American Planning Association
Making Great Communities Happen

January/February 2012

PAS MEMO

Delivering Better Plans

By John Houseal, AICP, and Devin Lavigne, AICP

To be successful, plans need to inspire and create excitement within a community. To do that, they must be more than just a hundred pages of text with a few obligatory maps.

In the past, a plan would sit on bookshelves in the back offices of City Hall. Today, they are highly visible and accessible, posted online for everyone to see and use. As such, they must be inspirational, easy to use, and easy to understand by everyone in the community.

This *PAS Memo* presents an overview of some of the trends and issues that are affecting plan making; provides considerations to draft better text; and reviews tips for producing better graphics to help planners improve the maps, charts, illustrations, plans, and documents they produce.

Not long ago, before the proliferation of the Internet and the rise of NIMBY and citizen activism, plans would be used solely by staff and elected and appointed officials and would rarely be seen outside the walls of City Hall. Concerned and interested citizens were often able to buy a copy of their community's plan, but paying for the document was a major deterrent for casual readers.

Today, our plans are highly accessible; most are posted as PDFs and made available to everyone via the Internet. While most communities still produce hard copies of plan documents for purchase, electronic distribution has made it easy for plans to get into the hands of the community. Although the purpose of the plans we prepare has not changed, the audience has. Communities actively responding to this change have made their documents more user-friendly by minimizing the use of planning jargon; making the text clear and concise; enriching plans with maps, photos, and illustrations; and presenting data in charts and graphs.

This article is broken into two main sections: Considerations for Better Text and Considerations for Better Graphics. Together, these topics will provide tips and techniques for making a plan easily read and easily understood. The first section describes how to tell a compelling story and make recommendations clear and understandable, and reviews the importance of making the information in your plan retrievable by the reader. The second section reviews the basics of graphics, describing the differences between vector and raster formats, and helps build skills for the integration of quality maps, graphics, and photographs into plan documents. The article concludes with a demonstration of the principles in this article though descriptions and links to three recent plans our firm has prepared.

Considerations for Better Text

With planning documents now being read and used by an ever-growing audience, the need is greater than ever to create text that is easy to read, nontechnical, easily referenced, and clear in its key recommendations and findings. Plans should not be considered technical manuals or overly complex and difficult-to-read regulations (that's what zoning is for). Rather, plans must tell a story — a story that is convincing, inspiring, and easily followed.

Our goal is not to teach planners how to write well; that is a task that cannot be accomplished in one article. Rather, the intent of this section is to highlight key components of effective plan writing that will improve the plan's usefulness, ease of consumption, thoroughness of understanding, and ability to inspire, inform, and communicate essential ideas. Different styles of writing work best for their intended formats: newspapers, magazines, novels, blogs. This article serves as a guide to writing better *plans*.

Tell a Story

It is important for a plan to tell a story — what a community has to work with, what it wants to accomplish and why, and what it needs to do to get that done. Sufficient detail must be provided to ensure an understanding of what is being recommended, but not so much detail to dilute the

message or the level of inspiration felt by the reader.

A plan should make a compelling case for what it is advocating. It should be both inspirational and informational. More than just an inventory of existing conditions and list of recommendations, a plan should make its case, create excitement, and show readers the value and rationale for its recommendations. The story must come first. If the story is not clearly understood by the reader, then all of the details, data, and additional text will do nothing to convince the reader of the legitimacy and value of the plan.

Make the Key Recommendations Clear

Readers should not have to search out the key recommendations of a plan. They should be clear, concise, easily understood, and prominently presented within the overall layout and structure of the document. Even within a specific paragraph of text, a recommendation or core principle should be identifiable within the first sentence, rather than buried somewhere within the body of the text. Once a recommendation or core principle is stated, following text should reinforce the rationale and make the case.

Establish a Cadence

In the same way that good graphic design and layout "train" the eye to locate page numbers, headings, or titles, the text of a plan should establish a "cadence" that helps the reader feel comfortable and navigate the document easily. The text of a plan should provide some "sense of rhythm" or "content predictability" that allows readers to focus on the content rather than trying to orient themselves within the document. The length of a paragraph, the frequency and use of subheadings, the sequence and "train of thought" as a plan is laid out — all of these represent components of rhythm or cadence for the text. If this cadence is used appropriately and relatively consistently, a plan is significantly easier to read and its content more easily understood and absorbed. While there is no one single cadence that is appropriate for a document, it should be somewhat constant throughout.

Use Nontechnical Language

To the extent possible, planners should strive to use nontechnical language when writing text for a plan. Now more than ever, plans live and breathe on the Internet. The audience for our plans is rapidly growing as the documents become more widely and easily available. Because we are so close to our subject matter and need to effectively communicate detailed and nuanced concepts and rationales, we can sometimes be too technical in our writing approach. Plans cannot read like a technical manual. If they do, people will either not read them or they will fail to be inspired by them.

Most plans will benefit from a writing style that is not complicated or technical, but simple and straightforward, using common terminology. Focus should be placed on conveying the plan's major concepts and recommendations as clearly as possible. This does not mean an author should eliminate the use of all technical terms or information, but rather should take care to provide common-language explanations and rationales when such terms are used. You may be able to place any required technical information in an appendix or accompanying report, keeping the plan more user friendly and simple to read. If plans are not understood by the people who are intended to read them, then what's the point?

Make Your Plans Easily Referenced

Most people, even most planners, do not read a plan in one sitting, from cover to cover. Readers tend to flip to different sections of a plan depending on what topic they may be interested in at that time. In a sense, a plan functions like a reference book. Because of this, plans must be presented in a manner that is conducive to finding or referencing a particular area of interest. We refer to this as being "referenceable"; others call it being "skimmable" or "retrievable."

