Engineering Countermeasures

Delaware Highway Safety Summit

April 17, 2024

Excellence in Transportation

Every Trip.

We strive to make every trip taken in Delaware safe, reliable and convenient for people and commerce.

Every Mode.

We provide safe choices for travelers in Delaware to access roads, rails, buses, airways, waterways, bike trails and walking paths.

Every Dollar.

We seek the best value for every dollar spent for the benefit of all.

Everyone.

We engage our customers and employees with respect and courtesy as we deliver our services.

Presentation Overview

- Statewide traffic fatalities
- Safe System Approach
- Countermeasures
  - Safety Messages
  - Enhanced Signage and Striping
  - Traffic Calming Devices
  - Intersection control
  - Electronic Safety Programs
  - Roadway Departure countermeasures
  - Pedestrian and Bicycle Safety Initiatives
  - Wrong Way driving improvements
- Resources

Delaware Traffic Fatalities

2024 Delaware Traffic Fatalities
as of 4/15/2024

	2024	2023			2022		
		Year-to-Date		Totals	Year-to-Date		Totals
Fatalities	**30**	*47*	↓ -36%	*137*	*42*	↓ -29%	*164*
Delaware Residents	26	*37*	↓ -30%	*110*	*32*	↓ -19%	*122*
Person Types							
Vehicle Occupant	**20**	*33*	↓ -39%	*89*	*29*	↓ -31%	*103*
Pedestrian	**6**	*9*	↓ -33%	*28*	*9*	↓ -33%	*32*
Bicyclist	**1**	*2*	↓ -50%	*5*	*1*	0%	*7*
Motorcyclist	**3**	*3*	0%	*15*	*3*	0%	*22*
Crash Types							
Curve Related	**3**	*8*	↓ -63%	*28*	*6*	↓ -50%	*19*
Roadway Departure	**11**	*23*	↓ -52%	*69*	*14*	↓ -21%	*55*
Intersection Related	**10**	*14*	↓ -29%	*37*	*14*	↓ -29%	*50*
Median Crossover	**0**	*3*	↓ -100%	*8*	*2*	↓ -100%	*8*
Wrong Way	**1**	*0*	↑ N/A	*1*	*2*	↓ -50%	*7*
Work Zone	**2**	*3*	↓ -33%	*9*	*0*	↑ N/A	*4*

THE SAFE SYSTEM APPROACH

Zero is our goal. A Safe System is how we get there.

What is the Safe System Approach?

Aims to eliminate fatal and serious injuries for all road users by:

Accommodating human mistakes

Keeping impacts on the human body at tolerable levels

Source: FHWA.

Safe System Objectives

1) Reduce the severity of conflicts between all road users

2) Modify travel speeds to match roadway conditions

3) Reduce impact forces so that collisions are never deadly

Source: FHWA.

6 Safe System Principles

- Death/Serious injury is unacceptable
  - Prioritizes the elimination of these types of crashes
- Humans make mistakes
  - Mistakes and decisions that can lead or contribute to crashes is inevitable.
- Humans are vulnerable
  - Physical limits for tolerating crash forces before death or serious injury occurs.
- Responsibility is shared
  - Everyone: all levels of government, industry, advocacies, researches, public, law enforcement, educators, etc.
- Safety is proactive
  - Identify risks and mitigate risks
- Redundancy is crucial
  - If one part fails, the other parts still protect.

Source: FHWA.

5 Safe System Elements

- Safe road users
  - Walking, biking, driving, transit, other
  - Not distracted or impaired, following rules of the road, and acting within the limits of the road design
- Safe vehicles
  - Active safety (proven safety countermeasures)
  - Passive safety (seatbelts, crash-absorption devices, etc.)
  - Technology (connected and automated vehicles)
- Safe speeds
  - higher speeds increase crash severity leading to more fatalities and serious injuries.
- Safe roads
  - Prevent crashes
    - Separating users in space, separating users in time, and increasing attentiveness and awareness
  - Keep impacts on the human body at tolerable levels
    - Managing crash kinetic energy
- Post-crash care
  - 1st responders, medical care, crash investigation, incident management, and justice

Source: FHWA.

