

## A RAILROAD ATLAS OF THE UNITED STATES IN 1946 – VOLUME 3: INDIANA, LOWER MICHIGAN, AND OHIO

by Richard C. Carpenter.

Creating the American Landscape Series. Baltimore, MD: The Johns Hopkins University Press, 2008. xxii, 329 pp, maps, appendix, indexes. Price \$65.00 (available new online for \$40.95). Hardcover. ISBN 0-8018-9002-0.

**Review by:** Russell S. Kirby, University of South Florida

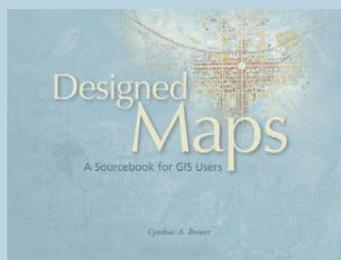
Richard Carpenter has set for himself a seemingly monumental task – to document, using large scale maps, all of the railroad lines in operation in the continental United States in the year 1946. This certainly compares in complexity and detail with the late Frederic G. Cassady's *Dictionary of American Regional English* project, which also contains thousands of maps and will soon culminate in a final volume. Unfortunately, Carpenter's project also shares many of the less fortunate features of that undertaking. Cassady began his project in the mid-1960s, with the first volume eventually appearing in 1985 and the final volume's publication projected for 2010, well over 40 years after the project was initiated. Carpenter has now published the third volume in his undertaking, with volume 1 (the Mid-Atlantic States) appearing in 2003, volume 2 (New York and New England) in 2005, and volume 3 (the eastern half of the Old Northwest) in 2008. While this reviewer cannot divine Carpenter's grand plan, it would seem unlikely that this project can be completed in fewer than 8 or 10 additional volumes, which, given his pace, may require another 20 years of effort to bring to fruition.

*The Railroad Atlas* is definitely a labor of love. The basic mapping unit throughout is the 30-by-30 minute quadrangle, based on the USGS 1:250,000 map coverage of the continental US. With additional detail maps (for example, within the city of Chicago) and reference maps to orient the reader to selected quadrangles, this volume has approximately 250 maps, all apparently drawn in color by hand using the same scheme of map elements and features.

The details of Carpenter's approach are well explicated in Gordon Kennedy's review (*CP*, Number 55, pp. 67-69); for the most part both the superlatives and criticisms made in regard to *Volume 2* still stand. The bigger question for this reviewer is why a multi-volume hard-copy railroad atlas of the U.S. in 1946? Other mechanisms would provide considerably greater

flexibility and utility to readers, be they railroad enthusiasts, business historians, historical geographers, or others with interests in the subject. Two examples come readily to mind. The atlas could be published as a web-enabled application, allowing the reader to select the region of interest, and print the relevant maps, perhaps at the scale Carpenter has selected but perhaps at other scales as well. Or, the atlas could be a GIS-enabled tool, one that would allow the reader to customize the subject of interest, perhaps highlighting a particular railroad company in relation to its competitors in a catchment area. While it is true that 1946 approximates the apex of the American railroad network, a GIS-enabled tool might define, for each segment of railroad line, and each railroad feature, when it was constructed or modified, during what time period it was owned by each company, when it was decommissioned, and the current status of the right-of-way. The researcher or enthusiast could bring additional data into the application, to map traffic volumes, passenger service frequencies, unit trains, and other measures of the economic activity generated by each line. While it is theoretically possible for a reader to use the *Railroad Atlas* to support some of these activities, the print format and static approach severely limits its broader utility.

None of the foregoing should detract in any way from Carpenter's achievement. Volume 3, like the first two volumes, is informative, attractively produced, and contains a wealth of detail to interest those of us who are railroad scholars or rail enthusiasts. In an era when America is once again considering the potential of high-speed trains for inter-urban routes, the *Railroad Atlas* reminds us that the paradise we find may indeed be one we only recently lost.



## DESIGNED MAPS: A SOURCEBOOK FOR GIS USERS

by Cynthia A. Brewer

2008 ESRI Press, Redlands, CA. 167 pages  
Price \$40. Paperback.  
ISBN: 9781589481602

**Review by:** Ian Muehlenhaus, University of Wisconsin – River Falls

A book such as Cynthia Brewer's *Designed Maps* is long overdue. Aside from several annual bound collections, there have been relatively few widely distributed anthologies of superbly crafted maps to inspire cartographers. Though I was skeptical that a single, relatively slim anthology could do the topic justice—that

is, highlight the idiosyncrasies and innumerable design traits of well designed maps—I was happily surprised to see that *Designed Maps* offers a gallant first effort. It more than lives up to its unpretentious goal: “to invite you to see design elements [of well-made maps] and to prompt you to combine and customize them for your own mapping” (xi).

