



City of Seattle

Edward B. Murray, Mayor

Department of Transportation

Scott Kubly, Director

MEMORANDUM

Date: January 5, 2016

To: File

From: Dongho Chang, City Traffic Engineer *DWC*

Subject: Use of Speed Humps in Signed School Speed Zones

Background

To improve safety and reduce speeding, SDOT uses traffic calming devices such as speed humps when a pattern of speeding has been documented with a speed study. Studies show that speed humps have a dramatic effect on speeding, especially aggressive speeding, in school zones in Seattle. Therefore it is the intent of this policy change to establish a proactive policy of installing speed humps in school zones on non-arterial streets.

Traffic calming can be part of the solution in slowing traffic and improving safety near schools. In addition to improving safety, it can also persuade reluctant school staff to establish student patrol; organize walking school buses; and encourage wary parents to allow children to walk or bike to school.

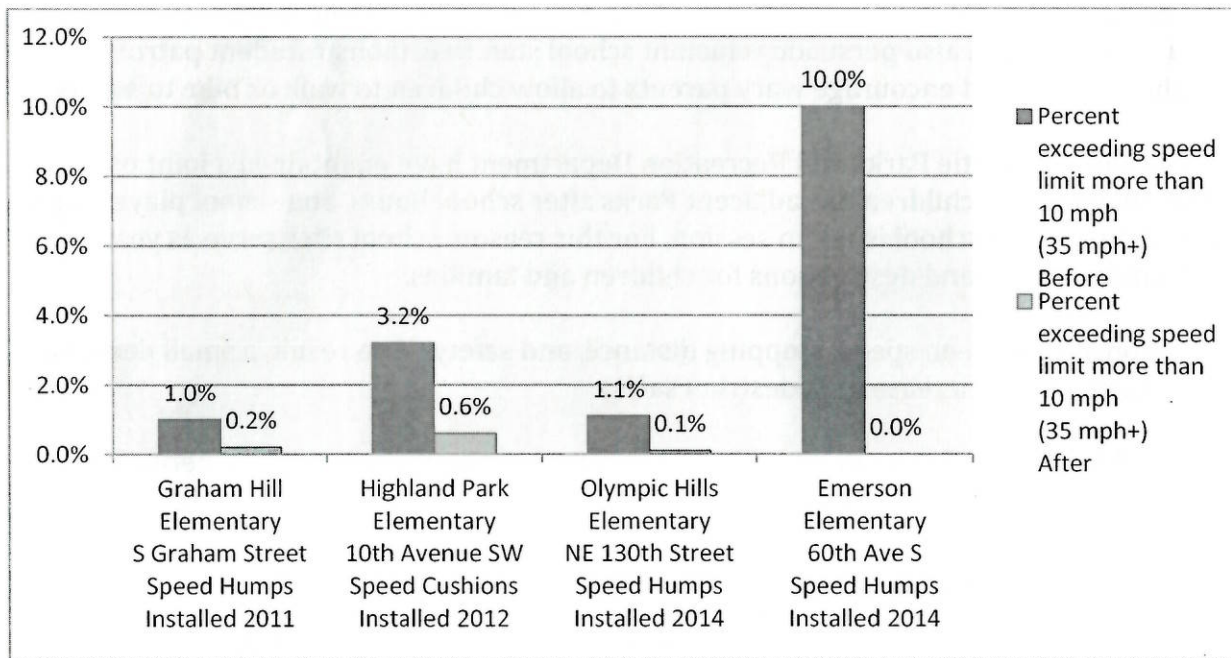
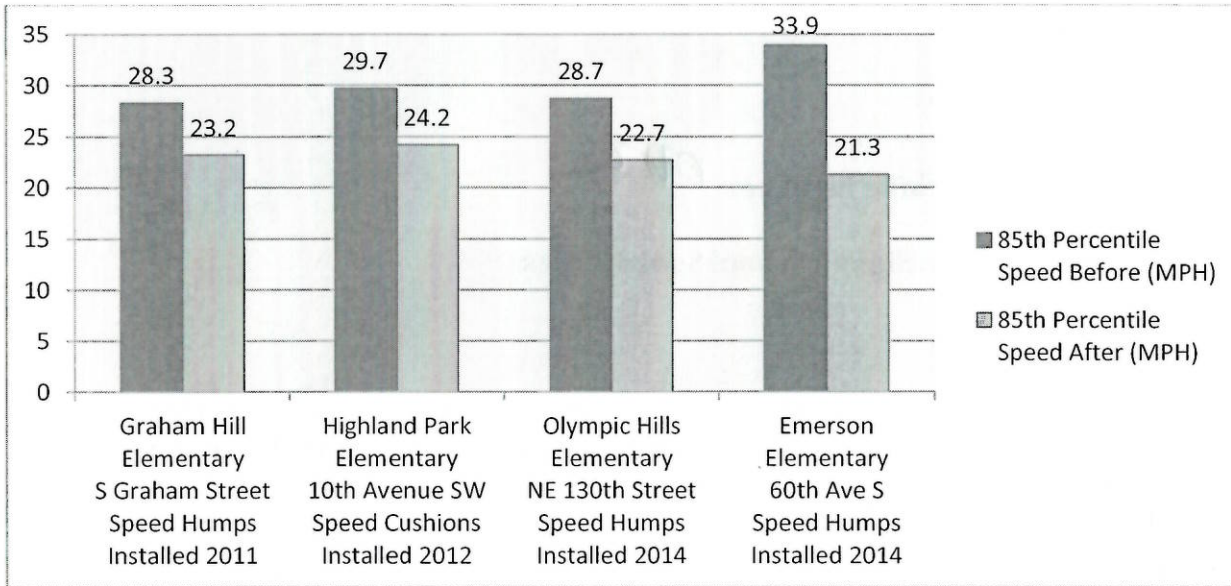
Seattle Public Schools and the Seattle Parks and Recreation Department have maintained a joint use agreement since the 1920s where children use adjacent Parks after school hours, and school playgrounds are open to community use when school is not in session. For this reason, school sites serve as year-round, all-day community centers and destinations for children and families.

