Cities are adding automated enforcement into their Vision Zero plans.
Why speed camera enforcement?
Percent of motor vehicle crash deaths involving speeding as a contributing factor, 2006-2015
Automated enforcement can supplement conventional enforcement

- Many enforcement agencies lack the resources to mount and sustain effective conventional speed enforcement programs
- With conventional enforcement, it is difficult to observe and stop violators at the worst places and times and in heavy traffic
- High-speed pursuit can be dangerous for police and civilians
- Automated enforcement successfully used throughout the world
Reductions in proportion of vehicles exceeding speed limit by more than 10 mph
6 to 8 months after camera enforcement

Scottsdale, AZ Loop 101 freeway
Montgomery County, MD residential streets
District of Columbia city streets
Spillover effects from automated enforcement

Reductions in proportion of vehicles exceeding speed limit by more than 10 mph

Cameras operational
Scottsdale, AZ

Cameras not operational
Glendale, AZ

Loop 101 freeway
Long-term reductions in vehicle speeds and serious crashes associated with speed camera enforcement
Montgomery County, Maryland

-80%
-60%
-40%
-20%
0%

Likelihood of exceeding speed limit by more than 10 mph at camera sites

Likelihood that crash involved incapacitating or fatal injury on camera-eligible roads
Review of 28 international studies shows that speed camera enforcement reduces injury and fatal crashes
Wilson et al., 2010

- 8-50% reduction in injury crashes in the vicinity of camera sites
- 11-44% reduction in fatal or serious injury crashes in the vicinity of camera sites
- 17-58% reduction in fatal or serious injury crashes over wider areas
U.S. communities with speed cameras
1995-2016
Why red light camera enforcement?
On U.S. roads in 2015, about 181,000 red light running crashes caused about 137,000 injuries and 771 deaths.
771 deaths in red light running crashes in 2015

- Red light running drivers: 39%
- Occupants of vehicles that didn’t run light: 44%
- Passengers in red light running vehicles: 10%
- Pedestrians, bicyclists, other: 7%

391 deaths
Reductions in red light violations at intersections with signal lights
With and without cameras, per 10,000 vehicles

-60%
-40%
-20%
0%

Fairfax, VA

Oxnard, CA

with cameras
without cameras
Reduction in likelihood of red light violations at intersections with cameras vs. expected likelihood without cameras

Arlington, VA
Citywide crash reductions at intersections with signal lights after camera enforcement

Oxnard, California

-80%
-60%
-40%
-20%
0%

Overall
Injury
Right angle
Right angle with injury
Percent difference in actual fatal crash rates during 1992-2014 in cities with red light cameras vs. expected rates without cameras

-30
-20
-10
0

red light running fatal crashes

fatal crashes at intersections with signal lights
U.S. communities with red light cameras
1992-2016
Percent difference in actual fatal crash rates in cities that turned off cameras during 2010-2014 vs. expected rates with cameras

- Red light running fatal crashes: 30
- Fatal crashes at intersections with signal lights: 10
Estimated effects of red light cameras in large cities
1992-2014

- In the 79 cities with cameras, 1,296 lives were saved.
- In 14 cities that ended camera programs in 2010-14, 63 lives were lost as a result.
Best practices
Best practices of automated enforcement

Planning

- Identify problem locations
  - Violation and crash data, field observations, resident input
- Make all changes necessary to ensure drivers can comply with the law
- Obtain public support
  - Publicize the extent of the safety problem and the need for innovative solutions
- Connect the program to safety goals such as Vision Zero
- Establish advisory committee comprised of all stakeholders
Best practices of automated enforcement

Implementation

- Work on changing driver attitudes
- Install prominent warning signs at camera locations and major roadways entering the jurisdiction
- Begin with a warning period
- Focus on the most blatant violations
- Allow for due process
- Devote surplus revenue to safety initiatives
Best practices of automated enforcement

Long term

- Be transparent
  - Any changes to program or new camera locations should be publicized
- Continually gather and publicize data to show evidence of an effect
- Frequently verify that camera equipment is calibrated properly and synchronized with signals
- Regularly meet with advisory committee to review program status
More information and links to our YouTube channel and Twitter feed at iihs.org

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