### SEATTLE, WASHINGTON A MULTI-FACETED APPROACH TO SPEED REDUCTION<sup>1</sup>

A Community Speed Reduction Case Study

#### **DECEMBER 2013**



Credit: www.pedbikeimages.org / Dan Burden

### THE PROBLEM

Despite recent success in reducing the number of traffic collisions and fatalities, the City of Seattle's Department of Transportation (SDOT) recognized that traffic-related injuries and fatalities disproportionately burden pedestrians and cyclists. These preventable injuries and fatalities have enormous public health and economic costs.<sup>4</sup>

Between 2007 and 2010, more than 54,000 collisions occurred on Seattle streets, resulting in 473 serious injuries and 77 fatalities. Speeding contributed to one in three collisions and 42 percent of Seattle's fatal collisions.<sup>2</sup> Moreover, while the number of collisions in the city dropped from 2000 to 2010, collisions involving pedestrians and cyclists did not.<sup>2</sup>



### THE SOLUTION

The City of Seattle has committed to improving road safety, walkability and bikability, and access to public transit. This commitment is evident in its long term goal to reduce to zero traffic fatalities and serious injuries.<sup>4</sup> This has helped the city reduce its per capita collision rate, <sup>2</sup> and achieve a walkable city designation.<sup>3</sup>

### Comprehensive approach to decreasing speeding

In its 2012 Road Safety Action Plan, SDOT set a goal of zero traffic-related fatalities by 2030 and identifed speed reduction as one of six priority areas to help achieve that goal.<sup>2</sup> The strategies outlined in the plan are informed by traffic and collision data. These strategies — under the headings policy, education, environment, and enforcement — combined with the priorities outlined in the Master Plans for bicycles, pedestrians, and transit, lay the groundwork for improving road safety and increasing walking, bicycling, and transit use in Seattle.<sup>5.6.7</sup>



Comic released as part of the City's Road Safety Action Plan and Be Super Safe Seattle campaign Credit: Seattle Department of Transportation

*POLICY*: Pending state legislation would allow the City of Seattle to reduce speed limits on low-volume, low-speed residential roads more easily.

**EDUCATION:** SDOT promotes safe driving through its Be Super Safe campaign. Educational efforts target males ages 16 to 24 because they are most commonly involved in speed-related crashes. Materials emphasize enforcement efforts and highlight the safety benefits of driving the speed limit. Messaging is included in comic books<sup>8</sup> and digital media on sites like Facebook.

**ENVIRONMENT:** SDOT makes physical changes to the road environment to encourage drivers to slow down:

- Visual cues include:
  - Improving the placement and visibility of speed limit signs on arterial roads and conducting speed studies to evaluate the posted speed limits;
  - Upgrading signage to make drivers aware of the lower speed limit in school zones;
  - Using large electronic signs on highways to remind drivers of increased speed enforcement efforts;
  - Deploying neighborhood speed watch trailers as visible reminders to motorists of their current speed; and
  - Engaging neighborhood organizations and community associations in implementing the Arterial and Neighborhood Traffic Calming Programs, described in more detail below.
- Physical cues include:v
  - Road diets;
  - Narrowing lanes; and
  - Installing speed bumps.

## SPEEDING plays a role in 1 OUT OF EVERY 3 COLLISIONS in Seattle.

**ENFORCEMENT:** SDOT increases the visibility and frequency of police and automated enforcement of speed limits.

- In coordination with SDOT's education efforts, Seattle police increase their presence on corridors where collisions are most frequent and specifically target speeding.
- SDOT increased the use of photo enforcement by installing cameras in four school zones in 2012. It plans to expand the use of automated enforcement in other parts of the city.<sup>2</sup>

#### Costs

Through several different investments, the City of Seattle and Washington State DOT support the comprehensive approach to decrease speeding. To implement the Road Safety Action Plan, the city of Seattle allocated \$200,000 from the General Fund in 2013 and 2014 with emphasis on speed reduction measures. The city also allocated \$2.1 million for pedestrian and bicycle enhancement and \$1.5 million for pedestrian, bicycle, and greenway additions. The work is supported by the Washington State DOT and Washington Traffic Safety Commission, which has provided grant funding for local road improvements, increased enforcement efforts, and support for educational outreach.<sup>2, 18</sup>

#### Partners

SDOT coordinates with the Washington State DOT, the Washington Traffic Safety Commission, and the Seattle Police Department. Other community stakeholders, including residents, advocates, employers, universities, and nonprofit organizations, have contributed to SDOT's success in enhancing road safety and reducing speed. For example:

- Large employers in the Seattle area promote road safety by providing lunchtime safety trainings to their employees.
- AAA Washington promotes safety through public service announcements on the radio and by distributing traffic safety information through their website and Driver Improvement Classes.
- Schools and Universities partner with SDOT to engage young people about road safety.
- Insurance companies host courses to address distracted driving and motorcycle safety.
- Advocates host safety trainings, classes, camps, and rides for residents, including students.
- The City Neighborhood Councils disseminate educational information.<sup>2</sup>

