

SAFE SYSTEM CASE STUDY

Redesigning for slower speeds in Philadelphia

KEY TAKEAWAY: By reshaping streets to manage speed and simplify conflicts —and pairing those changes with speed safety cameras — Philadelphia reduced the most severe crash outcomes and also lowered overall crash risk.

SAFETY LEVERS



Philadelphia demonstrates how moving from reactive, piecemeal safety interventions to a proactive Safe System approach can [significantly reduce traffic deaths and serious injuries](#). Rather than waiting for tragedies to occur, the city has reshaped the built environment through road diets, separated bike lanes, Neighborhood Slow Zones and traffic calming while also deploying [speed safety cameras](#) on its highest-risk corridors to prevent serious injuries and fatalities before they happen.



Office of Transportation and Infrastructure Systems

Instead of relying on driver compliance ...

... Philadelphia designed streets for safety

Using only signs, warnings or enforcement to change behavior

Police enforcement in particular requires significant, ongoing funding and staffing. It also can be inconsistently applied and doesn't address the underlying street design conditions that contribute to serious injuries and fatalities.

Building permanent, self-enforcing infrastructure that delivers lasting safety improvements

Philadelphia built separated bike lanes and redesigned streets using road diets to reallocate space for walking, biking and transit.

Instead of relying on a single solution ...

... Philadelphia layered multiple tools

Treating any single approach as sufficient to manage safety on high-risk corridors

Speed safety cameras are an effective and cost-efficient tool, but on their own don't address the full range of factors that influence operating speeds and crash outcomes.

Pairing safety cameras with physical changes

Corridors targeted for speed safety cameras should also be prioritized for more permanent approaches, such as street design changes and traffic calming. On Philadelphia's Roosevelt Boulevard, the city deployed speed safety cameras and then planned additional corridor redesign projects to bolster the safety gains. These included reconfiguring crossover lanes, improving intersections and pedestrian crossings, and adding bus priority lanes to better separate traffic.

Instead of allowing lack of local authority to hinder progress ...

... **Philadelphia partnered with state lawmakers to gain approval**

Limiting action to what local agencies can implement on their own

When tools such as speed safety cameras require state legislative approval, progress can stall without intentional coordination beyond the city level.

Cooperating across levels of government to enable effective safety action

Facing longstanding safety concerns on Roosevelt Boulevard, Philadelphia worked with state leaders to secure legislative authorization for speed safety cameras. Deployment was later expanded to additional corridors.

Instead of deploying safety fixes piecemeal ...

... **Philadelphia scaled up proven solutions**

Leaving some neighborhoods behind

If certain neighborhoods, especially those disproportionately exposed to high-risk built environments, are left without improvements, that limits citywide safety gains.

Widespread deployment for broader impact

Across the city, Philadelphia scaled up bike lanes, road diets and Neighborhood Slow Zones, which have 20 mph limits and traffic calming features.

What levers did this intervention pull?

 **PRIMARY:** Philadelphia reduced **severity** by lowering vehicle speeds on high-risk streets through road diets, traffic calming, Neighborhood Slow Zones and speed safety cameras. By bringing operating speeds closer to survivable thresholds, these measures made crashes less likely to result in death or serious injury.

 **SECONDARY:** Changes that reshaped how road users move and interact reduced the **likelihood of a crash**. Road diets and separated bike lanes reduced conflict points and physically separated people walking and biking from motor vehicles.

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?

- ✓ On Roosevelt Boulevard, speed safety cameras drove a 50% reduction in traffic deaths, a 36% reduction in crashes, and a 90% reduction in extreme speeding within the first seven months.
- ✓ Neighborhood Slow Zones produced 75% fewer crashes.
- ✓ Injury crashes were 17% lower after road diets and 18% lower after separated bike lane installation compared with trends on the rest of the High Injury Network. In addition, the number of people biking on corridors with separated bike lanes increased significantly.

What else can be done?

Interim approach: Low-cost, quick-build tools such as paint, delineators and planters can be used to create temporary versions of road diets, curb extensions or protected bike lanes, allowing residents and decisionmakers to experience safe street designs before permanent investment. Even modest upgrades such as daylighting or leading pedestrian intervals can reduce speeds and conflict points. Community-led efforts such as walk audits, near-miss mapping and simple speed studies can also help identify risk areas and build evidence for future improvements.

Policy/process trigger: Update design standards to prioritize self-enforcing features, aligning resurfacing projects with opportunities to narrow lanes or add markings and integrating safety into capital improvement programs.

Additional policy/process trigger: Expand on the High Injury Network, which Philadelphia uses today to prioritize street redesigns and speed management, by creating a risk-based network that directs those same treatments to corridors with similar risk characteristics before serious injuries occur.