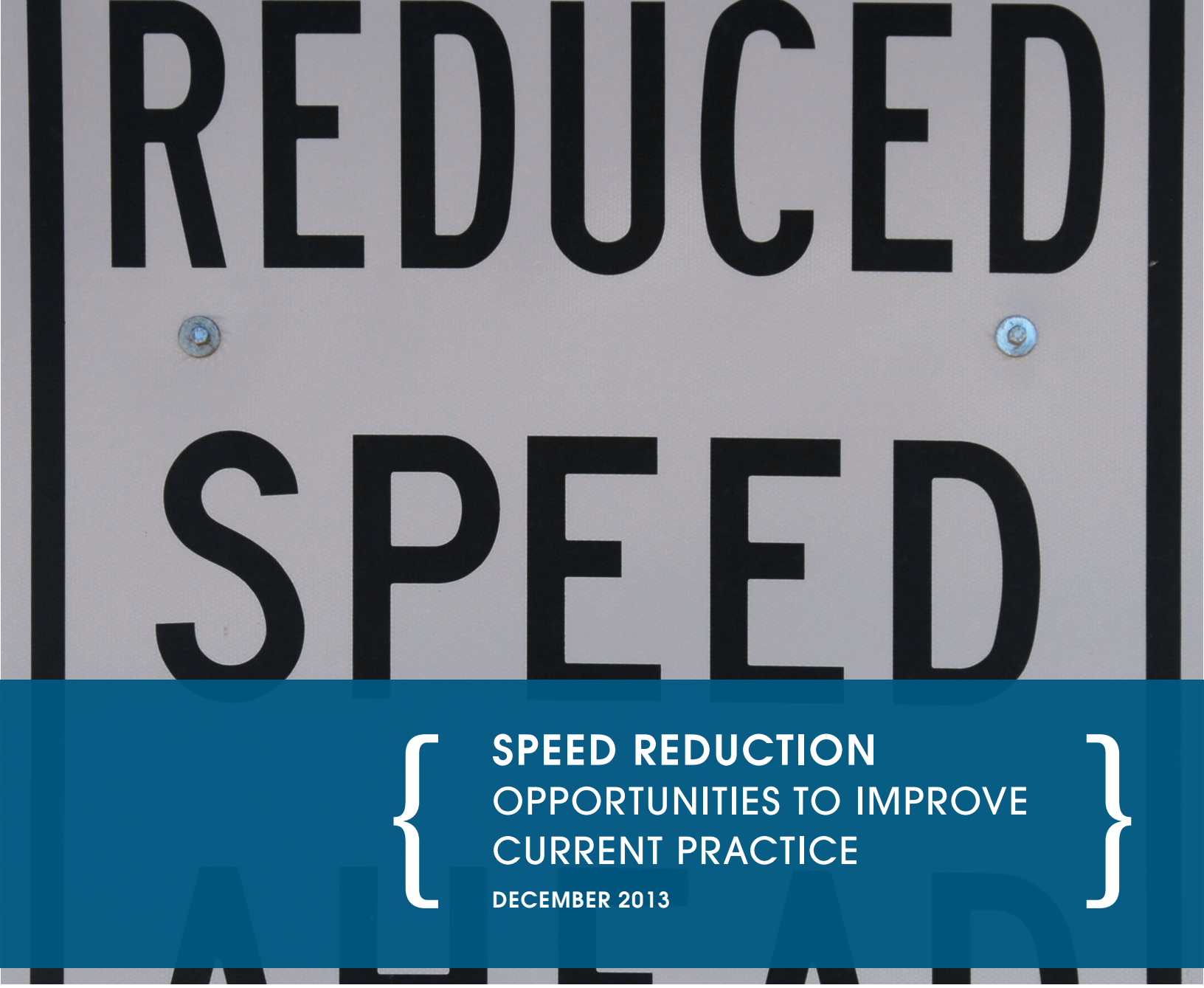

SPEED REDUCTION
OPPORTUNITIES TO IMPROVE CURRENT PRACTICE

DECEMBER 2013

INTRODUCTION

Some common transportation engineering practices can contribute to high traffic speeds, putting pedestrians, cyclists, and motor vehicle occupants at increased risk of collisions, injuries, and death. Engineering that maximized traffic speed and volume governed the creation of the National Highway System.[1]

The emphasis on maximizing motor vehicle speed has largely dominated transportation planning for much of the past century.[2, 3] Below are three opportunities to modify standard practices in ways that may better support community speed reduction efforts.