The most effective way to make text referenceable is through the use of headings and subheadings. Rather than providing pages of same-sized text, one paragraph after the next, plan writers should use subheadings to highlight key topics within the text and break up the lengthier runs of text. A plan should read more like a magazine article than a novel.

For instance, when writing a section on urban design, call attention to paragraphs focused on specific components, even if the subheading is for just one paragraph. "Street Trees," "Gateways," "Pedestrian Realm," and "Lighting" are all examples of subheadings that will make the plan more referenceable. If referencing only a few sentences within each section, the reader could open to these pages and instantly go to the section of greatest interest, or at least identify the key components, without having to read several pages and identify and extract the important points from among the

dense paragraphs or pages of text. Another benefit of using headings and subheadings is that in PDF format, a properly created table of contents will generate hyperlinked bookmarks to each section, making the digital version of the plan more easily referenceable.

Considerations for Better Graphics

Key to making a plan user-friendly and engaging is its graphics. A document rich with photos, maps, charts, and supporting illustrations is more likely to be read and understood by a broader audience.

This article is not intended to teach planners design. The intent is to provide an overview of some basic graphic-design principles and build awareness of the components and considerations for well-designed documents. The contents of the common planner's software toolbox — Word, Excel, ArcView, SketchUp, and the Adobe Creative Suite (Illustrator, Photoshop, and InDesign) — have universal defaults that are used by almost everyone. Over time they become overused and tired. Only the adventurous delve into the capabilities of these tools, while most are unaware of alternatives or too intimidated to deviate from the defaults to create more attractive documents.

The Basics: Raster and Vector

There are two basic types of computer graphics: raster and vector. To create clear images and graphics in a plan it is important to understand the differences and know when to use which type of graphic.

Raster graphics are images, such as a JPG file. Raster images essentially store color information in pixels. A digital photo has millions of pixels, each with its own defined color. Together the pixels create an image or photograph. Vector graphics, on the other hand, are shapes, lines, curves, and fonts stored as x,y coordinates that are processed by a computer and outputted to the screen. Vector graphics can be scaled to be larger or smaller without losing information or quality. In contrast, raster graphics have a defined size. Making them smaller removes information, and making them larger requires that new information be created from analyzing nearby pixels, which is not recommended. A digital photo is an example of a raster image, while a parcel shapefile in a GIS is an example of a vector graphic.

When preparing a plan, all maps and charts should be vector graphics whenever possible. Often these types of graphics contain detailed information and when "rasterized" (i.e., exported to a JPG) they can become blurry. Photographs are raster images and should be incorporated into plans at photo-quality resolution, which is discussed in the next section. Adobe Photoshop is the most popular tool for working with raster images, and Adobe Illustrator is most popular for working with vector graphics. Both programs are available as part of Adobe's Creative Suite.

Working with Images: Selection and Resolution

We agree with the saying "a picture is worth a thousand words" — or more. To this end, photo selection is critical for planning documents. The photos you use in your plans and documents should be relevant, meaningful, and clear. You may find that you do not have any interesting maps or figures to break up a long text section on community outreach, for example. Stock images or photos found online could improve the appearance of the section, but they could also compromise the document's authenticity, particularly for readers who actually participated in the outreach. Photographs taken at outreach events, however, can provide some visual interest to the plan and shed some insight on the events and atmosphere of the activities.

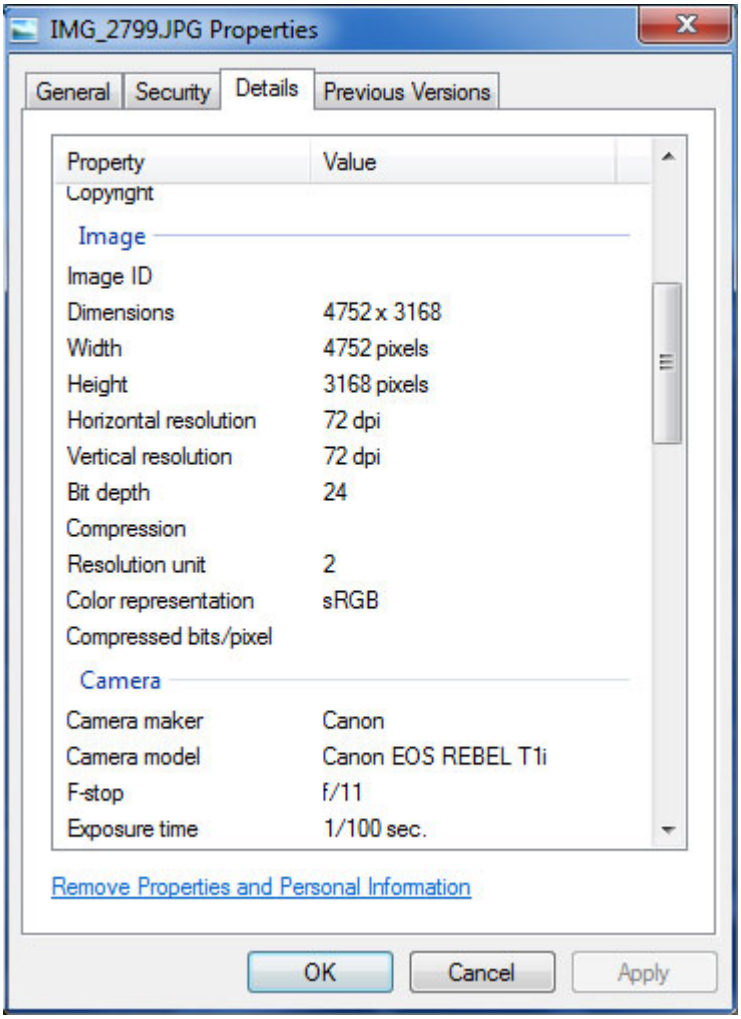
Once an appropriate image is selected for your plan, it is important to place it into your document at the proper resolution. Resolution is a unit of measure that describes the level of information on a display device, such as a monitor, or a printer. With a printer, resolution refers to the amount of dots a printer can place in a specified distance, such as 300 dots per inch (dpi), a common printing-press resolution. With a display device, resolution refers to pixel dimensions or pixel density; the common monitor resolution of 1024 x 768 means the monitor is 1024 pixels high by 768 pixels wide. As a general rule of thumb, today's display devices, such as computer displays or projectors, have a resolution of 72 dpi.

