Pave paradise, and look what happens

By THOMAS STONE
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As Cape Cod's population has nearly quintupled from 47,000 in 1950 to more than 230,000 today, the number of miles driven on Cape Cod has also increased dramatically. The Environmental Protection Agency estimates that some 5.3 million to 6.2 million miles per day were driven on Cape Cod in 2000, or about 2 billion miles per year. Today, seven years later, that number is likely to be closer to 3 billion miles per year.

Assuming those cars average 20 miles per gallon, they would use 100 million gallons of gas costing (at $2.50 a gallon) $250 million and creating a million tons of carbon dioxide and other pollutants. Nationally, cars add 8.6 billion tons of CO2 to the atmosphere each year, worsening climate change and serving as a significant source of nitrogen pollution that directly affects our bays and estuaries.

Although we don't seem to be building many new roads on the Cape these days, the area of paved surfaces from parking lots, new homes and sidewalks continues to increase with every completed project. More important, the roads we do have show significant increases in traffic volume (vehicles per day), creating more congestion, noise, pollution and wear and tear.

It is hard to overestimate the pervasive effects of the automobile and what it does to our natural ecosystems with more air and water pollution, dissection and paving of natural lands, and more noise. Autos and other vehicles require roads, places to park and fueling stations.

Other conveniences such as drive-throughs for everything from doughnuts to drugs spring up everywhere as savvy merchants cater to those who don't want to get out of their cars or are in a hurry. Our villages and neighborhoods have become scaled for autos rather than for people.

The rise in the dominance of autos and trucks parallels the increase in impermeable surfaces. The current estimate is that for the U.S., an area the size of Ohio (41,000 square miles) is now paved. Because of this, it is no surprise that around the country more and more flooding occurs through the increasing impermeability of the landscape.

Hundred-year floods — those that should have a 100-year recurrence interval and a 1 percent chance of happening in any given year — seem to be occurring with greater frequency. Rains rush directly into rivers and streams, guided there by carefully engineered networks of drains and pipes. The flooding we see on the evening news is perhaps as likely to result from increased imperviousness as from climate change.

All of this, of course, has implications for the transportation infrastructure as greater volumes of cars and trucks stress bridges and roads, requiring them to carry more than they were designed to carry. The declines in railroads — highly fuel efficient — and vast increases in truck traffic only worsen those stresses. In 1997, trucks carried 74 percent of U.S. freight, and rail carried only 14 percent.

On the Cape, two recent estimates show that Dennis and Yarmouth are the most heavily paved towns, with hard surfaces covering about 20 percent of the land. The least paved? Provincetown, Wellfleet and Truro, with about 4 percent to 8 percent paved — thanks, of course, to the presence of the Cape

Cod National Seashore. The average for the whole Cape is between 12 percent and 13 percent. That means of the Cape's 412 square miles, some 50 square miles are now paved. That's an area a little larger than Falmouth.

We do have options to reduce the rate of paving on Cape Cod.

New construction should be required to minimize paved surfaces and runoff. We can examine town bylaws that mandate parking for new construction. We can use smart-growth methods, including reducing automobile use, encouraging bicycle use by adding bike lanes and alternative modes of transportation, reducing impermeable surfaces, adding grassy swales and dry wells to catch runoff, and stopping storm drains from directly leading to coastal waters.

Finally, we need to avoid clearing more land and protect the remaining natural lands that we do have.

Following some or all of these suggestions will help us regain a measure of control over our automobile-dominated sand bar, reduce the rate of degradation, maintain air and water quality and — who knows — even save a few million gallons of gas.

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