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Setting speed limits:

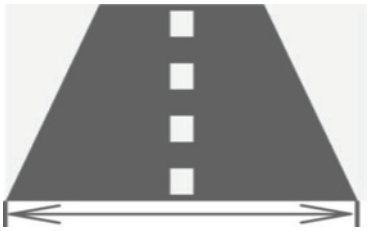
{ 85th percentile }

The speed limit of a road is commonly based on how fast drivers tend to travel on that road in uncongested conditions. Limits are typically set around the speed at or below which 85% of drivers are travelling. Even when communities ask for a slower speed limit, many cities and states require that the 85th percentile speed be a major factor in establishing the legal limit.

Issue: Drivers base their speeds on cues from the roadway, such as lane widths and sight lines, rather than on the posted speed limit or what is safe for all road users (i.e., motorists, pedestrians, cyclists).[4] Many road designs accommodate higher speeds than posted speed limits. As a result, setting limits based on observed driver behavior can push speed limits higher than what communities feel are safe.

Solution: When setting speed limits, cities and states can consider such factors as road type and conditions, crash history, traffic volumes, pedestrian and cyclist activity, adjacent land use, and parking practices, among others. The U.S. Department of Transportation's Manual on Uniform Traffic Control Devices and USLIMITS2 tool provide guidance to state and local agencies for setting safe, reasonable speed limits, taking these factors into account.[5, 6] Greater use of such information and resources could lead to speed limits that keep all road users safe.

Determining traffic lane widths:



Traditionally, engineers have created roads with wide lanes under the assumption that these roads are more forgiving of driver error and make driving safer for vehicle occupants. Because of this practice, transportation engineering guides recommend standard, default lane widths that are wider than needed in many urban and non-highway contexts.[7]

Issue: Rather than making roads safer, wide lanes can make drivers feel that high speeds are safe. Narrower lanes send drivers visual cues to slow down, encouraging driving speeds that are safer for all road users, including pedestrians, cyclists, and motorists.

Solution: Engineers should consider creating narrower lanes that reduce traffic speed in urban contexts.[7] Because narrower lanes can also force cyclists and cars closer together on the road, designs with narrower lanes may need to be paired with physical protections for cyclists.

Collecting data:

Engineers, planners, researchers, advocates, and officials need data to allow them to understand how speed affects road users' safety and behavior and to assess what works in controlling speeds.

Issue: Current data on road user safety and behavior paint an incomplete picture of speed-related injuries, especially among cyclists and pedestrians. Many vehicle collisions with cyclists and pedestrians go unreported to the police, and the role of speed, road design, and engineering factors is often unclear in events that are recorded. Few studies have assessed the impact of motor vehicle speed on preferences for driving over walking or cycling, or on parental willingness to let children walk or bike. Finally, more data are needed to allow an assessment of how well new and innovative speed-reduction interventions work.

Solution: Cities and states can adopt practices that encourage better data collection on collisions, road user safety and behavior, and use these data to inform decision-making. For example, the Portland Police Bureau is notified of, and investigates, all crashes in which a cyclist must be taken to the hospital in an ambulance. The incorporation of transportation-related questions into continuous health surveys can provide much-needed information about how people decide when to drive, walk, or bike. Finally, new technologies, such as those for automated speed monitoring or "safe driving" insurance discounts, can make data collection cheaper, easier, and smarter.

To learn more about how speed reduction can benefit public health:

- Public Health Impact: Community Speed Reduction
- Community Speed Reduction and Public Health: A Technical Report

Case Studies:

- Chicago, Illinois: Child Safety Zones
- Columbia, Missouri: Lowering The Posted Speed Limit On Residential Streets
- New York City: Neighborhood Slow Zones
- Portland, Oregon: Neighborhood Greenway Initiative
- Seattle, Washington: A Multi-Faceted Approach To Speed Reduction
- Washington, DC: Automated Speed Enforcement

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