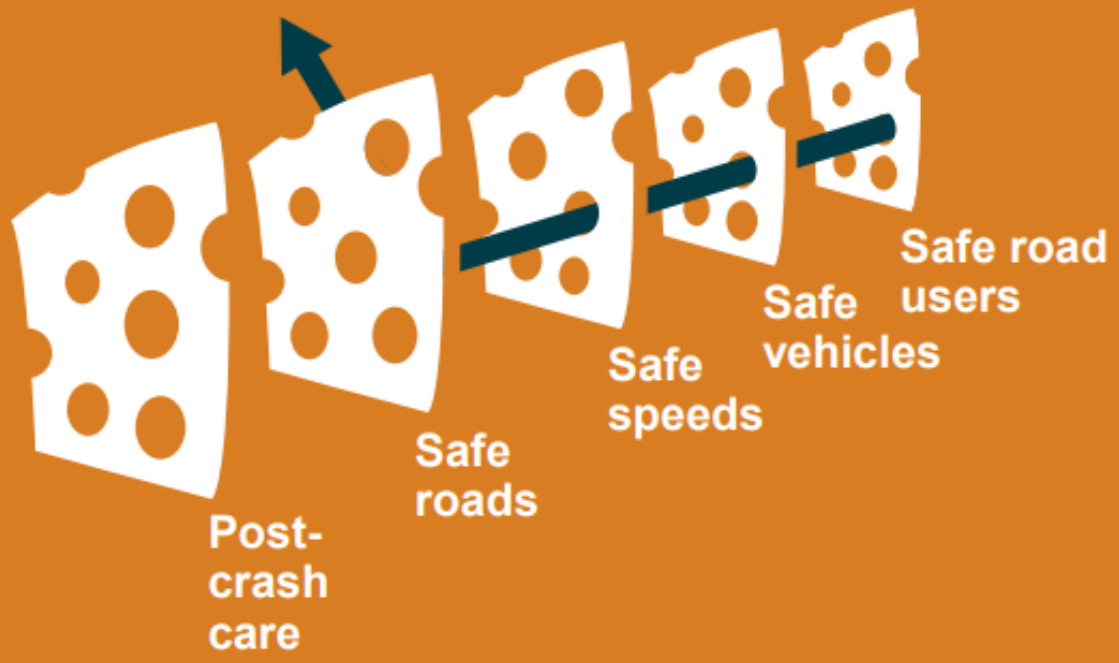
Traditional approach vs. Safe System Approach

Traditional approach		Safe System approach
Prevent crashes	→	Prevent death and serious injuries
Improve human behavior	→	Design for human mistakes/limitations
Control speeding	→	Reduce system kinetic energy
Individuals are responsible	→	Share responsibility
React based on crash history	→	Proactively identify and address risks