There is a direct relationship between speed, stopping distance, and safety. As a result, a small decrease in traffic speeds results in a large increase in pedestrian safety.

The importance of the 20 mph speed limit in school zones is illustrated by the relationship between vehicle speed and pedestrian survival if hit by a motor vehicle:

<u>Vehicle Speed</u>	<u>Odds of Pedestrian Survival</u>	Source: <i>Killing Speed and Saving Lives</i> , UK Dept. of Transportation, London, England. See also Limpert, Rudolph. <i>Motor Vehicle Accident Reconstruction and Cause Analysis</i> . Fourth Edition. Charlottesville, VA. The Michie Company, 1994, p. 663.]
20 mph	95%	
30 mph	55%	
40 mph	15%	

Where SDOT has installed a 20 mile per hour school speed zone on non-arterial streets, the desired 85th percentile speed is 20 miles per hour or less. SDOT has evaluated the effectiveness of speed humps and speed cushions in school zones and found they are effective at reducing the all-day 85th percentile speed to near 20 mph; and they nearly eliminate top-end speeders who drive more than 35 mph that pose the greatest danger for children walking and biking in school zones.



RECOMMENDATION

Current Policy

Speed humps may be installed in schools zones only after an engineering study finds the 85th percentile speed is greater than 30 mph all day or above 25 mph during school arrival and dismissal times. Adjacent residents are notified prior to construction.

Recommended Policy Change

To discourage speeds above 20 mph all day, speed humps may be routinely installed on all non-arterial streets that are signed with 20 mph school speed zones without a formal speed study being conducted. Adjacent residents will be notified prior to construction.

Installation Guidelines

- Schools will be prioritized using the ranking in the Safe Route to School Action Plan
- All non-arterial streets around high priority schools will be evaluated to confirm if they are appropriate candidates for speed humps. Factors such as the following will be considered:
 - Priority will be given to streets wider than 25-feet; streets without sidewalks on both sides; 25-foot wide streets where parking has been restricted on one side and parking restoration is not practical
 - Dead-end streets or streets that don't connect to the street grid where traffic volume would typically be exceptionally low may not be good candidates for priority funding
- The street grade approaching the speed hump should be less than 8%.
- The proposal will be reviewed for concurrence from the Fire Department.
- Specific traffic calming devices will be identified in the 10% project definition. While humps are preferred, cushions, raised crosswalks and raised tables may be considered on streets where humps are not feasible due to grade or emergency response routes.

SDOT will use the school prioritization in the Safe Routes to School Action Plan to prioritize projects; locations that have not yet been prioritized for funding may be funded through Neighborhood Street Fund or Neighborhood Matching Fund.

If approved, neighbors within the school zone will be notified by postcard prior to installation of speed humps. Residents will be given an email and phone number to express concerns or opinions.

This policy change will make school zone traffic calming guidelines consistent with current City policy to routinely install speed humps on neighborhood greenways to maintain speeds of 20 mph or less. It will also help us fulfill the City's Vision Zero safety goals for zero serious injury or fatality collisions.