Most cartography and GIS instructors have had to collect a variety of “good maps” on their own to illustrate different design styles to their students. Building a personal collection of good maps is largely a time-consuming, ad hoc, and often redundant task. It can be difficult to find a variety of well designed maps created for different audiences. Moreover, it is often dubious as to whether students trust an instructor who carries in an armload of loose-leaf maps and says that they are all “pretty good.” *Designed Maps* offers practicing cartographers and instructors alike the opportunity to carry around a variety of good map designs in one bound copy.

The book organization is smart. The maps are divided into three types, each with two sub-categories. This nuanced division of maps proves much more useful than the typical binary division of maps into either reference or thematic types. The first two chapters deal with *reference maps*—with the sub-categories being *topographic* and *navigation*. Chapters Three and Four deal with different types of special purpose maps—*visitor* and *recreation* and *infrastructure*. The final two chapters dwell on *thematic cartography: categorical and quantitative*. (It should be noted that this book is concerned solely with static maps; there is no section on dynamic cartography.) By dividing the topics into sub-categories, a reader can more easily find maps that pertain to their current interest, rather than have to page through half a book on thematic maps, dog earring pertinent ones.

The design of the book is in itself highly laudable. The page layout promotes the maps over everything else in the book’s visual hierarchy. The descriptive text accompanying each map is literally marginalized (to the right or left of the map it describes). Brewer avoids the bane of many map appreciation books by systematically keeping her explanations concise and to the point. Each map has a one-to-two paragraph explanation of the design decisions made by the cartographer. For a book emphasizing the visual, *Designed Maps* is remarkably readable!

The maps found in the book offer a great variety of design techniques and visual elements. As might be expected, many of the maps used were created using ESRI software. Hopefully, this has more to do with ESRI’s dominance in the realm of GIS applications than with the fact that the book was published by ESRI Press. Brewer does note in the beginning that not all

of the maps were made with ArcGIS, but she fails to mention which other programs were used. (To be fair, it should be noted that many of the maps were created using Macromedia (now Adobe) FreeHand, Adobe Illustrator, Avenza Mapublisher, and other graphics and GIS programs.) The sample maps are all well produced, beyond a doubt. However, some of them seem better organized (data-crunched and visualized) than designed (aesthetically pleasing and cognitively usable).

For example, one map from the *Pacific Disaster Center* shows all Pacific tropical cyclone tracks between 1945 and 2006. Due to the hundreds, if not thousands, of tracks, most areas of the map are visually impenetrable, and look more like a piece at the MOMA than a map. Brewer notes that following individual tracks is impossible, but argues that map shows the general patterns of where cyclones most frequently occur. The problem I find with the map is that you cannot see the base map underneath the blob of cyclones. Thus, you have no idea where the cyclones are hitting. All the map tells us is that Indonesia and Malaysia rarely get hit by cyclones; everywhere else in the Indian and Pacific Oceans is swamped with them. There is no doubt that GIS can be useful for *exploring* and understanding natural hazard risks in all sorts of circumstances. However, this and several other maps, in my opinion, fall well short of *presenting* the data effectively—generally the chief purpose of static cartographic design.

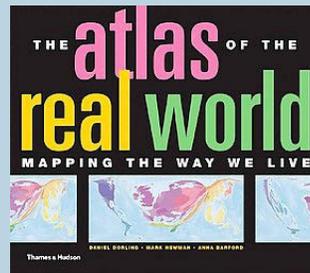
A second critique might be that many of the maps come from NACIS members. Now to be fair, this makes sense for several reasons: first, the idea for this book was purportedly sprouted at a NACIS meeting; and second, one would reckon that there are many gifted cartographers who belong to NACIS. Nonetheless, parts of the book may be a bit of a yawn for those who already interact with these cartographers and have collected a variety of their maps over time. On the other hand, it is always great to see members of our community heralded in a book such as this.

