TO: NJ Target Zero Action Plan Working Group Members
FROM: targetzero@rutgers.edu
July 16, 2025

Memorandum: Draft Safer Speeds Actions

Instructions

This document contains a draft version of **Safer Speeds** actions for the New Jersey Target Zero Comprehensive Safety Action Plan.

The purpose of this draft is to invite constructive input, particularly from Working Group members who have actively contributed to the development of these ideas. The actions outlined here were informed by submissions to the Target Zero Input Form, feedback from breakout discussions at previous meetings, and comments submitted via email to the Commission or Working Group. Actions are not listed in any priority or order.

This is a working draft that is **intentionally incomplete**. It is shared to invite input and ensure that additional perspectives help shape the details of each action item.

Comments are due by **5pm on Friday, August 8, 2025.**

Comments will be reviewed and incorporated, where appropriate, into the draft actions. **Not all actions listed will necessarily be included in the final action plan.** Final prioritization and inclusion of actions will be at the discretion of the agency members of the New Jersey Target Zero Commission.

How to Comment on Actions

- Comments are public and attributed to an Adobe-enabled account or a guest account with Adobe.
- To support precise feedback, all pages include both page numbers and line numbers for easy reference.
- You may also send comments via email to targetzero@rutgers.edu. Comments made via email should specify the page and line numbers.

Comments are encouraged to include, but are not limited to:

- Reactions to the text and suggestions for edits.
- Suggestions for new directions for specific actions.
- Additional leads on examples, similar programs, research, or other resources.
- Constructive criticism of the actions and their ability to be implemented.

- Suggestions on how best to involve Commission member agencies and other agencies or organizations, either as the lead oversight agency or in a supportive capacity.
- Assistance in determining the appropriate cost, timeframe, priority, and evaluation strategy.
    - Timeframes should be considered with respect to these draft ranges:
        - **Immediate:** Under 1 year
        - **Short:** 1–3 years
        - **Medium:** 4–8 years
        - **Long:** More than 8 years
    - Cost, priority, and evaluation criteria are more variable and are undergoing additional development. If you would like to comment on these, please provide details to help categorize these action item criteria.

If you feel Safer People actions are missing from this list, you can submit ideas through the Target Zero Input Form or via email to targetzero@rutgers.edu **no later than 5pm on Friday, August 8, 2025**.

Each action comprises of the following:

1. A table of criteria for organization of key information, such as relevant objectives, potential lead and partner agencies and organizations, etc.,
2. A description of the action item, comprising of one or more specific actions,
3. Notes, which provide relevant background information and a summary of findings from staff and student research.

This draft is one of multiple anticipated documents to be shared with the working group. Draft Actions are intended to be shared via link by primary objective:

The Safe System Approach

- Safer People
- Safer Roads
- Safer Speeds
- Safer Vehicles
- Post-Crash Care

Additional Draft Priorities

- Safer Land Use
- Better Funding Processes
- More Technical Assistance
- Better Data and Evaluation
- More Efficient Project Delivery

Contents

Automated Speed Enforcement

Action Item	Automated Speed Enforcement
Key Objective	Safer Speeds
Other Objectives	
Lead Oversight Agency	Dept. of Transportation
Support Agencies	Div. of Highway Traffic Safety State Police Turnpike Authority DEP Office of Environmental Justice MPOs
Other Partners	Local and County Transportation Departments School Districts
Action Type	Legislative Enforcement
Timeframe	Short
Priority	
Cost	
Performance Metric/Evaluation Method	ASE legislation written, passed by legislature, and signed into law
Next Steps	Work with legislature to develop and focus bill for passage

Description

- Implement automated speed enforcement at high-injury and top priority areas, prioritizing school zones and work zones.
- Ensure that an automated speed enforcement program promotes equity and justice.