Understanding the significance of the resolution output differences between our screens and printers is critical to producing quality planning documents with clear images. Because our display devices are only 72 dpi, an image might look clear on a screen but be blurred or pixilated when it is printed at 300 dpi. We have often seen blurry and pixilated images in plan documents. How can they be avoided? With a little file information and a calculator.

Step 1: Get the Image Dimensions

Before you insert a photo or raster image into your plan or report you should know the dimensions of

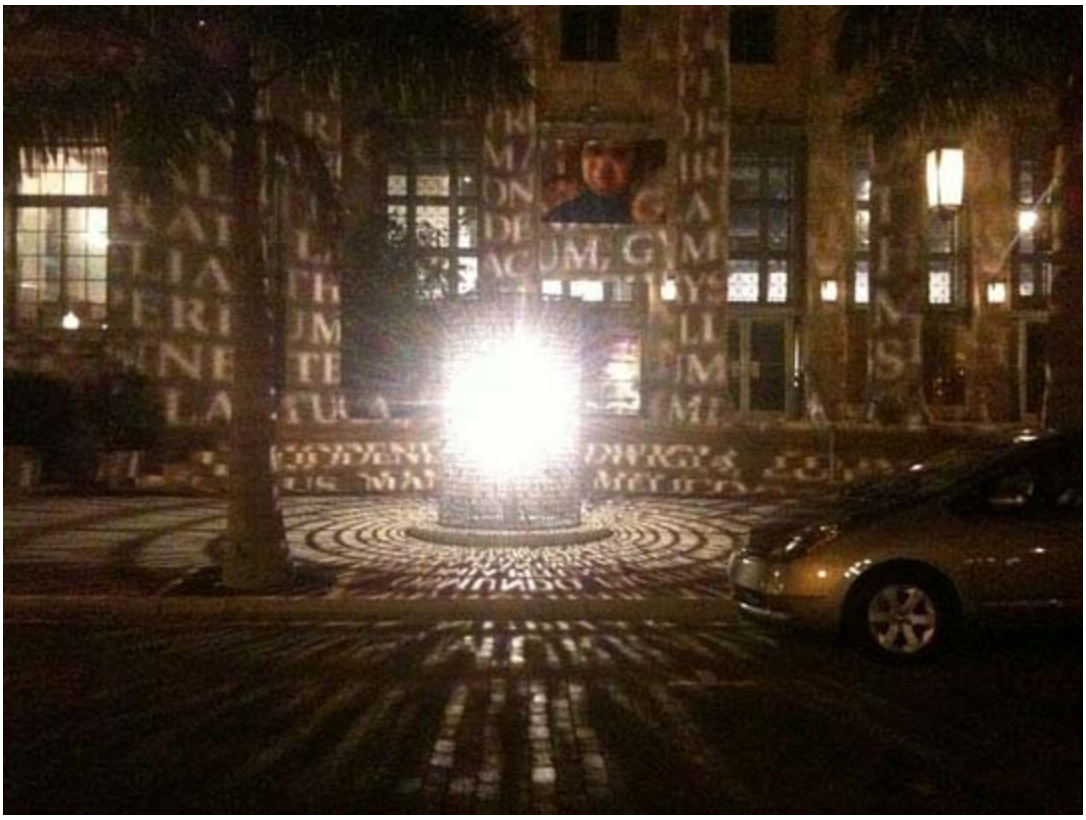
the image in pixels. This can be done in several ways, including looking at the file properties (right-click the file and select "Properties," then the "Details" tab), or simply hovering the cursor over top of the file in Windows 7 until a tooltip appears.



Step 2: Divide by 300
Take the pixel dimensions of the image and divide by 300 (the significance of 300 comes from a printer's output resolution as noted above). The result of this calculation is the maximum size an image can be reproduced in a document without appearing pixilated.

Calculating Image Sizes

Below is an image I captured with an iPhone 3GS while visiting Fort Myers, Florida. Its pixel dimensions from the camera are 2048 x 1536. Dividing these numbers by 300 gives me 6.82" x 5.12", which is the largest the image should be if it is going to be printed. If the image is made any larger it will look blurry or pixilated.



Preparing Maps

As geographic information systems become more robust with information and data, it is easy to add so much information to a map that it becomes cluttered or, even worse, illegible. When preparing maps, limit the information used to the data that are necessary for the figure. To this end, it is sometimes useful to think about maps and the information they contain in three levels: primary, secondary, and tertiary.

Primary Information

The primary information is the purpose of the graphic. On a land-use plan it would be land uses; on a transportation plan it might be the street hierarchy, traffic signals, and planned roads. Your primary layer of information should be the most noticeable in the map, displayed in vibrant colors that will capture the reader's attention first.

