Transit Talent

The Psychology of Wayfinding

How Effective Information Design Helps Customers Use Transit Systems More Efficiently.

The next time you're in a new city or even within your own city, look around at all of the public information signs. You'll see them for bicyclists, motorists and pedestrians. They identify bicycle paths, entrances and exits and points of interest. These informational signs are wayfinding tools that are meant to help us make decisions with minimal confusion about how we get around a city. Unfortunately, some of these signs can be poorly designed leading to frustration and indecision. Effective wayfinding design should not be a guessing game.

What is this symbol trying to tell you?

The Science of Wayfinding is Much More than Simply Creating Signage

Wayfinding is a process of defining path and place in public spaces in order to make and execute appropriate decisions. In practical terms, it means creating a system of information that supports a user's ability to navigate his or her environment by viewing and quickly understanding signs, maps, and landmarks. A well-developed wayfinding program, especially within the world of public transportation, creates a sense of place that supports a person's intuitive understanding of the space around them. This makes it easier to move from point A to point B with confidence and can help your customers more effectively use your transit system.

CHK America, Inc. understands the importance of designing easily understood customer information. As a leading developer of wayfinding information for public transit, this company has created comprehensive customer information programs for some of the largest transit agencies in the U.S. including WMATA, Los Angeles MTA and Chicago's CTA, Pace and Metra.

You've Got 8 Seconds

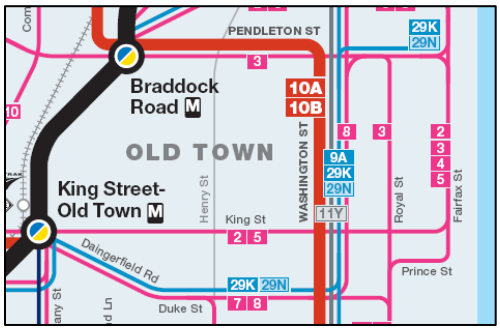
In 2009, CHK America commissioned a two-year study to research and identify the psychology behind wayfinding strategies among public transportation customers. The result outlines how users attempt to navigate complex public transportation systems and how they interpret information. "What we learned is that we've got 8 seconds to provide useful answers to a customer's questions before they become frustrated and walk away," states Rick Wood, President and CEO of CHK America, Inc. With so many distractions at a bus stop, a person's "cognitive load," or the amount of working

memory available for mental activity, such as looking at a bus schedule, is greatly diminished. Cognitive overload is a huge barrier to people trying, and sticking with, public transit as a transportation choice. (*See our previous article, You've Got 8 Seconds to Guide Customers to Their Destinations* to learn more.)

Avoiding Brain Freeze

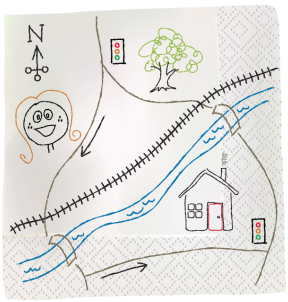
As wayfinding design pertains to transit specifically, often the abundance of information included on at-stop panels creates a congested design that quickly loses the user. For example, the inclusion of topography and unnecessary roads on a system map that are meant to be helpful, more often than not, creates "brain freeze."

Which map is easier to read?



In February 2011, Newsweek Magazine published, "I Can't Think!" written by Sharon Begley. In the article, Begley explains that as we are presented with more and more information, our brain freezes up and our ability to make decisions becomes more difficult. In many cases, we become paralyzed from making any decisions at all and simply abandon the process all together. For transit, brain freeze equates to lost ridership.

The simple fact is – our brain's working memory is limited. This is the main reason why providing more information actually yields poorer decisions. According to Begley, our brain can only, "hold roughly seven items (which is why seven-digit phone numbers were a great idea)." Think about how we give directions to our friends and family – *or used to before Google Maps.* Do we draw complex geographic maps, complete with every street and cross street between our origin and destination? No. We grab the closest napkin and draw only those landmarks that help our friend to quickly meet us at our favorite local restaurant. We might sketch a river or railroad tracks to create a sense of place. We then add recognizable landmarks, like that hundred-year-old oak tree in town, and draw in only the most relevant streets.

