

The Antiplanner

Dedicated to the sunset of government planning

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The War on Cars and Delays to Emergency Response

This week's policy brief is the Antiplanner's edited version of a Power-Point show by Kathleen St. Germain. A native and current resident of New Orleans and former resident of Boulder, St. Germain has researched traffic-slowing measures since 1995 and is the assistant director of the American Dream Coalition.

Traffic calming. Road diets. Complete streets. Vision zero. All these terms refer to policies whose goal is to reduce speeds by narrowing or removing vehicle lanes and increasing congestion. Cities say they are adopting these projects in order to increase safety for all users of the street—yet they have no evidence that the policies will reduce pedestrian, cyclist, and other traffic-related deaths.

When confronted with facts showing that many of the design changes in their plans may result or have resulted in increased accidents, they either turn a blind eye or address their concerns for potential liability by imposing more heavy-handed solutions for delay-inducing schemes. The answer to unraveling the confusion in the new designs of “traffic calming” is to create separate signalization for vehicles, pedestrians, and cyclists, delaying drivers even more, but for which, only drivers will be held accountable with fines.

“Streets are for people, not cars” advocates say, ignoring the fact that the driver and any passengers in every moving vehicle are people. Apologists for imposing magnitudes of delay to people in vehicles by increasing congestion point to [research](#) showing that pedestrians are more likely to die if struck by a car traveling 40 miles per hour than one traveling 20 miles per hour. That is certainly true, but that fact doesn't prove that their policies actually prevent vehicle related accidents. On the other hand, studies show that the traffic-slowing projects will kill more people than the lives that might be saved.

For many in transportation planning, the true goal of slowing vehicle travel is to reduce the viability of the automobile as a mode of urban travel. Throughout the years many planners have openly argued that a modal shift to non-motorized means of travel will not occur unless the efficacy of travel by car is [reduced to that of non-motorized speeds](#) of travel.

The Failure of Traffic Slowing

Slowing traffic to reduce accident fatalities doesn't work. Portland, Oregon has been applying traffic calming and road diets to its streets since the 1990s. As of 2001, the city had experienced a five-year average of [11 pedestrian fatalities per year](#). By 2019, this had [increased to 15](#). Even more fatalities took place in 2020 and 2021 is currently on track to being just as bad. Recognizing its failure, Portland [dissolved](#) its vision-zero taskforce early this year.

In 2014, San Francisco adopted a vision-zero policy whose goal was to eliminate pedestrian and bicycle fatalities by 2024 via a city-wide slowdown in traffic speeds. Yet fatalities in 2019 were only slightly less than they had been in 2014, leading the city to conclude that the policy was [failing to meet its target](#).

Other U.S. cities that have adopted vision-zero policies of slowing traffic with the goal of improving pedestrian and cyclist safety have seen fatalities rise instead. Several years after adopting Vision Zero, traffic deaths were rising in [Austin](#), [Chicago](#), [Los Angeles](#), and [San Jose](#). Other cities, including [New York](#), [Philadelphia](#), [Seattle](#), and [Washington](#), didn't see a rise in deaths, but they didn't see a fall either. While it seems unlikely that slowing traffic is making pedestrians and cyclists less safe, the research shows that it certainly isn't making them safer.

Traffic-slowing programs are mainly applied to local and collector streets. Yet, according to the National Highway Traffic Safety Administration's [Fatality Analysis Reporting System](#) (using 2015-2019 data), nearly two-thirds of urban pedestrian and bicycle fatalities take place on non-freeway arterial streets, while less than a quarter take place on collector and local streets.

In addition, the great majority of pedestrian fatalities—77 percent on non-freeway arterials, 70 percent on collectors, and 57 percent on local streets—take place after dark. Less than 10 percent of these report speeding as an issue, so the real problem may be visibility, not speed. In at least half of nighttime pedestrian fatalities, the pedestrians were under the influence of alcohol and more than two-

thirds involved pedestrians crossing a street outside of a crosswalk or away from an intersection. All these factors suggest that the focus on speed ignores the real problems.

The Cost of Slowing Traffic

I became involved in the subject of traffic calming in 1995 when I moved to Boulder, Colorado. At the time, Boulder was implementing a citywide plan of traffic calming projects, meaning the addition of speed humps to neighborhood streets and small traffic circles at neighborhood intersections. The intention was to slow vehicle speeds.

Boulder's fire department expressed its concerns about the impact this was having on response times to emergencies. Fire apparatus carry tons of water and have longer wheelbases and stiffer suspension systems than other vehicles which make them much more difficult to navigate in turns and around circles. For raising these concerns, the department was not only criticized but almost demonized.



Experiments by the Boulder Fire Department found that rotaries such as this one delay fire trucks by an average of 7.5 seconds, but the city installed them anyway. Note the evidence of numerous collisions.

It was then that I began collecting research and contacting fire departments with calming projects in other cities, which at the time were relatively few. I learned that fire departments around the country were experiencing damage, including frame cracks and bent suspension systems, costing tens of thousands of dollars in repairs.