Secondary Information

The secondary information provides context and support for the map, and should not overshadow the primary information. This could be municipal boundaries, street names, railroads, rivers, or adjacent interstate highways. The colors of the secondary information should be subdued or muted. It is important to keep in mind that the eye is attracted to black and other dark colors, so avoid using any colors that may take attention away from the primary information.

Tertiary Information

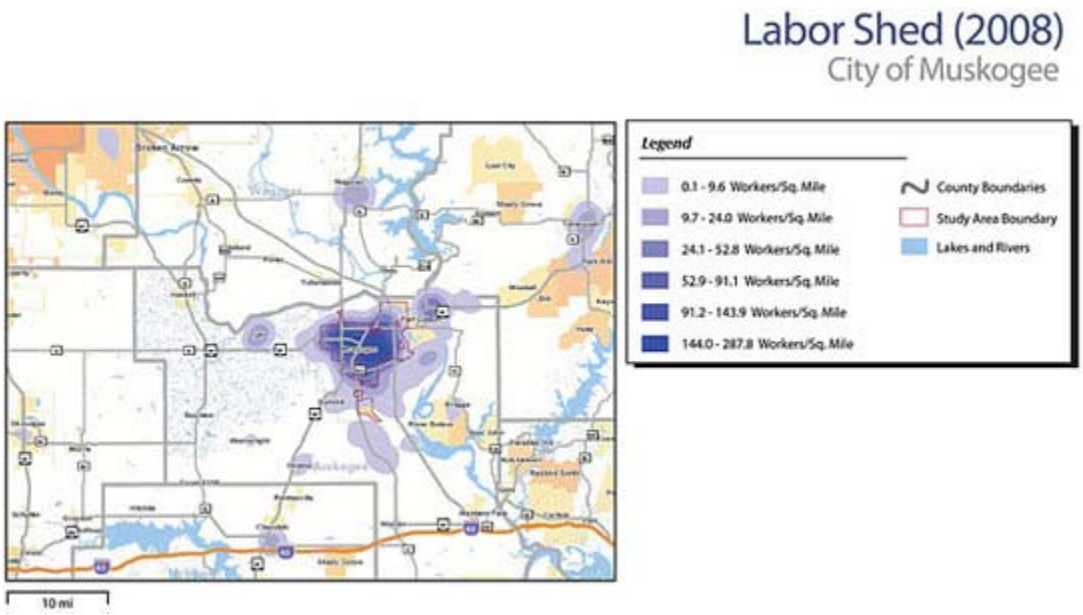
The final layer of information is any other necessary information that is important for the map. It could be a north arrow, scale bar, and map title, or anything else. Regardless of what it is, it should not distract from other information. We recommend that tertiary information be subtle and noticeable only to the reader seeking it out.

Organizing Map Information

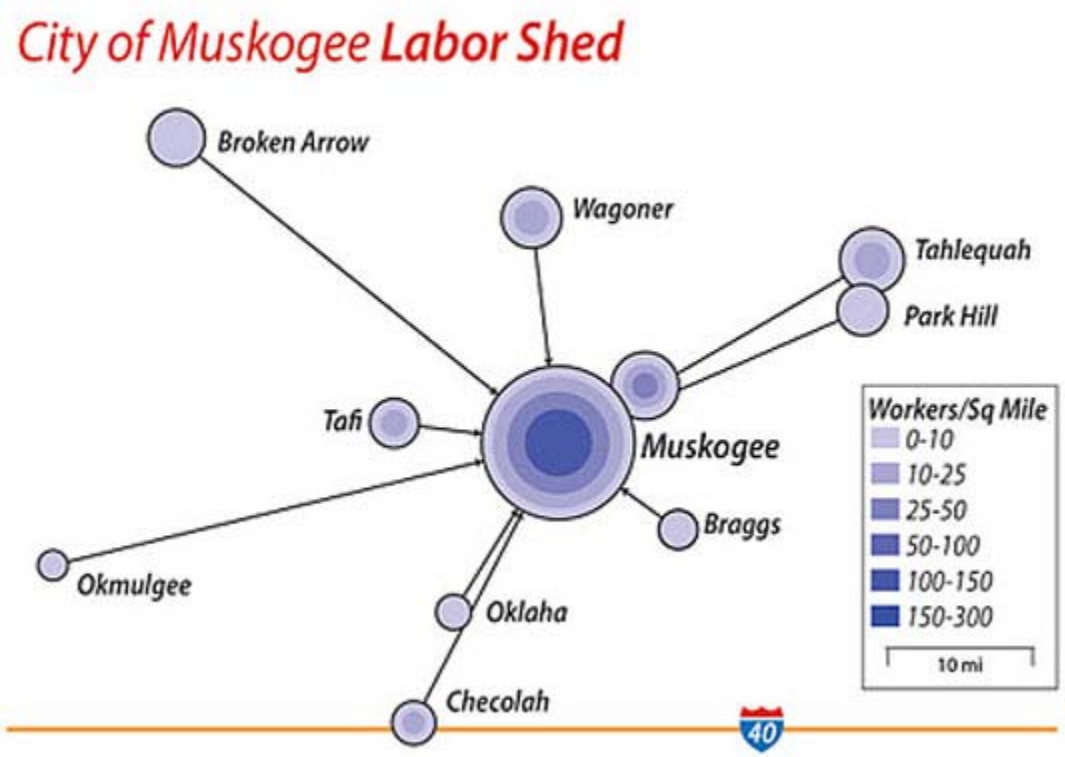
Below is a map showing the labor shed for the City of Muskogee, Oklahoma, in 2008. It was generated by our firm for the Muskogee Comprehensive Plan with the U.S. Census Bureau's

OnTheMap application (**http://lehdmap.did.census.gov/**). The purpose of the figure was to show where laborers in the City of Muskogee live within the larger region.

