

The Benefits of Slowing Down Traffic – Starting Where Children Walk and Bike



Children walking to school in Alpine, UT.

City leaders are working hard to create communities with the qualities that attract and retain residents. This means many things such as great schools and jobs, affordable neighborhoods, and safe transportation options that support economic growth. The 2015 National Community and Transportation Preference Survey found that “as a whole, Americans prefer walkable communities more so than they have in the past.”¹ As cities expand choices for walking, bicycling and transit use, a key component of livability and mobility cannot be overlooked: vehicle speed. Vehicle speed impacts both the likelihood and severity of crashes, and the higher the speeds, the more dangerous and uninviting the environment becomes for pedestrians.

Speed management is a difficult issue with much potential payoff. There are many known strategies for slowing down traffic. But elected officials’ knowledge of and support for these countermeasures isn’t always enough. Implementation of these countermeasures often face social and political hurdles because lowering speeds to improve safety can conflict with motorists’ desire to travel quickly.

More and more, cities are turning to places where their youth walk and bike to begin addressing vehicle speeds. Building on the success of local safe routes to school programs, cities are finding that starting speed reduction programs where kids are present – in school zones, near parks, and playgrounds – can jumpstart community buy-in for such efforts. They also create safer, more livable communities for all while focusing on one of the most vulnerable groups. Many successful highway safety initiatives in the U.S. have started with addressing children’s safety because focusing on children is widely supported. The life-saving benefits of buckling up supports people of all ages and began years ago with campaigns to get children into car seats.

Quality of life measured in steps

For many, a walkable community is a strong indicator of livability and sustainability. The 2015 National Community and Transportation Preference Survey found that 78 percent of Americans believe it is very or somewhat important to be within walking distance of community amenities such as shops and parks, and 48 percent would choose houses in those communities even if it meant they would have smaller yards. Only 71 percent of Millennials like driving – the lowest of any generation, and 32 percent currently walk to school or work.² Millennials’ preferences may be telling us where things are headed.



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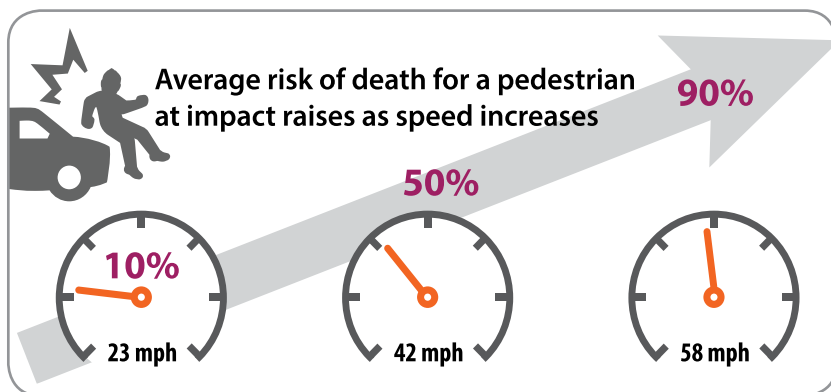


Developed by the National Center for Safe Routes to School with support from the FIA Foundation

Reducing speeds by even eight mph can make a big difference

Many people think that driving a few miles per hour over the speed limit is not a big deal. Yet for people walking nothing could be further from the truth. The change in a driver's reaction time and speed at impact is a very big deal. A pedestrian hit by a vehicle traveling at 23 mph has a 25 percent average risk of severe injury. A vehicle traveling eight miles per hour faster, at a speed of 31 mph, doubles the chance of a severe injury to a pedestrian hit by that car. Speed and the chance of pedestrian fatalities have a similar relationship. The chart below shows that the average risk of death for a pedestrian is 10 percent at 23 mph, rises to 50 percent at 42 mph, and jumps to 90 percent at 58 mph.³

Now is an important time to act. Pedestrian fatalities have been on the rise, and 2015 saw a 9.5 percent increase in pedestrian deaths over the previous year, making it the deadliest since 1996.⁴ Preliminary data on traffic fatalities for the first nine months of 2016 shows that nearly 28,000 people died in motor vehicle traffic crashes, an increase of about eight percent from the first nine months of 2015.⁵ While there are a number of factors that contribute to crashes, speed is a key factor. In 2015, 27 percent of traffic deaths were speeding related.⁶



AAA Foundation for Traffic Safety, Impact Speed and the Pedestrian's Risk of Severe Injury or Death, September 2011.