Notes

Speed exacerbates the severity of crashes that occur; camera enforcement can help protect police, and all of the traveling public. Automated speed enforcement (ASE) effectively reduces vehicle speeds and injury crashes. It is a method that is growing in popularity nationwide, with proven examples of success, and is highly encouraged by the

National Highway Traffic Safety Administration. ASE may be used to support traditional traffic enforcement by police officers and in circumstances where traditional enforcement is not possible or practical. New York, Pennsylvania, and Maryland have all implemented highly effective ASE programs as part of their commitment to reducing traffic fatalities. A similar pilot program in New Jersey in school or work zones should also be part of our commitment to safety. **However, ASE is prohibited in New Jersey under current law.** The use of speed cameras has been prohibited by state law since 1992. (NJ Rev Stat § 39:4-103.1 (2016))

ASE has considerable potential to impact driver behavior in several key topic areas. High-injury locations are areas with a high concentration of speed- and pedestrian-related crashes. Roadway owners (local, county, state) can use the Target Zero High-Injury Network to identify corridors based on a set of developed criteria. Several types of zones can be included in high-injury or top priority areas, including school and work zones.

In November 2021, the Federal Highway Administration (FHWA) added Speed Safety Cameras (SSCs) to its toolbox of proven safety countermeasures. The FHWA strongly encourages the implementation of these countermeasures on the state, regional and local levels to improve safety. The agency considers SSCs to be "an effective and reliable technology to supplement more traditional methods of enforcement, engineering measures, and education to alter the social norms of speeding." SSCs can be fixed units (a single camera for one location), P2P or point-to-point cameras (multiple cameras which capture speed over a certain distance), or mobile units (on a trailer or vehicle). Use of fixed units on urban roadways can result in a reduction in all crashes of up to a 54 percent and a 47 percent reduction in injury crashes on urban arterials. P2P units can reduce fatal and injury crashes on expressways, freeways, and urban arterials by up to 37 percent and mobile units can reduce crashes on urban arterials by up to 20 percent (Federal Highway Administration, 2021). Source: Automated Speed Enforcement, The State of Knowledge and Implications for Transportation Planning. Rutgers University

School zones are often considered top priority areas for ASE because of the presence of children. In New York City, the definition of a School Zone was expanded to include any street within a quarter-mile radius of a school, and over 2,200 cameras have been placed in School Zones throughout the city. These cameras now operate at all times year-round. Between 2021 and 2023, injuries in School Zones with cameras decreased by 3%. The Maryland DOT defines a School Zone as up to a half-mile radius around a school and provides a list of recommended locations for ASE placement within this zone.

Parks have a high number of children, pedestrians, and bicyclists that should be protected through ASE. Furthermore, a consistent speeding problem may have negative impacts on the recreational benefits and quality-of-life effects of park space. In Chicago, the Children's Safety Zone Program establishes a Park Zone that is monitored by ASE year-

round. The implementation of speed cameras near parks in Chicago started with a warning period before issuing citations.

Highways and work zones are also priority corridors for ASE. The 2021 federal Infrastructure Investment and Jobs Act allows states to allocate a portion of their highway funding to implement ASE programs within work and school zones. ASE in work zones is temporary and usually needs to be manned during operation. They are also usually recommended on roads with a speed limit of 45 mph or higher. ASE in work zones varies greatly between states that have implemented it, with some states only allowing citations to be issued when workers are present, and other states only allowing ASE under city ordinances without being codified in state law. The Maryland SafeZones program focuses specifically on Work Zone safety. In Maryland, fines are doubled when workers are present in the work zone. Illinois instituted one of the first work zone ASE programs. The ASE system is contained within a van that is staffed by Illinois State police officers. Work zones are equipped with two ASE systems that provide drivers with a chance to reduce their speed before entering the zone. New York has had a five-year automated work zone speed enforcement program since 2021 as a joint effort between the New York State Department of Transportation and Thruway Authority. Work zones with this program have clear signage and three tiers of fines depending on the number of violations. Pennsylvania also had a five-year Work Zone Speed Enforcement pilot program that it made permanent in 2024 following the pilot's success. PennDOT's 2023 Automated Work Zone Speed Enforcement annual report revealed that excessive speed was reduced by 47% during peak construction seasons. Importantly, work zones throughout Pennsylvania and other states are managed by independent contractors who do not have to adhere to state and federal holiday calendars and may be present in a work zone at any time; ASE can therefore identify violations whenever workers are present, even on federal holidays. Since contractors are usually responsible for setting up traffic control devices in the work zone, they can include ASE as part of work program as a way to facilitate the adoption of this speed reduction device.

