
Case Study A.4. Automated Speed Enforcement—Montgomery County, Maryland, USA

Key Successes

The effects of the automated speed enforcement in Montgomery County, Maryland, resulted in the following outcomes:

- A 100 percent reduction in mean speeds due to the speed cameras.
- A 62 percent reduction in the likelihood that a vehicle was traveling more than 10 mph above the speed limit at camera sites.
- A 19 percent reduction in the likelihood that a crash resulted in fatality or serious injury due to speed cameras alone. Along the speed camera corridors (cameras were periodically moved along the length of a roadway segment), speed cameras were associated with an additional 30 percent reduction in the likelihood that a crash resulted in a fatality or serious injury.

The Safe System Approach Highlights

- **Death/serious injury is unacceptable:** Montgomery County adopted Vision Zero in 2016.
- **Humans make mistakes/humans are vulnerable:** The county's automated speed enforcement program focuses on vehicular speed reduction, which can lead to reduced crash severity, especially for vulnerable road users.

Background

Montgomery County is the most populous county in the State of Maryland, with a population of approximately 1 million. The County has multiple programs aimed at lowering operating speeds to match the roadway and land use context, including their Safe Speed Program (automated speed enforcement). Placement of automated traffic cameras are legislated under Maryland Traffic Article 21-809.¹ Automated speed enforcement in Montgomery County was implemented in 2007. In 2009, the State speed camera law increased the enforcement threshold from 11 to 12 mph over the speed limit and restricted school zone enforcement hours. In 2012, Montgomery County began using a corridor approach, in which cameras were periodically moved along the length of a roadway segment.

Implementation

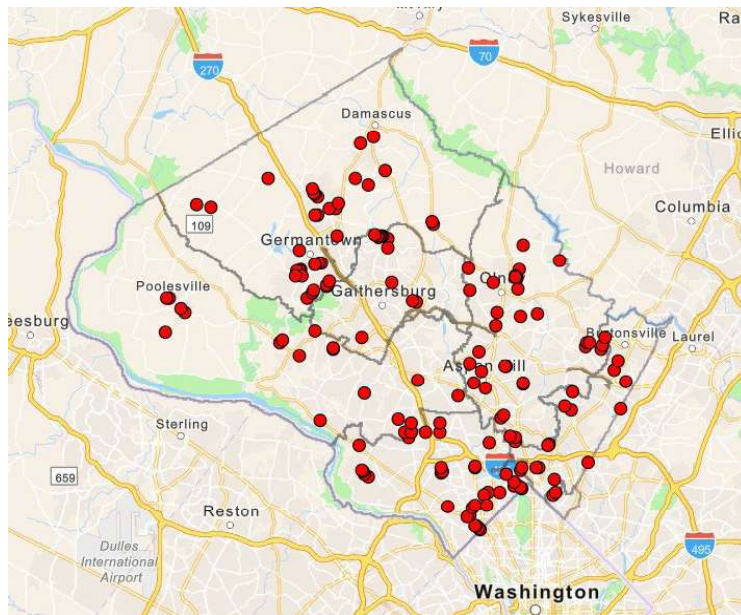
The county introduced automated speed enforcement in 2007, and early research found that more than 60 percent of residents supported the program after it started.² In Montgomery County, local law enforcement can place speed cameras on a residential road with a speed limit of 35 mph or less or within a designated school zone.

¹ Montgomery County. (2022). "Speed Camera Placement." Retrieved from <https://www.montgomerycountymd.gov/pol/howdoI/request-speed-camera.html>.

² Insurance Institute for Highway Safety. (2008). *Evaluation of Automated Speed Enforcement in Montgomery County, Maryland*. Retrieved from https://safety.fhwa.dot.gov/speedmgt/ref_mats/fhwasa1304/resources/Evaluation%20of%20ASE%20in%20Montgomery%20County,%20MD.pdf.