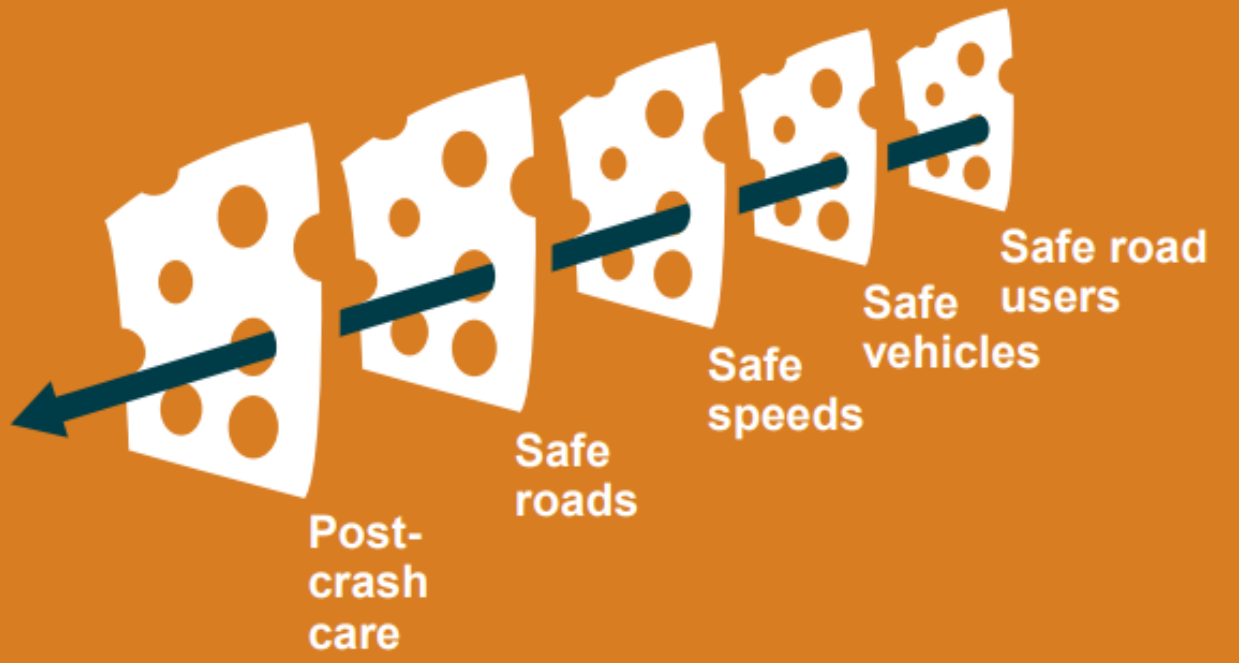
Source: FHWA.

Create Redundancy

The “Swiss Cheese Model” of redundancy creates layers of protection

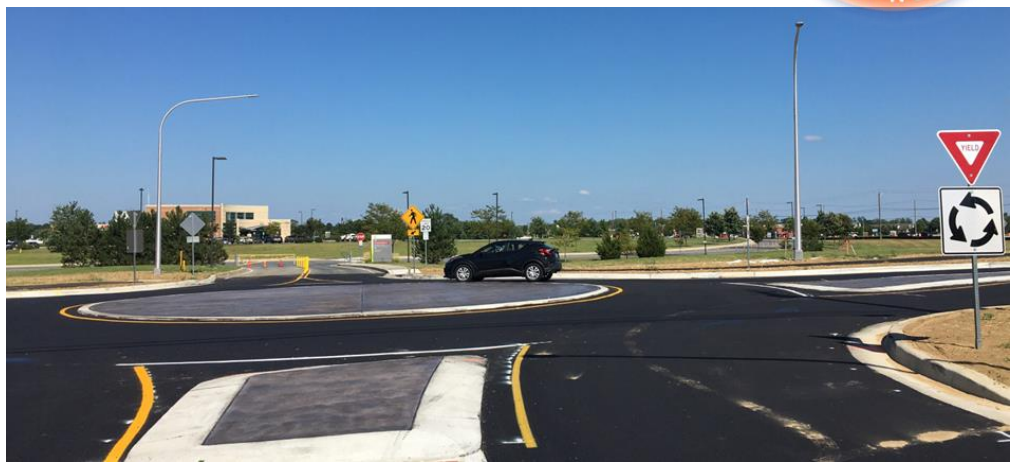


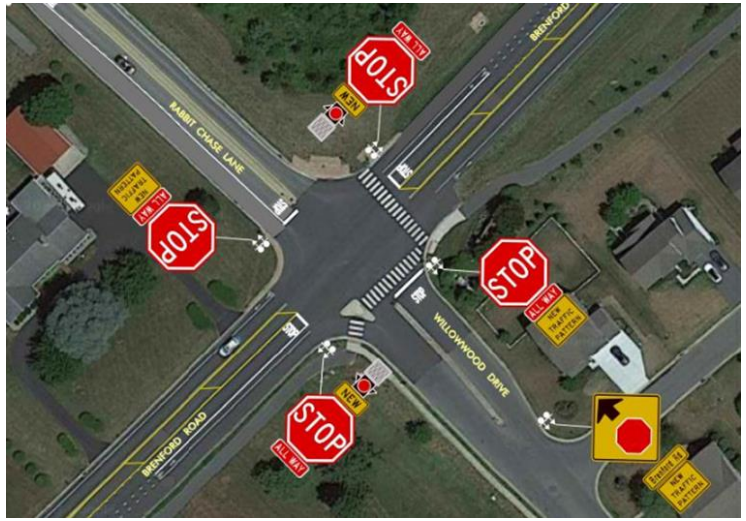
Death and serious injuries only happen when all layers fail



Source: FHWA.