Funding for Safer Roads: A key success factor for an accepted automated enforcement program in other states has been that the funds collected cannot be directed toward general revenue but should only be used for future implementation of traffic calming, safety countermeasures, or safety programs, such as Complete Streets, Transportation Alternatives Set-Aside, Safe Routes to School, etc. In Baltimore, for instance, the Complete Streets and Safe Routes to School Programs law directs funds collected from traffic violation tickets into pedestrian-safety projects like the city's Complete Streets Program and Safe Routes to School.

Given the ever-changing nature of law enforcement-community relations throughout the state, embracing automated enforcement as a means to shape driver behavior also has the potential to mitigate negative interactions between drivers and police. This non-

confrontational approach may contribute to a more constructive relationship between law enforcement and the community. ASE would not eliminate all interactions between police officers and motorists, but it would significantly reduce them. It could also enhance the enforcement of existing safety laws and improve public safety. Additionally, because traffic stops are resource-intensive and subject to officer discretion, automated speed enforcement allows for consistent and uniform enforcement of speed limits without additional risk exposure or resource allocation.

If used incorrectly, speed camera programs can contribute to racial and economic inequality. The Vision Zero Network has published a report of recommendations for promoting equity and justice in these programs. The recommendations include incorporating community member feedback, setting fines to the lowest possible amount needed to enact behavioral change, directing funds to other roadway safety projects, and developing metrics to ensure the programs do not have a disproportionate impact on certain groups. The report emphasizes the importance of building community trust around speed safety camera programs; working with community nonprofits and private community funders to raise funds for traffic cameras (which may be used for multiple data collection goals, such as near-miss collision detection, truck and traffic volume counts) can be an effective way of engaging the community. Including robust community engagement and education around how modifications to our built environment improve safety and placemaking is also an effective way to build trust in these programs.

An extensive educational outreach campaign should focus on changing driver behavior and attitudes. The campaign would begin before the installation of speed cameras to inform the public about the set up and operation of the cameras, the process for appealing citations, and the dangers of excessive speeding.

Context-Based Speed Limit Reductions

Action Item	Context-Based Speed Limit Reductions
Key Objective	Safer Speeds
Other Objectives	Safer People
Lead Agency	Div. Highway Traffic Safety, NJDOT, MPOs
Support Agencies	State Police Turnpike Authority
Other Partners	
Action Type	Legislative Enforcement
Timeframe	
Priority	
Cost	
Performance Metric/Evaluation Method	

Description

- Shift focus from the 85th percentile speed limit to context- and land use-based speed limits.
- Identify land use typologies where speed limits exceed what is appropriate.
- Enable municipalities to reduce speed limits on residential streets and smaller roads without conducting traffic studies.

Notes

Context-based speed limit reductions involve lowering the speed limit of a road based on land use context, pedestrian and bicycle activity, roadway type, and crash history, rather than relying on the 85th percentile speed. Lowering speed limits can be effective at reducing fatal and serious injury crashes in rural and urban areas. In Countermeasures That Work, the National Highway Traffic Safety Administration acknowledges that even small reductions in speed limits can result in significant decreases in crashes and injuries. Another study demonstrates that reducing the speed limit by 1 mph in urban areas is associated with a 5% reduction in crashes.