On this map, the primary level of information is the blue gradient, representing workers per square mile. The secondary information is the surrounding communities, local routes, and bodies of water. The tertiary level of information is the map title, legend box, and scale bar. Unfortunately, the application gave us a low-resolution map, the primary information in blue competes with water features in the secondary level, and the roads add unnecessary clutter. How might we recreate this graphic to make it clearer and easier to read?



Below is a recreation of the same image in vector format. The primary information is the same, with blue gradients around each of the communities that surround Muskogee. You will notice, however, that the irregular shapes have been simplified into circles. Almost all of the secondary information, which cluttered the map and distracted attention from the primary message, has been removed. Only the names of the communities remain, along with Interstate 40, which has been straightened to avoid distracting the reader. Finally, the tertiary information consists of the legend and scale bar. The dark drop shadow below the legend has been eliminated, and the legend itself has been simplified and placed so that it does not attract the reader's primary attention.



Charts & Graphs

As we strive to make our documents more engaging and legible, charts play an important role in conveying data to the reader. A simple and easy-to-read chart can present information quickly and is more visually interesting to the reader than a paragraph of text.

When creating charts and graphs for a document like a plan, you can produce a more professional appearance by avoiding the default colors or themes supplied by your software. While it may be no secret you are using Excel for your charts, a little experimentation will set you apart from everyday users, including the general public and your elected officials or clients. You should also stick to a consistent color scheme for all of the charts and graphs within the plan and choose colors that complement existing elements in your document, such as headings. Also, remember that escaping the default settings also includes changing the fonts. For a more complete and integrated look, choose fonts that already exist within your document or ones that would be complementary.

The key to preparing attractive charts is keeping them simple. Like maps, charts contain different levels of information. When you set out to prepare a chart or graph, do not simply accept what the software spits out. Be critical of its color scheme, use of gridlines, and labeling. If you feel that the primary information is not clearly evident, experiment. A well-designed chart can replace a data table and store multiple layers of information that can satisfy even the most curious readers.

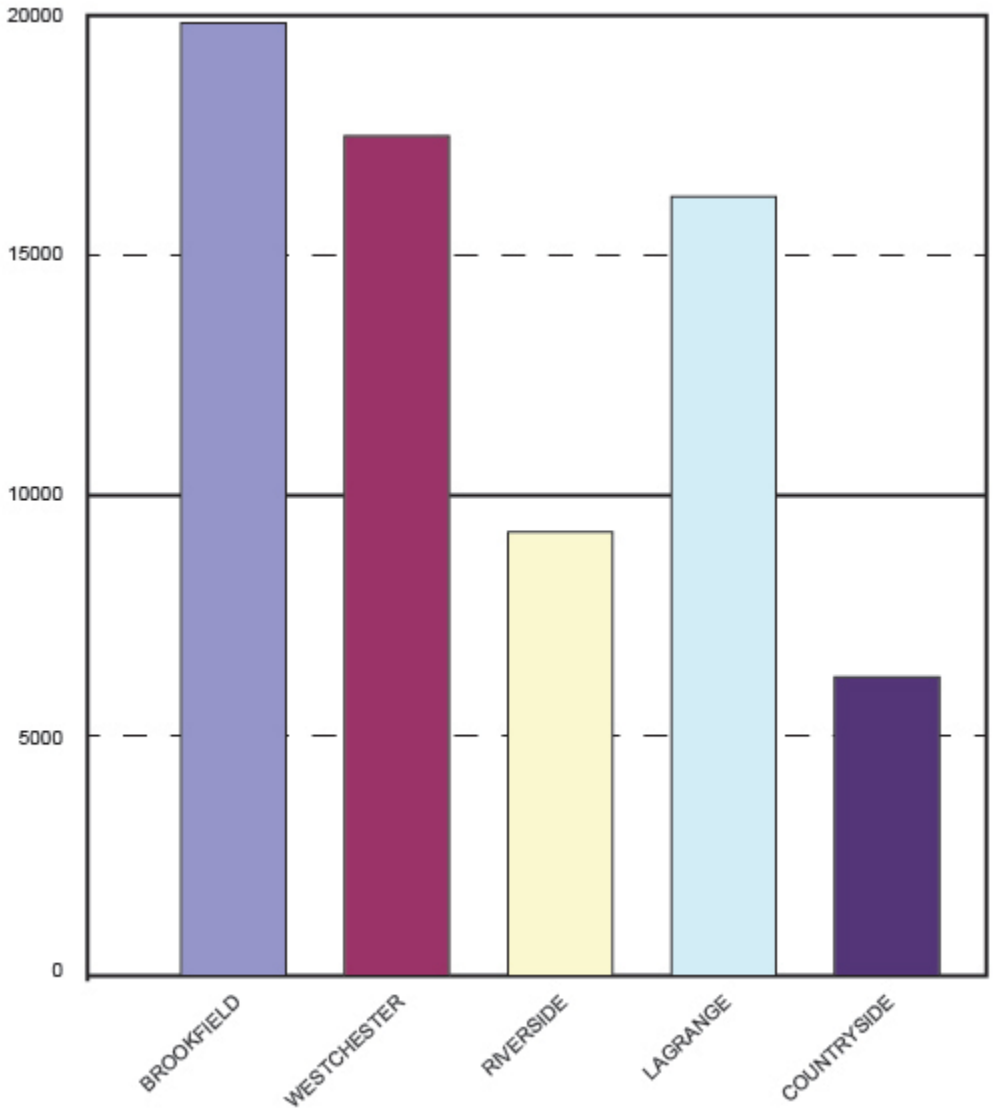
Turning Tables into Charts

We recently prepared a presentation for Chicago–area planners on a similar topic. As part of this presentation we used an older plan, prepared almost 10 years ago, when the price of color printing was substantial enough to deter communities from using excessive color images. Below is a simple table that compares the population of Brookfield, Illinois, with those of its neighboring communities.