Countermeasures





Safety messages

Traffic Control Device Reflectivity

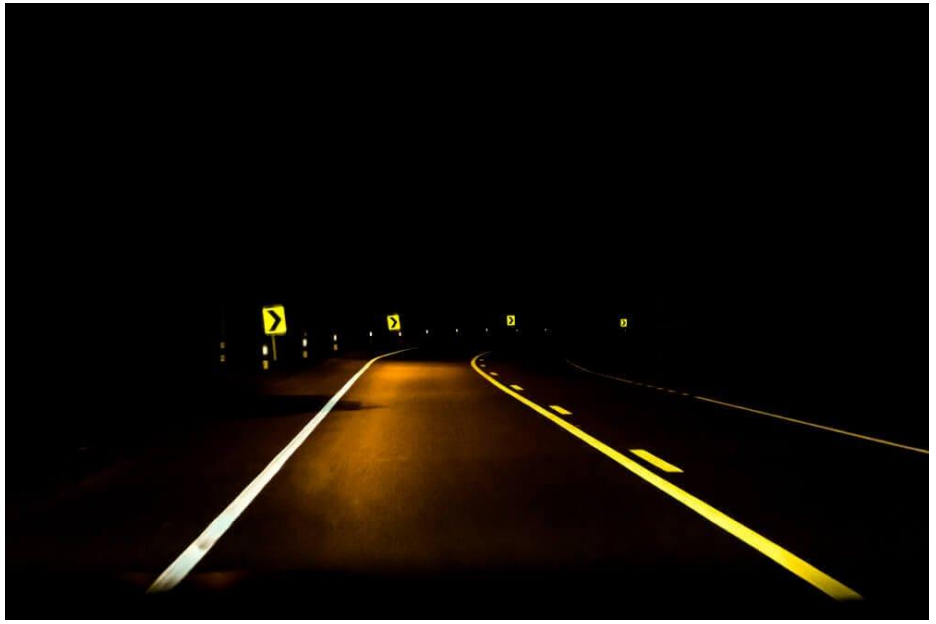
County	2021-2022 Signs Inspected	2022-2023 Signs Inspected	2021-2022 Signs Replaced	2022-2023 Signs Replaced
New Castle (above canal)	2250	437	164	320
Kent & New Castle (below canal)	1893	728	37	15
Sussex	347	2600	413	168
Total	4490	3765	614	503