I found that fire chiefs in other cities were also experiencing the same problems we were experiencing in Boulder: resistance by transportation divisions, city officials, and those citizens who favored the projects to considering the other side of the equation, which was the costs of delays to emergency response.

For example, in 1996 the Portland fire department conducted an extensive 5-day test with 4 different fire department apparatus traveling over 6 streets with different designs of speed humps and traffic circles. Each apparatus made 24 runs over each device. In addition, they travelled over an equal number of control streets with no devices and with which to compare the delay.

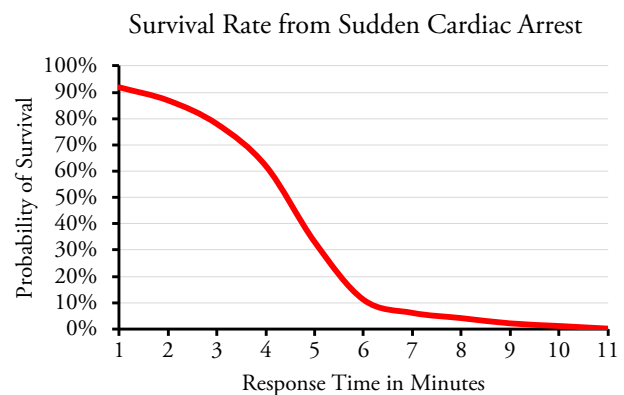
They found that going over speed humps at speeds

slow enough to protect firefighters and the equipment they carry added more than 5 seconds per speed hump. Navigating neighborhood traffic circles added 10 seconds of delay.

"We're looking at losses" in emergency response times of "a minute to two minutes," said Portland Fire Department battalion chief Joe Wallace in a video the fire department released to the public. These problems were ignored by the city, which continued to install traffic calming devices.

"It's been extremely difficult getting the Portland Bureau of Transportation to get our view of what's happening with the devices," said Portland Fire Department staff chief Steve Schultz in the same video. "When we make the complaint about it slowing us down, their response is, 'that's what we want them to do. That means they're working.'" Instead of correcting the problem, Chief Wallace said, the Portland's Bureau of Transportation asked the fire department to refrain from releasing the results of its studies.

Fire officials know that rapid response is needed to save citizen lives. In particular, out-of-hospital sudden cardiac arrest strikes more than [350,000 Americans](#) each year. As a leading cause of death in adults, sudden cardiac arrest is an abrupt electrical disruption of the heart, causing blood flow to vital organs to stop and resulting in loss of blood pressure.



Source: Boulder, CO, Fire Department Master Plan

Especially if current response times are less than six minutes, even a 15-second increment to that response time is likely to result in far more cardiac deaths than pedestrian lives saved. Reducing emergency response times could save thousands of lives a year, but traffic-slowing measures increase response times.

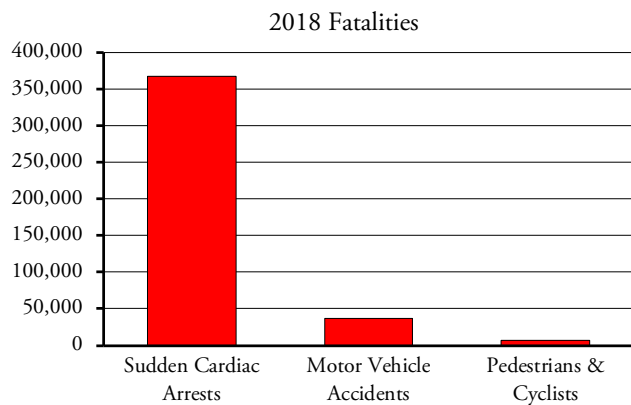
Studies show close to 90 percent survival rates if victims are treated within two minutes, but survival falls below 10 percent if there is no treatment within six minutes. Only about 10 percent of people who suffer sudden cardiac arrest survive, mainly because too few civilians are trained to do CPR combined with the time required for emergency responders. This means out-of-hospital sudden cardiac arrests kill almost ten times as many Americans per year as all motor vehicle accidents.

In 2010, the American Heart Association set a goal of

doubling survivor rates by 2020, which would have meant saving more than 35,000 lives per year. Key to this goal was improving emergency response times. Yet by 2019, little progress had been made. Survival rates actually worsened during the pandemic.

In contrast to the more than 300,000 Americans who die of out-of-hospital sudden cardiac arrests each year, pedestrian and bicycle fatalities are relatively rare: there were about 7,100 in 2020, a 1-percent increase from 2019. Slowing traffic to protect pedestrians and bicyclists means a trade-off of losing more lives of victims in cardiac arrest.

In 1997, Boulder engineer Ray Bowman developed a methodology to estimate the impact of the delay to emergency response caused by calming devices on citizen survivability. He assumed that traffic calming devices in Boulder would delay emergency response time by an average of one minute. His analysis found that 85 lives would likely be lost due to delays in emergency response times before a single pedestrian might be saved by the devices. His methodology was verified by a professional mathematician specializing in statistical analysis.



Americans are ten times more likely to die of sudden cardiac arrest than in a motor vehicle accident, and 50 times more likely to die of sudden cardiac arrest than as a pedestrian or cyclist in a motor vehicle accident.