The 85th percentile speed is the speed at which 85% of drivers operate at when the roads are in favorable condition. This speed has traditionally been considered as safe, and anything above the 85th percentile as unsafe. The 85th percentile speed has its

drawbacks, only working well for roads which lack the complexity of pedestrian-centered streets. Arterial roads, rural roads, and residential streets, for instance, all have different land uses and pedestrian activity associated with them that require different speed limits. The 85th percentile approach may also lead to higher operating speeds, creating an even higher 85th percentile speed. The newest edition of the Manual on Uniform Traffic Control Devices (MUTCD) shifts the focus away from the 85th percentile and allows flexibility in setting speed limits, suggesting that legislatures consider roadway environment, roadway characteristics, geographic context, reported crash experience, speed distribution, and results from past speed studies. This empowers legislatures to take a more holistic approach to setting safe speed limits.

Seattle lowered the speed limits from 30 mph to 25 mph on its arterial roads and from 25 mph to 20 mph on its smaller roads. Since then, traffic crashes were shown to decrease by a total 17% on downtown streets and by 20% on downtown arterial roads. The city alerted drivers to the change through public outreach campaigns and new signage. This reduction in speed limits was preceded by the Washington State Neighborhood Safe Streets Bill, which allows cities to lower speed limits to 20 mph on residential and non-business arterial streets without going through traffic studies. Similarly, Hoboken reduced its citywide speed limit even lower from 25 mph to 20 mph, noting that driving 5 mph slower can significantly reduce the chance of pedestrian fatality in a collision. Along with other safety improvements, this change has allowed Hoboken to reach the milestone of seven consecutive years without a traffic related fatality, as of 2024. Cape May City reduced all city speed limits to 20 mph and Montclair lowered speed limits on all Township roads to 25 mph, with even lower limits of 20 mph in school zones. These municipalities show that it possible to consider land and road use when reducing speed limits instead of adopting a one-size-fits-all approach.

Colorado Department of Transportation engineers are also moving away from the 85th percentile approach, weighing other factors like a road's purpose, geometry, and the number of pedestrians and cyclists who use it. In the pilot phase, CDOT evaluated up to 60 miles of roadways, resulting in lower speed limits for about a third of those roadways. The context-based speed limit approach has resulted in a 30-mph speed limit on a segment of U.S. 287 that has an 85th percentile speed limit of 42 mph.

Implement Variable Speed Limits

Action Item	Implement Variable Speed Limits
Key Objective	Safer Speeds
Other Objectives	Safer People
Lead Agency	NJDOT
Support Agencies	NJ Turnpike Authority, other state authorities
Other Partners	
Action Type	Design Policy
Timeframe	
Priority	
Cost	
Performance Metric/Evaluation Method	

Description

- Implement variable speed limits, prioritizing their use on challenging and complex roadways.
- Accompany all variable speed limit signs with variable message signing.

Notes

Variable speed limits (VSLs), displayed to drivers on electric signs, adapt to changing weather, traffic, and road conditions. They are especially useful on roads with posted speed limits greater than 40 mph that experience changes in congestion and weather conditions throughout the day.

The Federal Highway Administration includes VSLs as a Proven Safety Countermeasure. VSLs reduce speed variance on freeways and are found to reduce total crashes by up to 34%, reduce rear-end crashes by up to 65%, and fatal and injury crashes by up to 51%. A study conducted in Virginia along a section of I-77 that experiences recurring fog events found that VSL was effective in reducing driver speeds and crash rates, but speeds were not significantly reduced in transition areas. Another study conducted in St. Louis found that VSL reduced crashes by 8%.

The New Jersey Turnpike utilizes VSLs, located every two to three miles, with locations determined by interchange locations, distance between successive interchanges or ramps, and sight distance. The system used to be automatic, and was very successful, according to the Turnpike Authority, but it was switched to manual operation due to excessive system maintenance. The Turnpike's VSLs are accompanied by variable message signing (VMS), which warns drivers of conditions like crashes and delays. The use of VSLs can be expanded throughout the state to prepare drivers for changing road conditions and reduce crashes.

VSLs are currently being considered for inclusion in the Incline Package assets for I-78 and I-280. The Incline Package manages traffic at these locations, which have steep inclines that can be especially challenging during winter weather. VSLs would prepare drivers for wintry conditions and possible congestion on these roadways.

