



Air rage

The Clean Air Act began as environmental policy. Now, an Amherst economist links it to a large and surprising drop in violent crime.

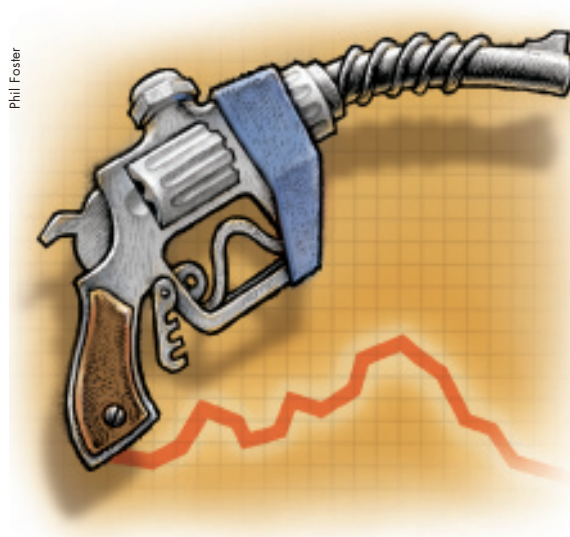
In a paper published in October in the *B.E. Journal of Economic Analysis & Policy*, Jessica Wolpaw Reyes '94, assistant professor of economics, credits the law's removal of lead from gasoline in the 1970s with a more than 50 percent decline in violent crime in the 1990s.

Anyone who follows news about lead in children's toys already knows that lead can affect neurological development: various studies link childhood lead exposure to IQ changes, to attention deficit disorder and to aggressive behavior. In addition, medical studies show violent criminals to have higher levels of lead in their bodies than others do.

In 1973, car fumes were the source of most of the lead in the air, dust and dirt in U.S. urban areas. The following year, under the Clean Air Act, the Environmental Protection Agency set a timetable to phase out leaded gas. As a result, average lead levels in children plummeted in the late 1970s and early 1980s.

Meanwhile, violent crime in the United States increased 83 percent from 1972 to 1992, but then began to fall sharply. Various studies have pointed to possible causes, including economic growth and an increase in police officers, but Reyes, who has worried about lead paint ever since she became a mother, decided to look at lead as another factor. She knew that crime rates fell just as children of the late 1970s and early 1980s reached the age at which they were most likely to commit violent crimes. But that data wasn't enough.

At the start of her study, Reyes knew she'd need to compare people exposed to higher lead levels with those exposed to lower ones in a given year. Fortunately for



her, the Clean Air Act allowed states to phase out leaded gas on different schedules. Reyes did an intricate 50-state comparison. As *The New York Times Magazine* explained in an Oct. 21, 2007, article about her study, Reyes concluded that if other possible causes of crime, like unemployment, had stayed the same, switching to unleaded would have caused a 56 percent drop in the per capita violent crime rate in the 1990s. This led the *Times* writer, Jascha Hoffman, to ask, "Has the Clean Air Act done more to fight crime than any other policy in American history?"

Freakonomics author Steven D. Levitt, who has a blog on the *New York Times* Website, wrote in July that Reyes "has put together what appears to me to be the most persuasive evidence to date in favor of a relationship between lead and crime."

Reyes, who continues to research the connection, predicts continuing declines in crime in the future. What's more, she says her study shows that environmental policy can have unintended consequences. "The

idea that we could change who the population is—on a large scale—and not even notice it is really striking," says the professor, who's teaching a course this semester on evaluating social policy. —E.G.B.

It's the environment, stupid

It was a big year for the green set. Al Gore won the Nobel Peace Prize. Wal-Mart partnered with the Clinton Climate Initiative. Chances are, you bought an energy-saving light bulb. For Amherst, 2007 marked the official start of the environmental studies major.

The new major, which the faculty approved in November, began with a discussion among professors from nearly a dozen departments. The major will require students to take courses in the humanities, sciences and social sciences. A core introductory course and a senior seminar are team-taught by a scientist and a non-scientist. Off-campus internships will be encouraged.

"You can't really approach the issues in any meaningful way without taking into consideration policy, ethics, history and economics," says Tekla Harms, professor of geology, who describes herself as a "midwife" in getting the new major approved. "And then there's the science part of the equation as well." The challenge for faculty, she says, will be to explicitly integrate a wide range of scholarship. "You can't just tell a student to take a geology course, a history course and an economics course and say that's environmental studies," she says. "We, the faculty, have to stand with the students and make the connections."

The impetus for the new major was as much student demand as it was a growing realization that a "cascade of environmental concerns" will put the health of the planet "front and center on agendas of the