The process for placing and evaluating speed cameras in Montgomery County uses a data-driven approach. The process for installing speed cameras in the county follows the following steps:

1. **Identify camera location:** The request to initiate evaluation for speed camera installation can be made by residents, homeowners associations, police officers, government officials, and police department traffic division personnel. Potential camera locations can also be identified based on crash data, site surveys, pedestrian activity, community and environmental concerns, and points of interest in the area.
2. **Data collection:** Vehicular speeds are collected along stretches of the roadway with speeding concerns.
3. **Data analysis:** Data is analyzed and reviewed by automated traffic enforcement unit personnel, the safe speed program manager, and the director of the police department's traffic division.
4. **Field observations:** After a potential location for camera installation is identified, a field visit is conducted to evaluate the following site characteristics: location (residential, school zone, or commercial), roadway grade, presence of speed limit signs, crash frequency, traffic volumes, environmental factors (areas where the equipment can be safely set up, operated, and maintained), pedestrian proximity to a potential speed enforcement location (existence of schools, bus stops, playgrounds, pools, sidewalks, retirement facilities, crosswalks, and other pedestrian generators).
5. **Final approval:** The director of the traffic division has final approval. Once final approval is given, the site must be advertised in a newspaper of general circulation prior to conducting enforcement.



Source: Montgomery County.

Figure 9. Montgomery County safe-speed camera locations (outside of Speed Camera Corridors).

As of 2019, there were 152 speed cameras (**Figure 9**) in Montgomery County.³ The county constantly evaluates driver behavior near the speed camera locations. With the increased driver familiarity with camera locations, Montgomery County noticed that drivers generally slowed down when approaching a known speed camera and accelerated once they had passed it. To mitigate this driver behavior, the Montgomery County Police Department initiated a corridor approach in 2012, which allows for the placement of cameras anywhere within a designated speed camera corridor.⁴ The cameras along the speed camera corridor change locations regularly. The county adopted the speed camera corridor approach to have drivers reduce speeds on an entire stretch of road rather than just where they know the cameras are located.

Outcomes

A study conducted in 2016 evaluated the effects of automated speed enforcement in Montgomery County on vehicle speeds, public opinion, and crashes.⁵ The study found that speed cameras were associated with a 10 percent reduction in mean speeds. The study also found a 62 percent reduction in the likelihood that a vehicle was traveling more than 10 mph above the speed limit at camera sites.

Further, the overall effect of the camera program in its modified form was a 39 percent reduction in the likelihood that a crash would result in an incapacitating or fatal injury. Speed cameras alone were associated with a 19 percent reduction in the likelihood that a crash would result in fatality or serious injury. At the speed camera corridors, where cameras would be moved so that people did not slow for only one location, speed cameras were associated with an additional 30 percent reduction in the likelihood that a crash resulted in a fatality or serious injury.

Additional Information

Montgomery County adopted Vision Zero in 2016 with the goal of eliminating fatal and serious injuries on county roads by 2030. Under the Vision Zero 2030 Action Plan, work plans are updated every even year to make continual progress on all action items. The 2022-2023 Vision Zero work plan includes the following safe speeds action items: examine speed limit on all projects, speed management policy, and enforcement of speed limits.⁶ For further information regarding speed enforcement in Montgomery County, contact Captain Jim Brown, Montgomery County Traffic division director, at POLTrafficDivisionDirector@montgomerycountymd.gov.

³ Montgomery County. (2019). Safe Speed Camera Locations. Retrieved from <https://www.montgomerycountymd.gov/pol/howdoi/speed-camera-locations.html>.

⁴ Montgomery County. (2022). Speed Camera Corridor Camera Locations. Retrieved from <https://www.montgomerycountymd.gov/pol/Resources/Files/speed-camera/SpeedCameraLocations2020.pdf>.

⁵ Hu W, McCart AT. (2016). “Effects of Automated Speed Enforcement in Montgomery County, Maryland, on Vehicle Speeds, Public Opinion, and Crashes,” *Traffic Injury Prevention* 17(1):53–8. <https://doi.org/10.1080/15389588.2016.1189076>.

⁶ Montgomery County. (2022). *Vision Zero: Fiscal Years 2022-23 Work Plan*. Retrieved from https://www.montgomerycountymd.gov/visionzero/Resources/Files/FY22-23_Vision_Zero_Workplan.pdf.