Child pedestrians are particularly vulnerable for many reasons, including their size and developmental abilities. In 2015, children 10 to 14 years old had the highest percentage of estimated pedestrians injured among the different age categories.⁷

Much is known about what works

When asked “What makes a community walkable?” most people think first of basic pedestrian infrastructure such as sidewalks and crosswalks, but traffic volumes and vehicle speeds play an important role in walkability as well. There are a number of proven countermeasures to reduce speeds and improve pedestrian safety. Treatments such as road diets and roundabouts have documented crash-reducing effects, while others, such as chicanes or speed humps have proven speed-reducing or traffic calming effects. Countermeasures with known speed-reducing effects are valuable since lower vehicle speeds are associated with reduced risk of pedestrian fatality.

The Federal Highway Administration's (FHWA) “Jurisdiction Speed Management Action Plan Development Package” (<http://bit.do/speedmanagement>) identifies and explains proven countermeasures. Using current knowledge and best practice recommendations, FHWA created this collection of resources to provide guidance to State and local agencies to develop speed management action plans to reduce fatalities and injuries related to speeding. The “Speed Management Toolkit” (<http://bit.do/speedtoolkit>) includes a comprehensive speed management bibliography, tables of speed management countermeasures with expected crash or speed effects, and tip sheets for communications programs. These resources can be used to help populate the “Speed Management Action Plan Template” (<http://bit.do/managementactionplan>). Sample local and statewide action plans are also included as a guide.

Successful speed management is possible

Cities of all sizes are working to reduce vehicle speeds and improve pedestrian safety. Some efforts are full-blown, comprehensive programs such as Vision Zero while others are tackling location-specific speed reduction through targeted countermeasures. Roundabouts near schools have been used to slow traffic in places like Clearwater, Fla. and Green Bay, Wis. Cities have employed road diets near schools to reduce speeds as in Meridian, Miss. and Santa Monica, Calif. and cities such as Seattle and Boston lowered speed limits to 25 mph on city streets. As impressive programs are occurring across the country, New York City's Vision Zero program has demonstrated important results. While unarguably a uniquely large metropolitan area, New York City's acclaimed program has many components that are transferrable to cities of all sizes, including its programs focused on safety for youth.

Putting it all together in New York City

The New York City (NYC) Vision Zero initiative began in 2014 after Mayor Bill de Blasio adopted this bold approach during his campaign and quickly launched the effort after taking office. Although there had been a steady decrease in fatalities in previous years, 2013 saw an uptick in fatalities which made this call to action uniquely relevant. His unwavering political support along with a multi-agency approach to addressing traffic fatalities was key to the program's success which has measured a decrease in traffic fatalities for the past three years.

Based on crash data from 2008-2012, approximately 70% of traffic fatalities were related to driver behavior such as speed and failure to yield. Recognizing that higher speeds lead to increased fatalities, NYC aimed to tackle public policy as well as a change in public mindset by addressing four areas – legislation, education, enforcement and engineering.

The city's speed limit was lowered from 30 mph to 25 mph on all streets except where otherwise posted with legislation that took effect in November of 2014, thanks to the work of advocates, city staff and many others. During that same year, the city also ramped up education, enforcement and engineering efforts in school zones.