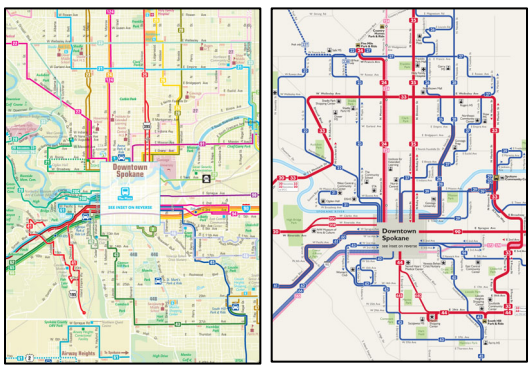


How are we able to so effectively draw a map from our memory? Our brain makes it pretty simple, according to graphic designer

Aris Venetikidis. In his recent TED Talk, "Making Sense of Maps," Venetikidis asked the question, "How do we know where we are going?" He says that we begin by knowing our starting point. We then intuitively build a virtual map in our brains of where we would like to go. Our brain simplifies this virtual or "cognitive map" into straight lines and 90 degree turns. We don't visualize every curve in the road. That's extraneous information that our brain simply doesn't need to solve the problem. Next, we "see" things to which we attach meaning and emotion. These landmarks, like, "the church my sister was married in," become symbols along our cognitive map. And what we end up drawing on that napkin is not a scaled, geographically relevant map, but rather a diagram with lines and symbols that effectively communicates the, "language of our brains," says Venetikidis.

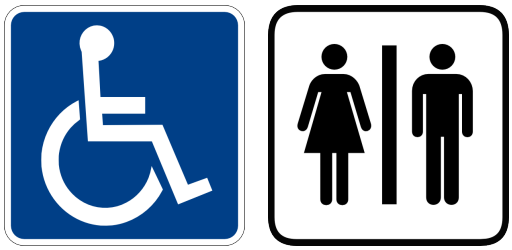
Minimizing Cognitive Load

As we consider how the human brain works, we learn a lot about effective information design and wayfinding for public transit. Simply straightening streets and converting angles to 90 degree turns can extraordinarily help a customer's ability to interpret and use a public transit system.



Removing extraneous streets and straightening lines helps reduce cognitive load in our brain.

We also know that consistency is key and graphics are King. Information that is consistently communicated with graphics and symbols, when possible, is more effective at crossing language barriers as well as being quickly interpreted by the brain. Think about the international symbols for men and women's bathrooms, no smoking areas and handicap parking.



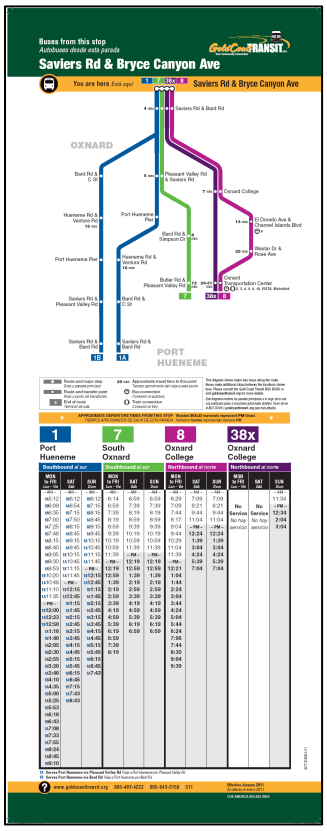
There is little to no ambiguity as to what these wayfinding signs are communicating. Using visualization, take a moment to "see" the symbol for a hospital. Did you visualize a white capital 'H' set against a blue background? It is critical that public transportation information design pay heed to our brain's limitations and abilities.

CHK America, Inc. designs wayfinding information that doesn't create brain freeze for its users. "Our job is to minimize cognitive load in public transit information," comments Wood. "One of our basic design principles is that we assume all users are new to the system." This, he claims, keeps the designs simple and effective.

Employing a "you are here" strategy is one tool that CHK uses to quickly help transit customer's orient themselves at a bus stop. By further breaking down the information, such as displaying the amount of time it will

take to arrive at subsequent stops, CHK helps customers to become immediately successful at interpreting the information, which translates to a higher level of comfort using public transit.

Navigating public transportation, especially if you are new to a city, is like solving a logic reasoning test. Keeping the information design logical, minimal and consistent with information best practice design standards ultimately simplifies the interpretation process and makes it cognitively less demanding for the user. By decreasing the amount of information we *think* we need to provide we are *actually* increasing our customers decision making abilities, which ultimately leads to increased use of public transportation. ■



At-stop "You Are Here" strategy employed by Gold Coast Transit in Oxnard, California

Established in 1999, CHK America is the premier provider of customer information solutions for the U.S. public transportation industry and works with many of the nation's largest multimodal agencies, including Washington, D.C.'s WMATA, Chicago's RTA, CTA, Pace and Metra, and Los Angeles' Metro. To contact Rick Wood, you can e-mail rwood@mapsusa.com or call 805-682-8900, ext. 10