Lower Speed Limits in School Zones

Action Item	Lower Speed Limit in School Zones
Key Objective	Safer Speeds
Other Objectives	Safer People
Lead Agency	
Support Agencies	
Other Partners	
Action Type	Legislative Enforcement
Timeframe	
Priority	
Cost	
Performance Metric/Evaluation Method	Speed study

Description

- Support a review of school zone speeds and the adoption of a 5-10 mph speed limit reduction in all school zones.
- Ensure that road design in school zones aligns with intended travel speeds to create self-enforcing roads.
- Enhance the visibility and clarity of school zone signs and in-pavement school zone marking.
- Extend and simplify school zone speed limits to be in effect at all times of day, not just when "children are present".

Notes

In order to encourage school-aged children to safely walk and ride a bicycle to school, the New Jersey Department of Transportation has developed a New Jersey School Zone Design Guide. As defined by N.J.S.A. 39:1-1, a school zone is a section of roadway adjacent to a school, including any sign-posted school crossing in accordance with specifications adopted by the chief administrator. This definition provides a relatively broad set of regulations, affording individual municipalities the flexibility to manage school zones in their district.

Unless otherwise stated, the speed limit in New Jersey within a sign-posted school zone is 25 mph. Some school zones may have a speed limit below 25 mph when children are present, which is generally at the beginning and end of school hours, during breaks, and during sports practices. Reducing speed limits in school zones is an influential step in reducing road deaths, as a pedestrian hit by a vehicle traveling at 20 mph has a 90% chance of surviving the crash, compared to a 60% chance of surviving a crash when hit by a vehicle traveling 30 mph (Transportation for America). With a default school zone speed limit of 25 mph, New Jersey has the opportunity to enhance the safety of students by reducing posted speed limits, clarifying the associated signage for drivers, and implementing self-enforcing roads through traffic calming techniques.

In New Jersey, local authorities, with reference to roadways under their jurisdiction, may by ordinance, or in the case of county authorities, by ordinance or resolution, designate a reasonable and safe speed limit that is less than or greater than 25 mph after an engineering and traffic investigation [N.J.S.A. 39:4-98(c)].

Several municipalities in New Jersey are leading the way toward this change. Montclair recently adjusted the speed limit to 20 mph in all school zones, noting that even a decrease 5 mph can save a life. In Belleville, speed limits of 15 mph in school zones has been in effect since 2015. In Hoboken, the speed limit of all roads located within school zones is 15 mph. Furthermore, any roads under the city of Hoboken or Hudson County jurisdiction are 20 mph, increasing the reach of safety for road users throughout the entire city. In both Montclair and Hoboken, school zones speed limits are in effect when school children are present, representing a positive step towards lowering school zone speeds across the state to accomplish the zero roadway death goals of Target Zero Initiatives.

In order to support the implementation of lower speed limits throughout New Jersey, consideration must be made for the feasibility and enforcement of such a policy. Some schools are located along high-speed roadways; therefore, a 20 mph speed limit may be difficult to implement. In other municipalities, stringent enforcement such as through automated speed cameras may cause economic hardship and overburden disadvantaged communities. Instead, a school zone may benefit from the development of self-enforcing traffic management. This is achieved through a variety of traffic calming measures such as raised crosswalks, speed display boards, and lane narrowing to encourage drivers to slow down and pay closer attention to their surroundings. By implementing design elements that slow driver speed and draw their attention to the road and sidewalks, the safety of all road users is expected to increase without the need for speed cameras and harsh penalties.

Speed Limiter Legislation

Action Item	Speed Limiter Legislation
Key Objective	Safer Speeds
Other Objectives	Safer People Safer Vehicles
Lead Agency	Div. Highway Traffic Safety, MVC, State Police
Support Agencies	
Other Partners	
Action Type	Legislative
Timeframe	Short
Priority	
Cost	
Performance Metric/Evaluation Method	Law written, passed by legislature, and signed into law

Description

- Require the installation of intelligent speed assistance devices for repeat speeding offenders.
- Develop legislation requiring the installation of this technology in newly manufactured or sold vehicles.
- Develop legislation requiring the installation of this technology in government fleet vehicles and trucks.
- Establish a threshold for excessive speeding to be considered a criminal offense (for example, speeds over 20 mph).