Understanding that everyone is concerned with the safety of their children, and that the loss of a child greatly impacts the entire community, the city began installing speed cameras near schools. NYC Department of Transportation (DOT) had already installed 20 speed cameras near schools by the end of 2013, but by September 2015 there were 140 speed cameras operating throughout the city, located only near schools. One hundred of these locations have fixed cameras, many with cameras in two directions and the other 40 are mobile cameras that move from school to school. Even with the cameras only operating during school hours, over one million speeding tickets were generated in 2015 and the count reached nearly 1.4 million in 2016. Review of the daily average violations at these speed cameras shows that after the first two months driver violations, and thus driver speeds, declined significantly and continued to have an impact on driver speeds even now, two years after their installation.

NYCDOT's School Safety Unit develops street safety improvement projects near schools. These projects both reduce the incidence of crashes and allow students to walk and bike to school more comfortably,



Announcement of the completion of the installation of 140 speed cameras in time for the start of the 2015 school year. At podium from left to right, State Assembly Member Deborah Glick, NYPD Chief of Transportation Thomas Chan and NYCDOT Commissioner Polly Trottenberg.

which can have positive long term health impacts. School Safety analyzes crash data to target safety improvements in Vision Zero priority areas, and responds quickly to safety related concerns raised by schools, elected officials, parents and community residents. The unit works with planning and operational units throughout the agency to identify and implement safety projects, and coordinate the implementation of concrete, markings, signals and signage based treatments. The unit employs several strategies to increase safety. For immediate results the unit installs School Slow Zones in which the speed limit is reduced to 15 or 20 mph adjacent to school property. School Safety also develops street redesigns, such as road diets, pedestrian islands, curb extensions and bike lanes, which can be implemented by in-house DOT crews within a year, or via the capital process within a few years. School Safety implements at least 50 School Slow Zones a year, and is responsible for over 10 in-house street redesign projects annually. The unit has completed nearly 50 capital safety improvements, with dozens more in the planning process.

The Vision Zero initiative also includes a public education and outreach component. A driver education campaign features the message that “Your Choices Matter” emphasizing that crashes are preventable. This campaign cites speeding and failure to yield as leading causes of injury and fatality and urges drivers to slow down and expect pedestrians in the crosswalk every time. DOT also partners with the New York City Police Department (NYPD) to conduct Vision Zero Street Teams outreach in high-risk precincts, providing a week of education with distribution of materials with multi-modal messaging distributed at on-street locations where there are high crashes and large volumes of pedestrians. This is followed by a week of traffic enforcement focused on the most dangerous moving violations including speeding, failure to yield and driving while distracted. Finally, students grades K-12 are engaged through a variety of interactive educational programs including: My Safety Toolbox, which raises children’s awareness of speeding and other dangers on the streets and teaches them about tools to help them stay safer; Safer Streets, through which city streets become a laboratory for youth to collect data such as speeds and stopping distances; Safety by Design, which teaches students about street design and how to create safer streets and intersections; CSI: City Street Investigators, which encourages students to develop strategies for dealing with real-world scenarios in the street environment; and Behind the Wheel, which promotes safer behaviors in students who will soon be learning to drive. Workshops to raise awareness about dangerous driver behavior and defensive strategies for pedestrians are also provided to parents and older adults.

New York’s program has demonstrated results and received national recognition for decreasing speeds and reducing traffic related injuries and deaths. The program has broad political and community support largely due to its focus on schools and youth, its data driven approach, and its ability to point toward successful outcomes, all of which can be replicated in cities large and small throughout the United States.

For more information on Vision Zero programs and the benefits of starting where children walk and bike, see “Events as Tools for Change” (<http://bit.ly/events-for-change>).

For more information on Vision Zero programs and the benefits of starting where children walk and bike, see “Focusing on the Safety of Children Can Propel Vision Zero Initiatives” (<http://bit.ly/vision-zero-for-youth>).

1. <https://www.nar.realtor/reports/nar-2015-community-preference-survey>
2. <https://www.nar.realtor/reports/nar-2015-community-preference-survey>
3. <https://www.aaafoundation.org/sites/default/files/2011PedestrianRiskVsSpeed.pdf>
4. <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812375>
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