert Perkins Design
Fabricator: AD/S

Hudson River Interpretative Kiosk
Designer: Joel Katz Design Associates

Portland Riverfront combined Directional/Maps/Identity
Designer: Mayer/Reed
Fabricator: Decorative Metal Services, Windsor Fireform

San Juan Capistrano Map/Directory
Designer: Hunt Design
Fabricator: Adcon Inc.

Wissahickon Park
Designer: Cloud Gehshan Associates
Fabricator: Capital Sign
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Park City, UT, Olympic Park identity and wayfinding
Designers: Infinite Scale
Fabricator: ID Signs

City of Toronto Street Furniture
Designer: Kramer Design Group
Fabricator: Provincial Signs, Transworld Signalex, Atec Signs, Enseicom, Poitras

World Trade Center
Designer: C&G Partners

Connect 12 building identity, Hong Kong
Designers: Calori & Vanden-Eynden
Fabricator: Gradation Design and Engineering

Mercer County Park Wayfinding Application
Designer: Winfield & Co.

Chapter 4: Getting Started

Washington, D.C.
Designers: Calori & Vanden-Eynden
Fabricator: Cornelius Architectural Products

Dublin, Ireland
Designer: JCDecaux
Fabricator: JCDecaux

Copenhagen, Denmark
Designer: JCDecaux
Fabricator: JCDecaux

London, England
Designer: JCDecaux
Fabricator: JCDecaux

Philadelphia Wayfinding Program
Designer: Sussman/Prejza, Joel Katz Design Associates
Fabricator: AGS, DVS

Chapter 5: System Financing

Mercer County Park System
Designer: Winfield & Co.

Borough of Norristown, PA
Designer: Seiler Drury Architects and Stacy Kent
Fabricator: City Signs

Township of Lower Merion, PA
Designer: Cloud Gehshan
Fabricator: City Signs
Photo: Tom Crane Photography

Calgary, AB, Downtown
Designer: Corbin Design
Fabricator: Architectural Graphics, Inc.

City of San Diego, CA
Designer: MERJE Design

Chapter 6: Managing the Regulatory Framework

Clearview Typeface
Designer: Donald Meeker

Georgetown, SC
Designer: Corbin Design
Fabricator: Image Management Group

Miami Beach, FL
Designer: MERJE Design
Fabricator: Gable

Chapter 7: Managing the Design Process

Chamblee, GA
Designer: Sky Design
Fabricator: A.I.M

Laurel Highlands, PA
Designer: Sussman/Prejza and Gannett Fleming
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Schuylkill River System
Designer: Cloud Gehshan Associates

Embarcadero Interpretative markers and walkway
Designer: Michael Manwaring
Fabricator: groupdelphi

Eastbank Esplanade
Designer: Mayer/Reed

Tampa Riverwalk
Designer: MERJE Design
Fabricator: Urban Sign Company

Banff and Banff National Park, AB
Designer: Entro | G+A
Fabricator: 3 Dimensional Services Inc.

Downtown Baltimore, MD
Designer: Two Twelve
Fabricator: Triangle Signs

Los Angeles, CA
Designer: Hunt Design and Corbin Design
Fabricator: Flouresco

Chapter 8: Design Issues

Yadkin Valley, NC
Designer: MERJE Design

Brandywine Valley, PA
Designer: Mitchell Associates

Chapter 9: System Management

King of Prussia Streetscape
Designer: Banners, Finch Brands; Landscape, LRSLA Studio
Fabricator: AGS

Dallas Design District
Designer: FocusEGD
Fabricator: Artografx

City of Alexandria, VA
Designer: Sasaki Associates

Norcross, GA
Designer: Sky Design
Fabricator: Image Management Group Inc.

Uptown Houston, TX
Designer: Stantec (formerly Commarts)
Fabricator: Graphtec

Vancouver Transit System
Designer: JCDecaux
Fabricator: IBI Group

Chapter 8: Design Issues

Rockville Town Center
Designer: Selbert Perkins
Fabricator: Design Communications

Chapter 9: System Management

Millennium Fountain, Chicago, IL
Designer: Juame Plensa with the Barnycz Group
Fabricator: Kruek and Sexton Architects