Notes

Intelligent speed assistance or intelligent speed adaptation (ISA) incorporates technology within cars that utilize GPS data via a network or speed limit sign recognition. This tool reduces a driver's speed and fast acceleration, limiting vehicle crashes and improving overall road safety. Use of ISA in a vehicle can be voluntary or mandated and can involve passive warnings or proactive physical control. Systems may:

- Provide information only (display the speed limit and changes).
- Provide visual or audible alerts when the speed limit is exceeded, but the driver can decide how to react (termed open system).

- Provide accelerator resistance to make speeding more difficult, but still possible (termed half-open). This system is like cruise control, except the speed limit (not the driver) determines when to engage speed resistance. Drivers may be able to turn off the system with a switch.
- Automatically prevent speeding above the speed limit (mandatory speed compliance).

International research has found that the implementation of this technology substantially decreases the number of crashes and, therefore, crash-related injuries on roadways. Outside of speed governors, adaptive cruise control, electronic stability control, and other non-speed-related driver systems such as alcohol interlock technologies, Vaa et al. estimates that ISA could be the most effective driving system to reduce vehicle related fatalities and injuries. Several countries throughout Europe require the installation of this technology in new cars, and some US states have followed suit. In a long-term study of 284 drivers using an active accelerator pedal, Várhelyi et al. found that while driver speeds increased somewhat from initial drops, speeds remained lower over the long-term (5 to 11 months), remained lower when the systems were active, and were significantly lower than that of other drivers.

Traffic Calming

Action Item	Traffic Calming
Key Objective	Safer Speeds
Other Objectives	Safer Roads Safer People
Lead Agency	NJDOT, MPOs
Support Agencies	Division of Highway Traffic Safety
Other Partners	
Action Type	Legislative Design
Timeframe	Short
Priority	
Cost	
Performance Metric/Evaluation Method	

Description

- Revise NJ Rev Stat § 39:4-8.10 (2024) to eliminate the vehicles per day (vpd) maximum required for construction of speed humps, speed tables, raised intersections and chicanes and other vertical deflection and traffic calming measures.
- Remove DOT submittal requirements for speed humps on roads with more than 3,000 vehicles per day.
- Update design standards for the safest and most cost-effective practice of applying traffic calming techniques to roadways, including a statewide Traffic Calming Manual.
- Reduce vehicle speeds and crash rates by physically altering the road geometry, especially near schools, downtowns, and transit stops, to reduce speeds, reduce pedestrian crossing exposure, and reallocate existing road space for bicyclists and micromobility users.
- Adopt early action safety treatments like vertical deflections to proactively address safety issues.

Notes

New Jersey's statute, NJ Rev Stat § 39:4-8.10, restricts municipalities from installing vertical deflection features like speed humps and raised intersections on roads that

exceed a certain number of vehicles per day. This limitation prevents towns and cities from addressing safety issues on exactly the types of roads where speeding and pedestrian risk are most extreme, such as near schools, parks, churches, and busy commercial corridors.

The Traffic Calming ePrimer | FHWA provides comprehensive guidance on 22 different traffic calming tools and their effects on speed reduction, crash rates, and overall street safety. According to FHWA, 26 Neighborhood Slow Zones implemented with measures like speed humps and signage saw a 10–25% reduction in vehicle speeds and a 27% drop in crash-related injuries. In addition, a review of 51 speed hump studies found that these treatments reduced crashes by 33–48%, while speed tables led to crash reductions between 36–64%. The ePrimer documents that these designs are compatible with emergency vehicles, transit operations, and freight access when properly implemented.

When traffic calming measures are implemented, especially in high-pedestrian areas, they can lead to fewer crashes and serious injuries, underscoring the need to remove state-level barriers so municipalities can act more quickly and with flexibility to implement proven safety solutions. By removing the traffic volume cap in the statute, New Jersey can align policy with best practice, allowing cities and towns to use the right tools in the right places to save lives.