- Increasing retroreflectivity of a STOP sign can decrease crashes by 9%

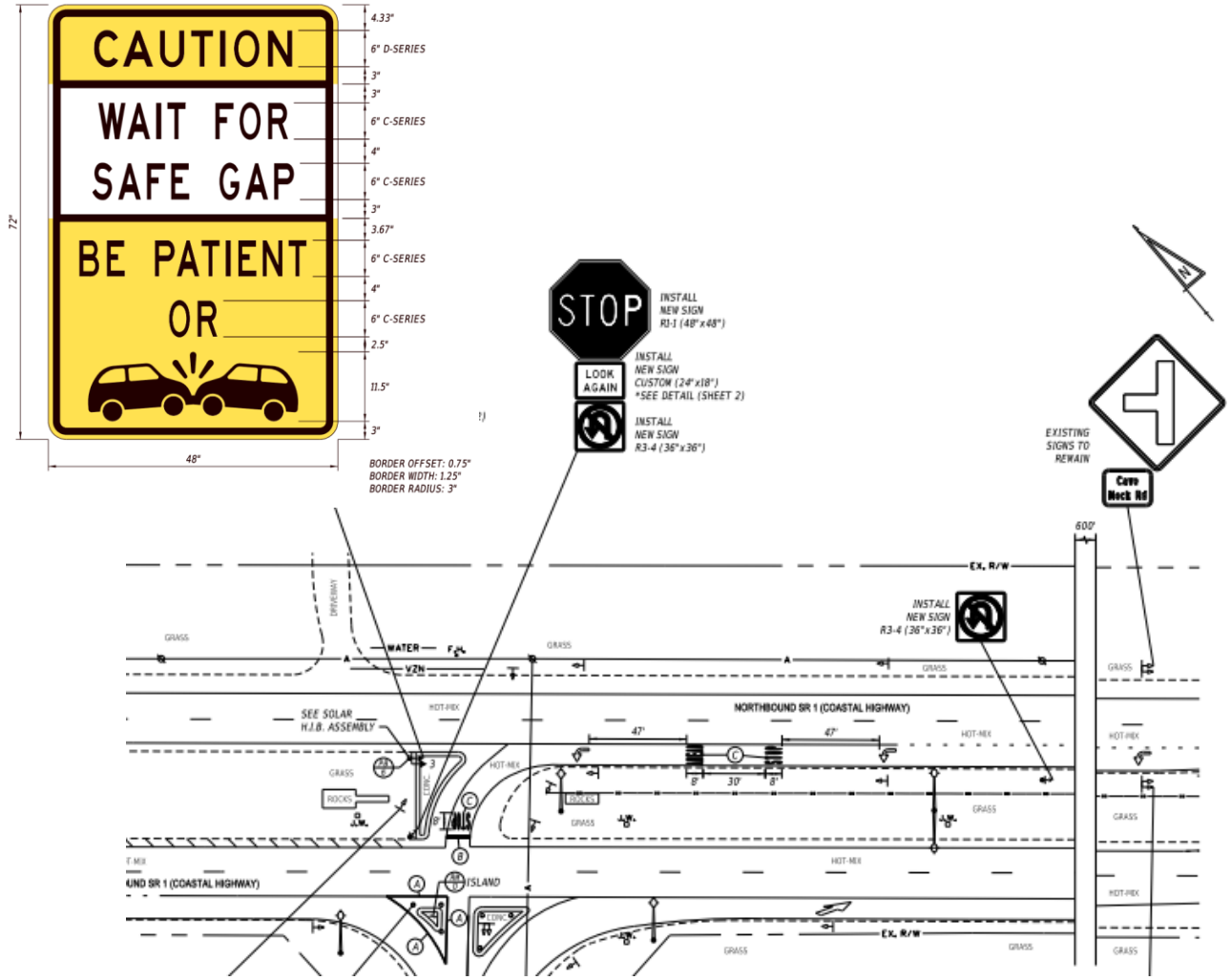
- Increasing retroreflectivity of pavement markings can decrease nighttime crashes in a rural setting by 14-28%

Calendar Year	Latex striping (linear feet)	Cost
2021	19,159,532	$3,189,259.9
2022	15,783,247	$2,735,119.9
2023	19,412,908	$3,672,181.5

Calendar Year	Epoxy striping (linear feet)	Cost
2021	6,385,848	$2,443,744.3
2022	8,147,545	$4,256,816.8
2023	6,057,211	$3,313,891.5



Enhanced Signage and Striping



DelDOT
Delaware Department of Transportation

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WRA

CENTURY
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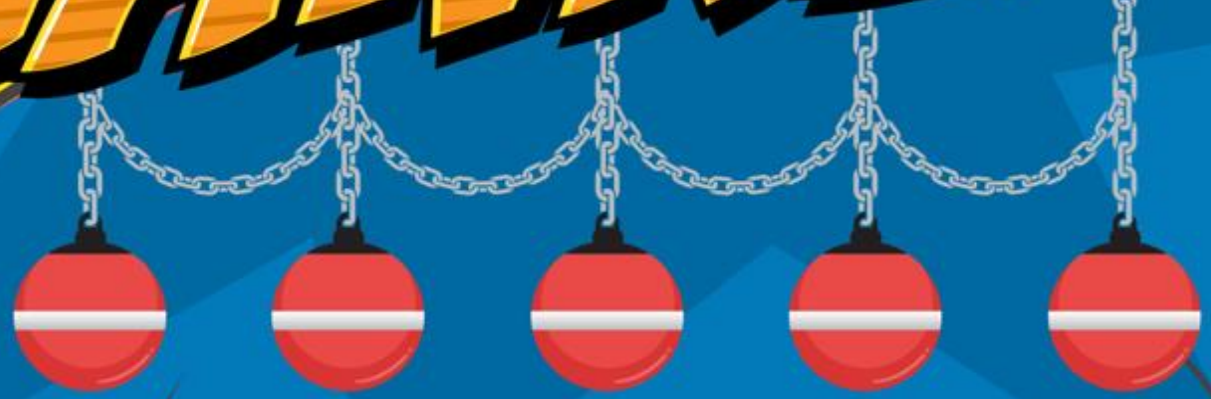
CASHO MILL ROAD CLANKERS



