

# Traveling at the Speed of Life

BY CARA B. SEIDERMAN

**Hard as it is to imagine, people and traffic can coexist safely and peacefully if roads are designed with communities in mind. The example of one city provides ample evidence.**

**T**ake a moment to think of your favorite street. Chances are, that, whether it's a grand boulevard, a small town main street, or the lane on which you live, it is a place for people. Good streets can be the most wonderful public spaces our cities and towns have to offer. Their very function—to provide public access—means they enable us to engage in all aspects of life: commerce, recreation, education, and most important, community.

We could have many more good streets in our world. Almost every street has the potential to be a good street. Unfortunately, many communities have allowed this precious public resource to be dominated by asphalt and metal. A city where vehicles take precedence ceases to be a city at all.

People have begun to recognize the problem. All over the country, they are asking for a change in the way their streets are used. They want to be able to stand in front of their houses and chat with their neighbors. They want their children to be able to walk to a friend's house or bike to school, but their streets aren't safe. The problem is not so much crime, as traffic—a danger that is under-appreciated. Cars are the number one killer of children in the U.S. A child is 50 times more likely to be killed by a car than kidnapped.

In addition to this tragic aspect,

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there are other negative effects. A San Francisco study shows that people living on a street with light traffic (2,000 vehicles a day) had three times as many friends and twice as many acquaintances on the street as did people living on a street with heavy traffic (16,000 vehicles). Both the amount and the speed of traffic are barriers. The issues are related: higher speeds discourage people from walking or biking, so more people drive. People's fear of speeding traffic is well founded; a car hitting a pedestrian at 40 miles an hour results in the pedestrian's death 85% of the time; at 25 miles an hour, that figure drops to 5%.

## Why do people speed?

Residents who claim that cars speed on their streets are usually correct. Police enforcing speed limits find that the majority of these scofflaws live in the neighborhood being targeted. While this might surprise citizens, it should not surprise any traffic engineer. People speed because roads are designed to encourage them to do so. Traffic engineers in the

U.S. have been taught to believe that bigger and faster equal better and safer. Wide roads with plenty of room and clear sight lines allowing drivers to see far in the distance are still the goals for much of traditional road engineering. The result: residential streets that are designed like highways.

A shift is occurring in how roadway design is done. People concerned with road design—including some engineers—are rethinking design standards. The new goal is to design the street to match its current use. When a road is designed, its geometry and layout have what is called a "design speed." What we need to do is create streets with design speeds that match how the street is being used. For a limited-access highway, this might be 65 mph; for the road through a busy shopping district, it could be 25 mph; and for the street in front of your child's school, 15 mph.

## Traffic calming is the fix

If we were to create brand new streets using these new concepts, we would



**Curb extension on Massachusetts Avenue in Central Square, Cambridge—one device for slowing down traffic.**

build them differently. Fortunately, we also can retrofit existing streets using traffic calming techniques.

“Traffic calming” means what the term implies: Traffic is tamed to a level that allows it to coexist peacefully with people. Many places in New England have streets that meet these standards because they were laid out before the big-build mentality developed. Narrow, winding streets with lots of big trees on the sides, for example, are familiar to most of us. Traffic calming uses engineering principles to encourage people to drive more slowly by creating physical and visual clues that induce drivers to travel at the appropriate speed. We can measure this, and we know that it works.

Key physical features of traffic calming include:

■ *Visual changes.* The perception of the street can be altered through such features as a narrower entryway or special vegetation or paving materials. Visual effects also include colored or textured bike lanes, or the use of vegetation to restrict the field of vision.

■ *Vertical changes.* Speed humps and speed tables are improved versions of the old speed bumps, with a broader, flatter area to traverse. This makes the ride smooth at low speeds and uncomfortable only when speeding. Raised crosswalks and raised intersections are variations of speed humps and tables.

■ *Lateral (sideways) changes.* These include narrowing streets, making streets curved by bringing out sidewalks at intervals, and extending curbs at intersections or at mid-block crossings.

■ *Creative use of vegetation, paving materials, and street furniture.*

■ *Mini traffic circles.*

When retrofitting streets, it is important to provide good walking and bicycling facilities; ensure that snow plows, street cleaners, and emergency vehicles can function; and to provide for long-term maintenance. It also is important to consider the overall traffic patterns in the area, so traffic calming does not just end up shifting the problem from one street to another. Although imple-

mentation usually occurs in stages, an overall plan should be developed up front.

### **Yes, but does it work?**

Numerous studies throughout Europe, Australia, and North America have shown that traffic calming reduces traffic speeds, accidents, and noise levels. In the Netherlands, for example, an evaluation of 44 redesigned roads found a 72% reduction in the frequency of accidents. Extensive studies in Germany, France, and Britain show speed and/or accident reductions of 30% to 53%. Traffic calming also has helped to reduce traffic volumes and increase walking and bicycling. In Vancouver, B.C., an analysis of traffic calming implemented in four neighborhoods quantified the substantial economic benefits arising from fewer accidents. These included reductions in police, fire, hospital, and insurance costs.