Speed Humps

A speed hump is a raised part of a roadway that slows a driver's speed while traveling over it, as traveling at a high speed while going over the speed hump can result in damage to the motor vehicle. The installation of a speed hump can reduce vehicle speeds by 20-25% and reduce crash rates by 13%. Speed humps are best utilized on roads with already slower speeds, that have moderate traffic, and are most effective when multiple speed humps are placed in a row. Due to this, speed humps are best placed in residential areas or in school zones. As these areas tend to have a high volume of pedestrians, speed humps are an ideal tool to reduce speeds and increase pedestrian safety on roadways.

Vertical deflections are early action safety treatments that create a change in the height of the roadway that forces drivers to slow down. These include speed humps as well as speed tables and slots, speed cushions, raised crosswalks, and raised intersections. Philadelphia has been employing these types of traffic calming treatments on its most dangerous roads since 2015. More than 350 blocks in Philadelphia have some form of vertical deflection, and about 50 more locations are added to the list annually.

Bump Outs/Curb Extensions

A bump out or curb extension is when the curb and sidewalk extend into the roadway at an intersection. The measure can have multiple benefits to traffic calming and pedestrian safety. Bump outs narrow the roadway, making drivers pass through the intersection at a slower speed. Additionally, bump outs provide additional space for pedestrians at

intersections and shorten the pedestrian crossing at an intersection. It is important to note that bump outs are most effective on roadways with space for them. These roadways include those that have existing parking lanes. The design of a bump out should also take into account the presence of a bike lane. If a bike lane is present, the bump out should not impede on the bike lane or force the bike lane to be merged with the travel lane.
In Hoboken, the curb extensions along Washington Avenue include rain gardens–green infrastructure designed to manage stormwater runoff, reduce localized flooding, and enhance streetscape aesthetics while supporting native plant habitats and urban biodiversity.

Lane Narrowing & Lane Reduction

Many roads throughout New Jersey have multiple lanes with a width larger than necessary to accommodate vehicle usage. This often allows drivers to speed and recklessly maneuver in and out of traffic, jeopardizing the safety of vulnerable road users such as bicyclists and pedestrians. Lane-narrowing and reduction are relatively cheap traffic calming features to implement as they can be installed on existing pavement or be planned simultaneously with road repaving. Both lane narrowing and reduction provide the opportunity for municipalities to reduce vehicle speeds, provide bicycle infrastructure, and increase pedestrian safety on designated roadways. This contributes to New Jersey's Target Zero and Complete Streets efforts to enable safe access for all road users.

Lane narrowing is a traffic calming method where lane widths are reduced. An example of lane narrowing in practice would be a two-lane roadway with a through lane traveling in each direction converted into a narrower two-lane roadway, with the addition of a bike lane going in each direction. This also provides an opportunity for wider sidewalks and pedestrian refuge islands to help pedestrians cross the road safely.

A 2023 national study looked at over 1,000 street sections with different design variables in seven cities to develop more data on the effects of road narrowing. This study revealed that road lanes between nine and eleven feet were more likely to lower crash frequency or risk compared to 12-foot lanes at speeds of 20-35 mph. The study shares that one way to implement this is through changing design standards by reducing required lane widths in urban corridors. The Florida DOT, for example, has implemented a context-sensitive system for roadway design. Categorizing streets based on context, such as rural, suburban commercial, and urban core, informs standards for vehicle speed, street width, on-street parking, and the necessary pedestrian and bicycle infrastructure.

Lane reduction, or a **road diet**, is another tool used in traffic calming where one or more lanes are eliminated to make room for other transportation-related infrastructure. An example of a lane reduction, or lane diet would be the conversion of a four-lane roadway, with two through lanes on each side into a three-lane roadway with one through lane going in each direction, and a two-way left turn lane in the center. This also allows for the

addition of designated bike lanes in either direction, and a shorter crosswalk width for pedestrians. NJDOT has implemented several road diets, including along Route 71 through Asbury Park. Both lane narrowing and reduction provide the opportunity for municipalities to reduce vehicle speeds, provide bicycle infrastructure, and increase pedestrian safety on designated roadways. This contributes to New Jersey's Complete Streets efforts to enable safe access for all road users.