Clankers – Casho Mill Road, Newark

November 1979

OG bridge: 11’-1” clearance
circa 1883-1886

May 2016

Casho Mill Road – Bridge 1-628
(78 Total Crashes, +6 in 2022)

Clankers – Casho Mill Road, Newark

Initial warning devices
installed 2003

Clankers – Casho Mill Road, Newark

More emphatic but… ineffective

installed 2017

Clankers – Casho Mill Road, Newark

“All-out design”
installed
August 2022

Clankers – Casho Mill Road, Newark

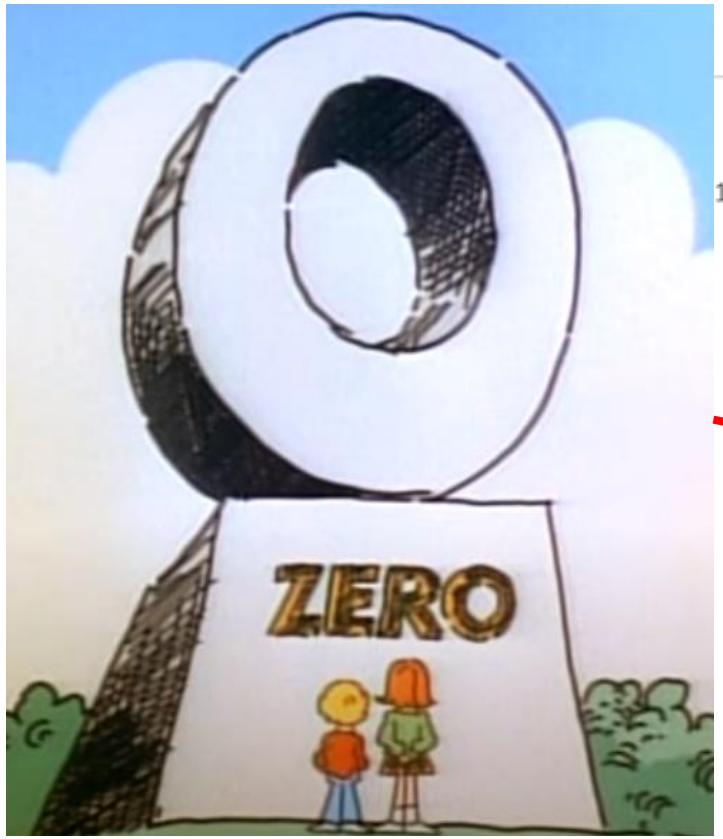
“All-out design”