# **COMMUNITY ENGAGEMENT** to decrease speeding.

SDOT's Arterial and Neighborhood Traffic Calming Program empowers city residents to become actively involved in traffic calming, a key speed reduction strategy. SDOT staff works closely with neighborhood associations and community organizations to seek resident input about community traffic issues, including speed. Residents identify neighborhood and arterial streets where speeding is problematic and partner with SDOT and neighbors to collect traffic speed data.<sup>9</sup> The Liaison educates residents about traffic calming measures that can reduce speeds and provides them with such tools as radar guns to create a neighborhood-based speed watch area to gather local speed data. If the data indicates a speed problem, SDOT works with the neighborhood to implement measures like speed trailers to display drivers' speeds, parking management, and yard signs to encourage safe speeds. Physical traffic calming measures such as traffic circles are installed if other measures have failed. Since the program was established in 1978, Seattle residents and SDOT have collaborated to install more than 1,000 traffic circles and other traffic calming devices on neighborhood streets.<sup>10</sup> Engaging residents in the speed data collection process serves as an educational tool for the community, while also freeing up SDOT resources for the implementation of traffic calming devices.

### CONCLUSION

Data indicate that Seattle's overall road safety approach is effective. Traffic fatalities in Seattle have trended downward for the last 25 years despite a population increase. Moreover, evidence suggests that the city's current speed reduction efforts will further improve traffic safety.

#### Specific to speed, SDOT has:

- Implemented more than 30 road diets to slow • traffic. Nickerson Road, a street with two travel lanes in each direction, was redesigned to one lane in each direction with a two-way left turn lane in the center. Bike lanes were added in both directions with pedestrian crossing improvements at key locations. The goal of the project was to improve safety for all roadway users and to increase driver compliance with the speed limit. The design modifications resulted in a 23 percent reduction in crashes. Furthermore, the changes in the road design significantly slowed drivers. The number of drivers travelling 10 mph or more over the speed limit decreased 92 percent on the westbound side of the road and 96 percent on the eastbound side.14, 17
- Taken a multi-faceted approach to improving safety on a high collision corridor. The Aurora Traffic Safety project included engineering modifications, enhanced enforcement, and an education campaign. The interventions resulted in a 28 percent reduction in fatal and serious injury crashes and a 24 percent reduction in crashes in which speed was a contributing factor.<sup>15</sup>
- Installed more than 1,000 traffic circles since 1978. A 1997 study of 119 traffic circles constructed in Seattle between 1991 and 1994 showed a 94 percent reduction in all types of crashes.<sup>11</sup>
- Implemented an automated enforcement program. Two photo enforcement pilot projects in non-school zones demonstrated that automated enforcement technology reduces traffic speed. The 85th percentile speed of drivers at the two pilot locations slowed by more than 3 mph.<sup>2</sup>

#### Beyond speed-specific results, Seattle has:

- Experienced a 29 percent decrease in all traffic fatalities between 2009 and 2010, and a nearly 55 percent decrease in pedestrian fatalities.<sup>2</sup> Nationally, all traffic fatalities decreased by 25 percent from 2007 to 2010, while pedestrian fatalities decreased by 10 percent.<sup>12</sup>
- Improved walking and biking conditions, including the creation of neighborhood greenways and adding 129 miles of bike lanes and sharrows,<sup>13</sup> improved pedestrian infrastructure, and safety improvements in walking routes to schools. Seattle is now a city more friendly to pedestrians and bicyclists.<sup>4</sup>

Commitment to zero traffic fatalities<sup>4</sup> from local elected officials and community partners has contributed to the success of SDOT's speed reduction efforts. By empowering community members to be active participants in traffic calming, Seattle has found success not only in reducing motor vehicle speeds, but also in making the city more livable for bicyclists, pedestrians, and motorists.

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

- Public Health Impact: Community Speed Reduction
- Speed Reduction Fact Sheet: Opportunities to Improve Current Practice
- 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
- Washington, DC: Automated Speed Enforcement

**Disclaimer:** This project is supported by Cooperative Agreement Number 3U38HM000520-03 from the Centers for Disease Control and Prevention to the National Network of Public Health Institutes (NNPHI). Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Centers for Disease Control and Prevention or NNPHI.

### ACKNOWLEDGEMENTS

The documents were authored by a team of individuals from Health Resources in Action, Inc. and the Metropolitan Area Planning Council. A number of individuals and organizations contributed their time and expertise to the development of these products. For a complete list of those partners, please visit www.hria.org

## For more information, visit WWW.HRIA.ORG or call HEALTH RESOURCES IN ACTION at 617-279-2240.

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