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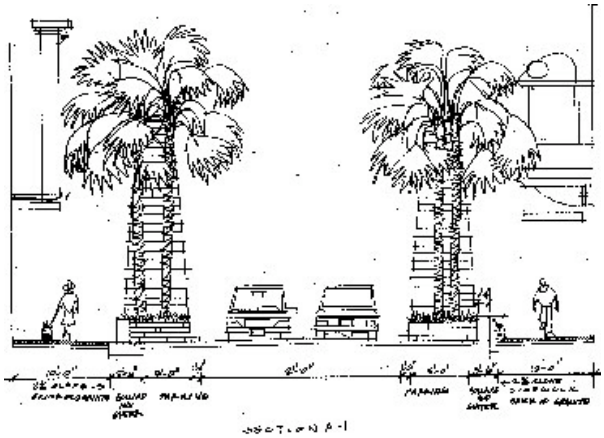
Where The Sidewalk Ends

Behavioral psychology's unexpected lesson for urban design

by **LINDA BAKER** • Posted December 6, 2006 11:05 PM

At an intersection in Portland's Chinatown, the asphalt street suddenly gives way to an urban oasis. A pair of massive, granite planters with palm trees flank the entrance to the street, which opens onto a one-block space paved with concrete squares. There are no white lane dividers or sidewalks. Instead, rough-hewn granite columns distinguish places for pedestrians and places for cars.



A planning blueprint for Davis Festival Street in Portland. *Credit: Lloyd D. Lindley*

"The idea of this street is that it's designed like a public square but it's open to traffic," said Ellen Vanderslice, a project manager for the Portland Department of Transportation. "We were very consciously trying to create a body language of the street that tells people something different is going on here."

The approach appears to be working, she said. "Pedestrians tend to just mosey across the street every which way," Vanderslice said. "And drivers slow down and pay attention."

Portland's so-called "festival street," which opened two months ago, is one of a small but growing number of projects in the United States that seek to reclaim streets used by cars as public places for people, too. The strategy is to blur the boundary between pedestrians and automobiles by removing sidewalks and traffic devices, and to create a seamless multi-purpose urban space.

Combining traffic engineering, urban planning and behavioral psychology, the projects are inspired by a provocative new European street design trend known as "psychological traffic calming," or "shared space." Upending conventional wisdom, advocates of this approach argue that removing road signs, sidewalks, and traffic lights actually slows cars and is safer for pedestrians. Without any clear right-of-way, so the logic goes, motorists are forced to slow down to safer speeds, make eye contact with pedestrians, cyclists and other drivers, and decide among themselves when it is safe to proceed.

"The whole notion behind psychological traffic calming is to give drivers responsibility for the speed they choose," said Andrew Parkes, a research scientist at the U.K.-based Transport Research Laboratory (TRL). Last year, TRL published the results of a four-year study on the new traffic safety approach. In simulator trials, researchers replaced road signs and white lane dividers with a variety of urban design elements: red bricks were used to make the road narrower, and trees, shrubs and street furniture were placed directly in the right of way.

According to Parkes, traffic speeds fell by up to 8 miles per hour, and the speeds of faster drivers by up to 12 mph. The reasons are both counterintuitive and compelling, he said.

"What we've been trying to do is make the roadway seem more risky by taking out the stripe of paint ... and by making the distinction between space reserved for cars and space for pedestrians less explicit," said Parkes. "Then the driver makes his own choice to slow down, rather than just being instructed to slow down in what looks like a safe environment." Psychological traffic calming has the added advantage of being more aesthetically pleasing than a slew of road signs and traffic lights, Parkes noted.

The new traffic safety approach has its roots in the *woonerf*, a type of curb-less street first introduced in the Netherlands in the 1970s. Although the term refers technically to residential streets, *woonerfs* have since become synonymous with the larger European shared space planning initiative. The concept is spreading so rapidly that, last year, the Chicago-based Congress for the New Urbanism identified shared space as "the biggest recent innovation in European street design."

Shared space does more than slow traffic, advocates said. "It is about reinstating the social life of the street," said David Engwicht, one of the movement's leading proponents and author of *Mental Speedbumps*, a book published last year about psychological traffic calming.

For example, Engwicht said that telling children not to play in the street only reinforces the notion that streets are for cars, and thus encourages traffic to move faster. But if cities replace what he called "traffic artifacts" with "living room artifacts"—people, landscaping and street furniture—drivers will lose interest in speed and identify themselves as part of the larger social landscape. "Psychological traffic calming is about understanding our different frames of mind, and how they relate to time and space and other human beings," Engwicht said.

Although Engwicht and other experts say the United States is still several years away from mainstreaming shared space practices, such designs are under construction or planned in a handful of cities. As part of a larger Harvard Square improvement project, for example, the city of Cambridge, Mass. is turning Winthrop Street into a shared space where sidewalks and street surfaces are at the same level. "We wanted to encourage pedestrians and create a more lively urban space," said Kathy Watkins, a city transportation project manager. The Winthrop project was inspired by European examples, she said.

A growing body of American transportation research is consistent with psychological traffic calming principles. In a study published in the summer 2005 issue of the *Journal of the American Planning Association*, Eric Dumbaugh, an assistant professor of transportation at Texas A&M University, found that tree-lined roadways—a traditional method for designing public spaces—cause motorists to slow down and drive more carefully. This finding contradicts conventional traffic engineering theory, which links wide clear roads to enhanced safety.

"On tree-lined streets, the hazards are obvious, so drivers adjust their behavior in response," explained Dumbaugh. Future research, he said, should explore the psychological aspects of street design. "From a traffic engineering standpoint, we know little about behavior," said Dumbaugh.

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