SAFE SYSTEM CASE STUDY

Intersection and speed solutions in Arlington, VA

KEY TAKEAWAY: Arlington proactively addressed pedestrian injury risk by scaling up intersection treatments. The county paired these changes with multiple speed-reduction measures that bring operating speeds closer to survivable levels, reducing the severity of crashes when they occur.

SAFETY LEVERS

Arlington County's Vision Zero program includes multiple efforts to improve pedestrian safety and manage vehicle speeds. The county has expanded the use of centerline hardening and leading pedestrian intervals to manage conflicts at intersections and to slow turning vehicles. Arlington has also implemented roadway reconfigurations, school zone speed safety cameras, lower speed limits and quick-build treatments to reduce speeds.

All photos: IIHS-HLDI

Instead of making isolated fixes …

Piecemeal changes in reaction to crash data or public complaints

This can delay improvements until after crashes occur or concentrate changes where advocacy is strongest, not necessarily where risk is highest.

… Arlington applied solutions proactively

Scaling up changes across the county

- Arlington systemically implemented leading pedestrian intervals (LPIs) combined with no-turn-on-red signs along High Injury Network corridors beginning in 2023. The number of intersections with LPIs in the county more than tripled from 31 to 101 by the end of 2025.
- Arlington piloted the use of centerline hardening at five intersections in 2024. When evaluations showed it improved safety, the county added hardened centerlines into its regular quick-build safety toolbox. As of November 2025, 12 intersections had hardened centerlines.

Arlington is piloting optical speed bars (left) among other tools. Centerline hardening (right) is now used widely after a successful pilot in 2024.

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Instead of a piecemeal approach to speed management …

Relying on a single method to address speed

A single speed management tactic, such as changing the speed limit or adding speed safety cameras, will change the behavior of some drivers but not others.

… Arlington took a comprehensive approach

Layering multiple tools to address speed

Around schools:

- In 2024, Arlington began using speed safety cameras on arterials in school zones. There were 28 cameras in use by the end of 2025.
- Speed limits were lowered to 20 mph at all times on neighborhood streets within 600 feet of school access.
- In 2023, Arlington piloted the installation of tactical speed humps in three school zones where the introduction of the 20 mph speed limit did not effectively reduce actual speeds. When this was successful, they expanded the speed hump pilot to cover a total of 13 total locations by the end of 2025.

Elsewhere on arterials:

- From 2018 to 2022, the county reconfigured 14 corridors by reducing the number or width of lanes or repurposing lanes.
- During the same time period, speed limits were reduced on 14 different corridors, either from 35 mph to 30 mph or to 25 mph from prior limits of 30 or 35 mph.
- In 2025, Arlington began piloting additional speed management tools on arterials, including wider edge lines, optical speed bars, transverse markings, rumble strips, speed limit pavement markings and physical narrowing with flexible posts along the edge or center of roadways.

What levers did these interventions pull?

PRIMARY: Arlington's expanded use of LPIs and centerline hardening reduced the **likelihood of pedestrian crashes** by increasing the visibility of crossing pedestrians to turning drivers.

SECONDARY: Arlington's speed management efforts reduced **severity** by lowering speeds to levels that are more survivable for all road users.

State and local DOTs can reduce crash injuries by lowering one or more of the following **SAFETY LEVERS**:

EXPOSURE	how much people drive
SEVERITY	how fast vehicles travel and how heavy they are
LIKELIHOOD OF A CRASH	how often road users come into conflict

What were the results?

- Corridors with roadway reconfigurations saw the 85th percentile speed fall an average of 6%.
- After centerline hardening was installed at five pilot intersections, the percentage of cars turning at speeds below 10 mph rose 16%.
- After tactical speed humps were installed, the 85th percentile vehicle speed fell 11-36% on six pilot corridors.

What else can be done?

Rapid-deployment steps: Expand already successful quick-build pilots, such as centerline hardening and tactical speed humps, countywide.

Policy/process trigger: Expand existing efforts to increase transit speed and reliability, to support mode shift and reduce exposure. Arlington has deployed bus-priority strategies on a limited basis, including bus-only or peak-period bus lanes and transit signal priority. These could be extended to more corridors.

Continued data collection: Track conflicts with pedestrians at intersections with crossing treatment improvements. Continue to track operating speeds as well as high-end vehicle speeds.