Curb Extensions

Curb extensions like neckdowns, bump outs, or bulb-outs are physical sidewalk widenings at intersections or mid-block crossings that narrow the roadway, reduce pedestrian crossing distances, and improve visibility between drivers and pedestrians. These treatments also calm traffic by tightening turning radii, discouraging speeding through intersections, and preventing illegal parking near corners. According to the Jersey City Traffic Calming Toolkit, curb extensions are suitable for streets up to 48 feet wide and with volumes up to 15,000 vehicles per day, with predicted speed reductions of approximately 1 to 10 mph depending on the design context.

National guidance from the Federal Highway Administration (FHWA) Proven Safety Countermeasures | FHWA recognizes curb extensions as a Proven Safety Countermeasure. Research from the Pedestrian Safety Guide and Countermeasure Selection System indicates they can substantially improve driver yielding rates and increase pedestrian visibility at crossings. The New Jersey Department of Transportation's Pedestrian Safety Action Plan Toolbox recommends neckdowns near schools, transit stops, and downtown areas to protect vulnerable road users.

In New Jersey, local examples show how quick-build curb extensions, using paint, flex-posts, and low-cost modular materials can test and refine designs before permanent installation. The report Low-Cost Pedestrian Safety Countermeasures at Intersections and Crossings: Case Studies from New Jersey (2025) provides three examples that support Safe System strategies and build public confidence. When paired with green infrastructure elements like bioswales or permeable pavers, curb extensions can also enhance stormwater management and aesthetic appeal.

Chicanes

Chicanes, also known as horizontal deflection, are an effective passive traffic calming method that slow vehicles by introducing gentle shifts in alignment. The New Jersey School Zone Design Guide defines chicanes as a self-enforcing design that reduces motor vehicle speeds and enhances safety for all road users, with benefits such as improved street livability, fewer severe collisions, and reduced reliance on active enforcement.

The Jersey City Traffic Calming Toolkit (2024) defines chicanes as a series of mid-block curb extensions spaced 50 to 100 feet apart on alternating sides of the street. In New

Jersey, chicanes are currently designed for roads 40 feet or narrower with less than 3,500 average daily traffic (ADT) and speed limits around 35 mph. Chicanes are predicted to reduce vehicle speeds by approximately 3–9 mph on approach and 5–13 mph within the treatment zone. The report also cites an expected crash reduction of 29%. The NJDOT Complete Streets Design Guide defines chicanes as, "a series of raised or delineated curb extensions, edge islands, or parking bays that are placed on alternating sides of a street to form an S-shaped bend in the roadway." Other states, including California, do not have maximum road widths and ADTs, which allows more freedom for implementing chicanes.

The data supports using chicanes as a proven countermeasure in Vision Zero and Safe System planning for local streets. Given the documented effectiveness in Jersey City and their applicability to residential corridors, chicanes offer a cost-effective design solution that aligns with Target Zero's Safer Speeds and Safer Roads goals.

FHWA research supports their effectiveness: in Montgomery County, MD, a combined treatment using chicanes and speed tables reduced average speeds by about 4 mph and daily traffic volumes by approximately 7 percent. Though statewide crash data for chicanes in New Jersey is limited, the NJDOT's Neighborhood Traffic Calming Study and Flexible Design of New Jersey's Main Streets report (2002) promotes using chicanes within context-sensitive roadway designs to achieve slower speeds and safer pedestrian environments.

Combined, local guidance and national best practices show that installing chicanes, particularly in areas with heavy pedestrian activity like schools, transit stops, and parks, can reduce speeds, improve safety for vulnerable road users, and support the Target Zero Commission's goal of a safe system that minimizes harm before and after crashes.