Lest the above comments dissuade you from reading this book, I can assure you that a vast majority of the maps included are incredible design specimens. Moreover, rather than merely function as an art book for cartographers, *Designed Maps* offers some practical cartography tips as well. At the beginning of each chapter, Brewer takes a map and redesigns it in a variety of ways to show different techniques for emphasizing different data in the visual hierarchy. These case study sections are truly useful—for novices and practiced cartographers alike. In fact, I believe the book would benefit by having more of them. Alas, Brewer notes that many of the cartographers whose works were showcased were rightfully loath to cough up their data files for her to redesign.

The beginning section of each chapter is also linked to an appendix called *ArcMap Tips*. For each of the maps redesigned by Brewer, references are made to specific tips that will explain how one can implement the same design using ArcGIS software. For users of ESRI products, particularly those that have been more involved in spatial analysis than data presentation, this section may prove invaluable. Even as an experienced user of ArcGIS, I learned a new trick or two from the *ArcMap Tips* section.

All in all, I was pleasantly surprised by this book. From the rather unassuming title, I had feared that *Designed Maps* may be a glorified coffee table piece. *I could not have been more wrong*. It is easily readable and full of inspiring maps and yet still very much of practical use. To some extent, the book may suffer from being too encompassing. A separate book for each of the three main map types Brewer lays out at the beginning would have done the topic more justice. However, this was pioneering work and Brewer needs to be commended for what she achieves—collecting a compendium of well-designed maps, securing permission to reproduce and bind them together, and analyzing how each map was created. In this light, it was likely prudent of Brewer to cover a variety of maps appealing to cartographers as a whole.

Cartophiles aside, determining the appropriate audience for this book presents a bit of a conundrum. *Is this book worth having GIS students buy it for a class?* Probably not. Novices are likely better off with a true cartographic design book. *Is Designed Maps* worth owning as a GIS instructor? Absolutely. It is full of design ideas that can be shared with students. In fact, I have already shown several maps to students to help them explore new design ideas. *Is Designed Maps* worth owning as a practicing cartographer? It depends. If you do not have a large collection of maps to inspire your creativity and if you use ArcGIS regularly, then it is indubitably a wise investment. If you have a large collection of well-designed maps to look at already, you are probably safe to skip this. Regardless, I believe it can only benefit our discipline if similarly themed books of this caliber and quality come out in the future.



**THE ATLAS OF  
THE REAL WORLD.  
MAPPING THE WAY  
WE LIVE**

by Daniel Dorling, Mark  
Newman, and Anna Barford

New York: Thames & Hudson,  
2008. 400 pages, 366 maps,  
figures, graphs.  
Price US\$ 50.00, hardcover  
ISBN-10: 0500514259  
ISBN-13: 978-0500514252

**Review by:** Jörn Seemann Department of Geography & Anthropology, Louisiana State University

A few weeks before Christmas, *The Atlas of the Real World* was in the top three of Amazon book sales in the following categories: Maps, Atlas, and Human Geography. Only Jared Diamond's controversial *Guns, Germs and Steel* and Alan Weisman's *The World Without Us* received more online orders. On December 16, 2008, the bulky 5.2 pound book was even temporarily out of stock. What is the secret of this success, taking into account that books on geography are rarely blockbusters or bestsellers?

*The Atlas of the Real World* is a "joint venture" between the British geographers Danny Dorling and Anna Barford and the American physicist and specialist in complex systems Mark Newman. It contains "366 maps showing all sorts of geographical and social statistics, ranging from basic data on population, health, wealth and occupation to how many toys we import and who's eating their vegetables" (8). The maps, however, are not conventional thematic world maps, but area cartograms inspired by such previous attempts to produce value-area maps as Erwin Raisz's diagrammatic maps, Waldo Tobler's pioneering computer-aided cartograms, and the *State of the World Atlas* (Kidron and Segal 1981). In each map, the areas of the countries are resized according to the statistical value attributed to them. For example, a world map showing absolute numbers for each territory's population exaggerates the size of countries such as China and India that together make up for more than one third of all the human beings on our planet.

Dorling, Barford, and Newman divide their atlas into six different "Worlds" or sections that are dedicated to broader thematic categories. In the "Resourceful World," we can find cartograms on population, travel, transport, natural resources, and energy. The "Trading World" entails issues of globalization and internationalism, food and consumables, and the flows of natural resources and petrochemical products. Closely related to this are the cartograms that (re)present aspects of the "Economic World." These maps do not only touch on export/import statistics of manufactured goods and services, but also display indicators of wealth and poverty (including the (in)famous human development index), employment, and productivity. The "Social World" discusses housing,