Brookfield, Illinois: Demographic Comparisons, 2000	Brookfield	Westchester	Riverside	LaGrange	Countryside
Population					
Total population	19,085	16,824	8,895	15,608	5,991
Median age	38	44.9	40.5	37.8	41.2
Over 18	76.1%	81.4%	76.1%	71.5%	80.1%
65 and older	15.2%	25.4%	15.4%	13.5%	15.7%

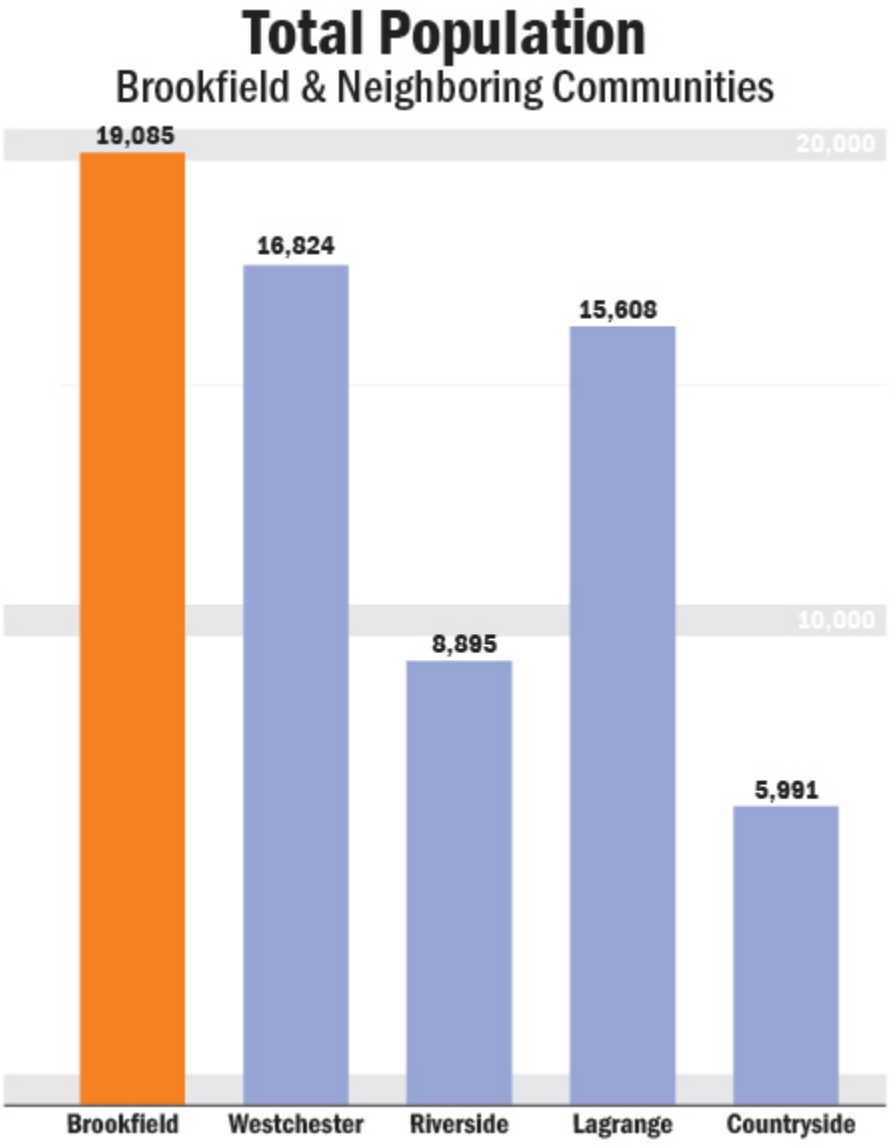
How could this be presented in a more interesting chart format? Let us show you.

Below is the default Microsoft Excel output. The color scheme is tired and overused and the same can be said for the fonts. The chart really does not say much. Let's change that.