In 2000, as part of his master's thesis in public administration at Texas A&M University, former assistant fire chief of Austin, Les Bunte, applied Bowman's analysis to Austin to predict the potential lives that would be lost from a delay to emergency response in that city. He found that a 30-second increase in emergency response times would lead to 37 lives lost to sudden cardiac arrest for every pedestrian or cyclist whose life was saved by traffic-slowing devices. Even just a 15-second increase in emergency response times would lead to 19 lives lost to sudden cardiac arrest for every pedestrian or cyclist whose life was saved. On the other hand, reducing emergency response times by 30 seconds would save 41 lives for every pedestrian who might die due to higher traffic speeds.

No one wants to lose pedestrian and cyclist lives on city streets. But there are better ways of improving pedestrian and cyclist safety without increasing fatalities due to delayed emergency responses.

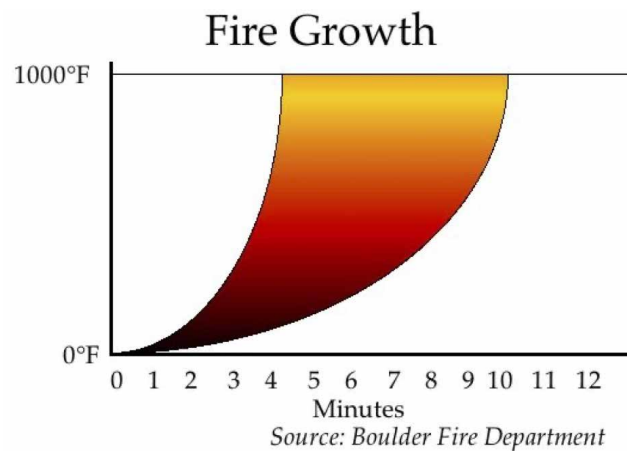
Chief Bunte points out that any fire department can

use the Bowman model to determine the number of potential additional deaths that are likely to result from delay caused by the installation of calming devices, or lives that might be saved by improving response times, based on current emergency response times and the number of cardiac arrests in the city each year. Particularly if current response times are less than six minutes, any delay to response times is likely to kill far more people than would be saved by slower traffic speeds.

Bunte also documented that firefighters in Montgomery County, Maryland and Sacramento, California had been permanently disabled when fire trucks attempted to go over speed humps at speed. "Each firefighter was wearing a seat belt and yet the force of the jolt caused them to strike their heads on the cab roofs," said Bunte, leading to spinal injuries serious enough to force them to retire as firefighters.

Sudden cardiac arrests are only one type of emergency requiring immediate response. Fire departments seek to respond to fires within a window of six minutes based on the average time between ignition and flashover. Flashover is a condition when a structure heats to a degree that the contents, for all practical purposes, explode. When flashover occurs, rescue personnel must flee the structure and all rescue attempts must end.

During a 1996 fire in a Gaithersburg, Maryland home, four boys were rescued before flashover occurred, leaving one child left behind. En route to the fire, rescue personnel had encountered a series of three speed humps. This is a possible case where lost seconds due to calming devices may have directly led to the death of a victim.



The flashover point—the temperature at which most materials in a typical house spontaneously ignite—is around 1,000 degrees, which can be reached anywhere from four to 10 minutes after the initial ignition.

Delays also mean firefighters arrive at the scenes of time-critical emergencies in higher levels of danger. Firefighters suffer nearly 60,000 injuries and around 50 deaths per year, most of them during fire operations. In all, Americans are nearly 10 times more likely to die in a fire or from sudden cardiac arrest than in a vehicle related accident.

Auto Hostility Over Safety

One traffic-slowing practice that has clearly put anti-auto policies over safety is turning one-way streets into two-way streets. Numerous studies have shown that converting two-way streets to one-way streets not only reduces congestion, it increases pedestrian safety as pedestrians only have to look one way before crossing a street.



Another popular technique that shows cities put hostility to automobiles over safety is narrowing of streets. This is a designated bike route in Golden, Colorado, but the city is narrowing the street, thus making it more dangerous for cyclists.

As documented in a [paper](#) published by the Independence Institute, Denver converted some one-way streets to two-way traffic and found that accidents increased by 37 percent. This was “expected,” said the city, which only went on to plan more conversions of one-way streets. Clearly, safety was not the city’s true goal.

Vision zero, traffic calming, and other traffic-slowing measures are not successfully reducing pedestrian and cyclist fatalities, primarily because they focus on one factor—speed—to the exclusion of other issues such as visibility. They do, however, create serious problems for emergency service providers.

If increasing overall safety was the major goal in these projects, delay to emergency response vehicles traveling to emergencies as well as other issues would be seriously considered in these projects rather than completely ignored. Improving night-time visibility on arterial and collector streets, encouraging pedestrians to cross only at specified crosswalks, and other steps that address actual rather than imaginary safety problems would do more to help pedestrian and cyclist safety.

Randal O’Toole, the Antiplanner, is a land-use and transportation policy analyst and author of [Gridlock: Why We’re Stuck in Traffic and What to Do About It](#). [Masthead photo](#) is by Petr Kratochvil.