The benefits in terms of enhanced neighborhood livability are less quantifiable but might be measured by the popularity of these programs. The more people learn of the value of traffic calming, the more they want to see projects implemented. In addition, as experience has grown, the design tools have been increasingly refined so that traffic engineers, public works staff, and others concerned with the technical aspects of traffic calming have become confident of their effectiveness.

### **The Cambridge program**

Cambridge officials have begun to implement traffic-calming projects throughout the city. This is expected to further several city-wide goals: improving community livability; promoting walking, bicycling, and public transportation in lieu of automobiles; and increasing public safety on our streets. Every street that is undergoing reconstruction for any reason (maintenance, resurfacing, sewer work, water line replacement, and so forth) is evaluated for improvement. This might include the addition of bicycle lanes, widened sidewalks, or other traffic-calming measures. This year, the city also set aside specific funds for traf-

fic-calming projects, hired a traffic calming project engineer, and engaged a traffic engineering consulting firm to enable the traffic-calming program to expand.

The city initiated a pilot traffic calming project about four years ago, when a street was scheduled for reconstruction at the same time a nearby intersection was being examined for redesign (Follen Street and Arsenal Square). The concept of traffic calming was introduced to the neighborhood and met with considerable enthusiasm. City staff worked closely with neighborhood residents to arrive at a plan, which included connecting two sidewalks across a street previously used as a cut-through, curb extensions, additional landscaping, and a bike lane. Residents—even those who had voiced strong skepticism beforehand—have since expressed their appreciation for the change.

The next project used traffic-calming measures for a comprehensive street redesign. Berkshire and York Streets are bordered by a neighborhood park, a school, a library, and a teen center on one side, and houses on the other. Residents had complained about speeding for a long time, and there had been several accidents involving children crossing the street. Police checks found that speeding and running stop signs were rampant. Again, the concept of traffic calming was brought to the community and immediately received with enthusiasm. Concept sketches were approved by the residents. All relevant city departments were involved in the design and design review. This project involves more extensive traffic-calming measures: speed tables, raised crosswalks, and shifts in the roadway called *chicanes*. Curb extensions tightly constrict some of the intersections. The accompanying pictures show the street before and after the start of construction. The project is scheduled to be completed early this fall.

Elements of traffic calming are now being used in many Cambridge projects. Curb extensions, for example, can be found throughout the city. They enhance pedestrian crossings by keeping corners



Area residents, even former skeptics, now appreciate the curb extension, sidewalk connection, and bike lane that transformed this intersection at Arsenal Square, Cambridge.

clear, slowing down turning traffic, shortening the crossing distance, and improving visibility. When residents are concerned about a traffic issue, we evaluate it to see whether the problem is best fixed by traffic calming or by a more conventional technique.

The word about traffic calming has spread fast. City staff discuss it with neighborhood residents who participate in roadway reconstruction planning efforts. Residents who have seen examples or heard a presentation often tell others about it. Newspaper articles and television news spots have attracted attention not only from all over New England but from all over the country.

### Implementing traffic calming in your community

The question most frequently posed by people interested in seeing traffic calming implemented in their communities is, How do we really get this to happen? There is a measure of belief that it can only be done in Cambridge and a few other cities or towns in the country known for their progressive policies. While some cities may be at the forefront, traffic calming can be implemented effectively in any city or town, anywhere. Those responsible for fixing traffic problems may be reluctant to choose it because they are used to the more traditional methods and are unfamiliar with the new techniques. Their concerns are legitimate, and need to be

carefully addressed. We all want to ensure that construction can proceed smoothly, that snow plowing will not be held up, and that the quality of the environment will be enhanced. As traffic-calming projects are implemented in more places, the techniques will become better known and win broader acceptance among engineers, contractors, maintenance workers, emergency services providers, and the wider community. Additional experience also will help us to refine the techniques so that they can be as effective as possible.

### A way of life

Traffic calming is more than a technical fix for controlling traffic. It is part of the process of designing a street in harmony with the environment through which it passes, or helping to make it part of that environment. It is not a panacea for all roadway problems; but it can be a key piece of the larger solution. It is an effective, long-term measure that helps us to think about how our transportation system fits into—or should fit into—our lives. In a livable community, all users of a street—walkers, bicyclists, and drivers—have equal access to the street. Traffic calming can be the means to that end. 🗑️

*For more information on traffic calming, please consult CLF's guide, "Take Back Your Streets." CLF also sponsors a Web site, "Transportation for Livable Communities," at <http://www.tlcnetwork.org>.*