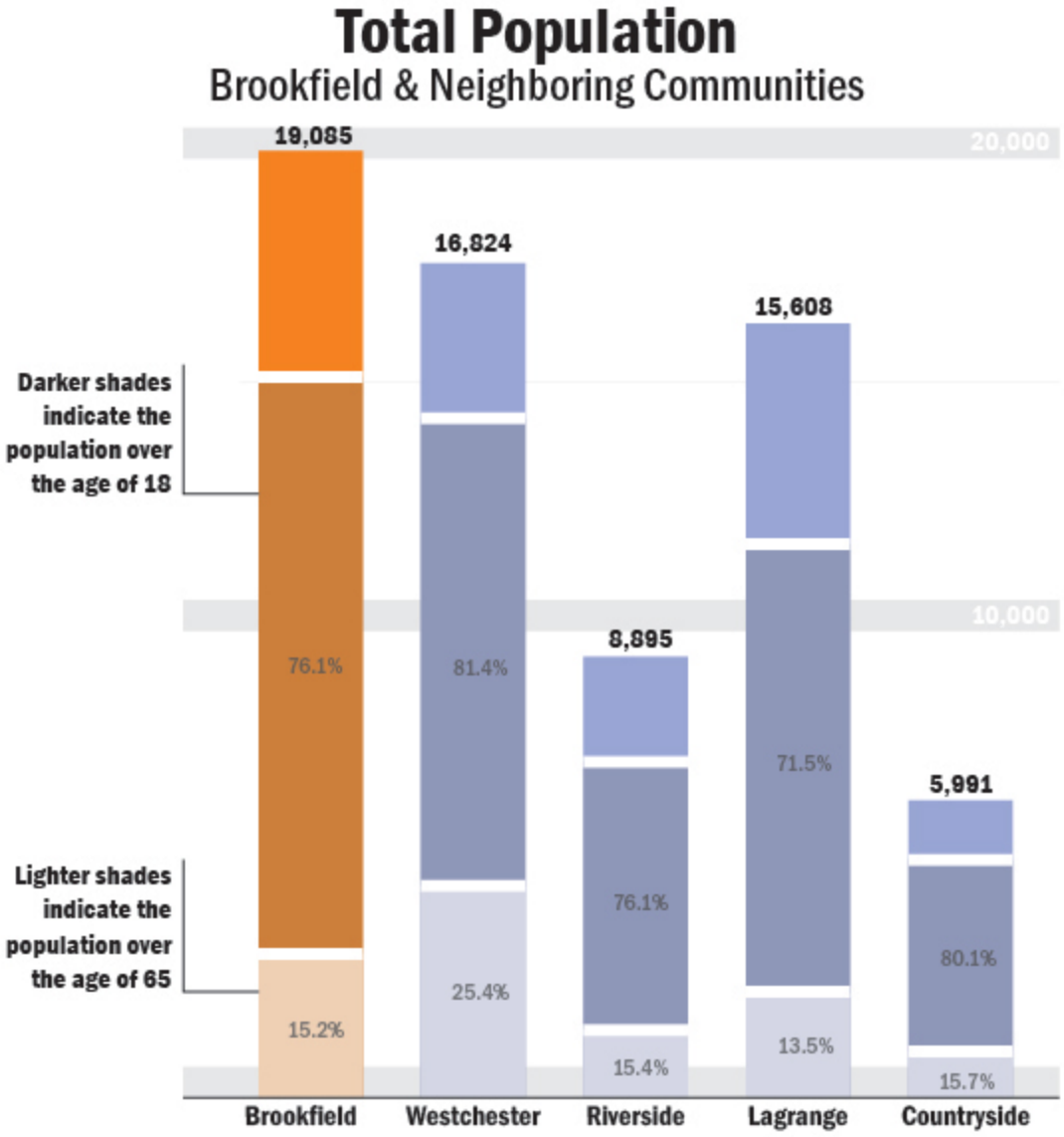


In the first iteration below, the grid lines in the background have been replaced with subtle gray increment bands providing population size references, and population values have been placed atop the bars. The subject community, Brookfield, has been highlighted, and the bars for neighboring communities all have the same color. A title has been added, and the fonts have been changed to

match the text in the document. You probably agree that it does look better, but we are missing the population age distribution information that was provided in the table.



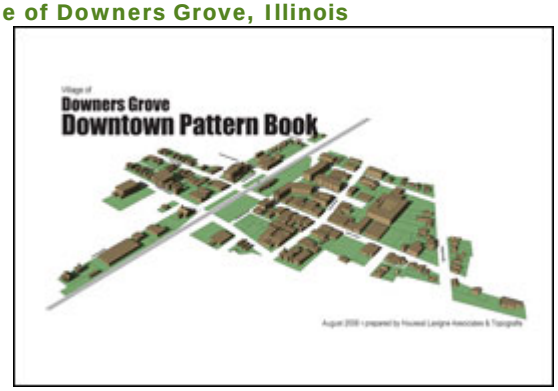
It is now time to layer in secondary information. In the final iteration of the chart presented below, we have labeled the population segments over the ages of 18 and 65, and subtly added population percentages to the chart. Finally, a more detailed description of the populations of these communities has emerged. With a glance at the chart, you can see that while Brookfield is most similar in size to Westchester and La Grange, it is almost proportionately identical to Riverside with regard to age distribution.



Case Studies

Below we have provided three examples that showcase the application of the principles, tools, and techniques described above. Follow the links below to see three recent plans prepared by our firm that we feel are clear, concise, inspiring, and visually compelling.

Downers Grove Downtown Pattern Book, Village of Downers Grove, Illinois



The key components of a successful downtown, as they relate to its physical form and sense of place and character, are clearly identified in the Village of Downers Grove's illustrative and succinct Downtown Pattern Book. By drawing from the Pattern Book and embracing these key components as primary objectives of downtown development and improvement, the village has been able to update its policies and will be better able to create and implement guidelines, regulations, and plans that reflect the best of what a downtown can and should be. The Pattern Book educates the reader on how a mix of appropriate land uses is essential

for a successful downtown, how a compact street grid promotes walkability, how the width of a right-of-way impacts pedestrian comfort, and several other important urban design considerations for downtowns.

The plan is available online at **www.hlplanning.com/pas/PDFs/HLA-PAS-Patternbook.pdf**.

Mundelein Comprehensive Plan, Village of Mundelein, Illinois

The maps contained within the Mundelein Comprehensive Plan were first created in ESRI's ArcGIS, which provided the ability to conduct density and population takeoffs and traffic modeling to inform the land-use plan and transportation plan. To gain better control over the maps, line weights, colors, and symbology, the maps were exported and refined in Adobe Illustrator, and in some instances "obliqued" to change the perspective of the view of the community, adding interest to the plan and room for notes and callouts. For each subarea, full 3D models were created in SketchUp. This ensured that redevelopment concepts were appropriately scaled and accommodated on the parcels. SketchUp also facilitated the ability to provide a "sketchy" style which helped to better convey a vision as opposed to a more definitive development scenario. The plan was adopted in July 2011 by the village, which has just begun to implement the plan's many recommendations detailed and prioritized in its final chapter.

The plan is available online at **www.hlplanning.com/pas/PDFs/HLA-PAS-Mundelein.pdf** .

River Forest Corridors Master Plan, Village of River Forest, Illinois

The River Forest Corridors Master Plan is notable not only because of its message but because of the effective means by which that message is delivered. This plan demonstrates effective organization and presentation of a wide range of complex and interrelated issues. It is an easy-to-read document that village staff use on a frequent basis. Development strategies are outlined independently from specific corridor recommendations to provide staff with tools that can be easily applied to various contexts. Corridor beautification techniques and enhancements are presented in a similar manner. Finally, detailed recommendations are presented for each corridor, demonstrating how the tools outlined elsewhere in the plan can be effectively applied and combined to maximize the potential of the village's key commercial areas. The plan's straightforward organization and graphic presentation of potentially complex development strategies have been central to the successful implementation of the plan, including new several redevelopments that have occurred since the plan's adoption.

The plan is available online at **www.hlplanning.com/pas/PDFs/HLA-PAS-RiverForest.pdf**.

Tools and Resources

What do we consider to be the best tools for today's planning toolbox? Identified below is all the software you need to author attractive and easy-to-use plan documents.

Microsoft Office
Cost: $250 Home & Business ($500 Professional)
The Home & Business version of Microsoft Office bundles Excel, Word, and Powerpoint (Outlook is also included for e-mail and calendar). The Professional version includes Publisher and Access. Access is a desktop database program that can work nicely with ArcGIS Geodatabases, provided you know how to use the software. We would not recommend Publisher for ... anything, really, and certainly not planning documents. Bottom line, this software is a necessity but if you do not know how to use Microsoft Access, stick with the Home & Business version.
www.microsoft.com/office

SketchUp
Cost: Free ($495 Pro Version)
SketchUp is an easy to use 3D illustration program provided free of charge by its creator, Google. A SketchUp Pro version is available for $495 but is recommended only if you require more integration with other software such as AutoCAD, enhanced reporting, and construction document capabilities. The functionality of SketchUp can be improved by plug-ins, some of which are free with others available at a small cost.
http://sketchup.google.com

Google Earth
Cost: Free ($399 Pro Version)
Google Earth is a free "virtual globe" program that allows users to view and export current and historic satellite imagery and much more. The Pro version is recommended if you plan on integrating aerial images into plan documents, as the free version is limited in its output resolution and its photos will be blurry if they are any larger than 4 inches by 4 inches.
http://earth.google.com

Adobe Creative Suite Design Standard
Cost: $1,299
The Adobe Creative Suite Design Standard bundles all of the software you need to create high-quality plans. It includes Photoshop to work with raster graphics and photos; Illustrator to work with vector graphics, charts and maps; InDesign for document layout; and Acrobat for document distribution.
www.adobe.com/products/creativesuite

Conclusion

The difference between a run-of-the-mill plan and an inspiring and effective plan is not the size of the budget, high-end software, or sheer staff hours dedicated to producing the plan. The difference is placing an emphasis on forethought regarding the target audience and how the plan will and should be used on a day-to-day basis. Keep the following points in mind when crafting your own plans and your message and that of your constituents or clients will be heard loud and clear.

- **Tell a Story** — Remember that a plan should compel readers to support the cause at hand; inspire action through relatable, nontechnical prose.
- **Make Recommendations Stand Out** — Document and paragraph organization should make it easy to spot key recommendations.
- **Establish a Cadence** — Provide a sense of rhythm throughout the document, using a repeating pattern of paragraph structure, subheading use, and sequencing of ideas.
- **Avoid Jargon** — Don't dumb down the plan, just avoid technical jargon in favor of more common vocabulary and an approachable writing style.
- **Think of the Plan as a Reference Book** — Use subheadings and paragraph and column breaks that make the plan easily referenced and searchable and provide visual cues that quickly orient the reader.
- **Use Vector for Graphics when possible** — Vector graphics provide a cleaner, scalable graphic. While raster graphics have their place, their larger file size and inability to scale up or down limit their utility in planning documents.
- **Avoid Blurry Images** — Remember that plans intended for print should have photographs and images with a resolution of at least 300 dpi. When preparing a plan for onscreen use, images can be reduced to 72 dpi, which will make the document smaller and more manageable for a larger audience but could look blurry when printed.
- **Clean Up your Maps** — Prioritize data based on the purpose of the graphic and vary font size, stroke weight, color, and location based on the importance of each map component.
- **Simplify Charts and Graphs** — Minimize the visual clutter of your images and make sure that the primary message is clear, obvious, useful, and interesting.

About the Authors

John Houseal, AICP, is a principal and cofounder of **Houseal Lavigne Associates** *and has directed a*

wide range of community planning, urban design, and zoning-related projects throughout the United States. Houseal has special expertise in the areas of community outreach, facilitation, and public presentation and has been a featured conference speaker on topics such as innovation in planning, environmental issues and sustainability, context-sensitive design, transit-oriented development, and strategic zoning.

Devin Lavigne, AICP, is a principal and cofounder of Houseal Lavigne Associates with special expertise in urban design, land use and site planning, illustration and development visualization, web development, and geographic information systems. Lavigne's contributions to his firm's graphics and plans have helped Houseal Lavigne garner national recognition.

©Copyright 2010 American Planning Association All Rights Reserved