installed
August 2022

Clankers – Casho Mill Road, Newark

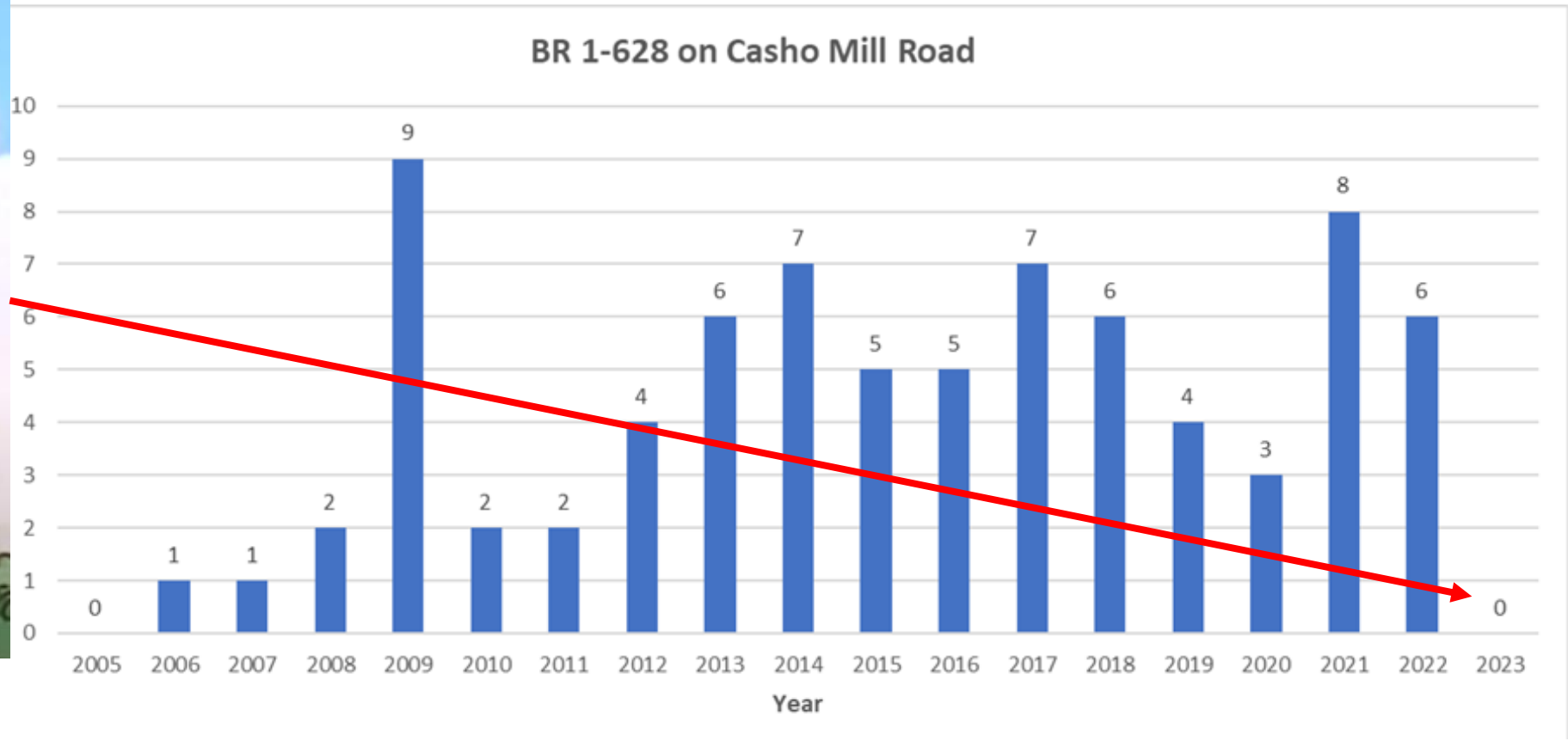
Final Cost = $330,000

Clankers – Casho Mill Road, Newark



Casho Mill Road – Bridge 1-628

(78 Total Crashes, +0 in 2023)



Clankers – Casho Mill Road, Newark

Traffic Calming Devices

- Our Delaware Traffic Calming Design Manual (TCDM) outlines several traffic calming measures that can be used on Delaware roadways

Horizontal Measures
- Lateral Shift
- Chicane
- Realigned Intersection
- Traffic Circles
- Mini-Roundabouts
- Corner Extension / Bulbout
- Choker
- Median Island
- Partial Closure
- Road Diet
- Diagonal Diverters
- Intersection Barriers
- Forced Turn Islands

Vertical Measures
- Speed Hump
- Speed Cushion
- Speed Table / Raised Crosswalk
- Raised Intersection

Other Measures
- Yard Signs
- Radar Speed Signs
- One-Way Restrictions
- All-Way Stop Control (AWSC)
- Lane Narrowing
- Speed Reduction Markings

Traffic Calming Installations


Rose Hill Drive, Bear

Old Forge Rd, New Castle


Stanton Rd, Wilmington

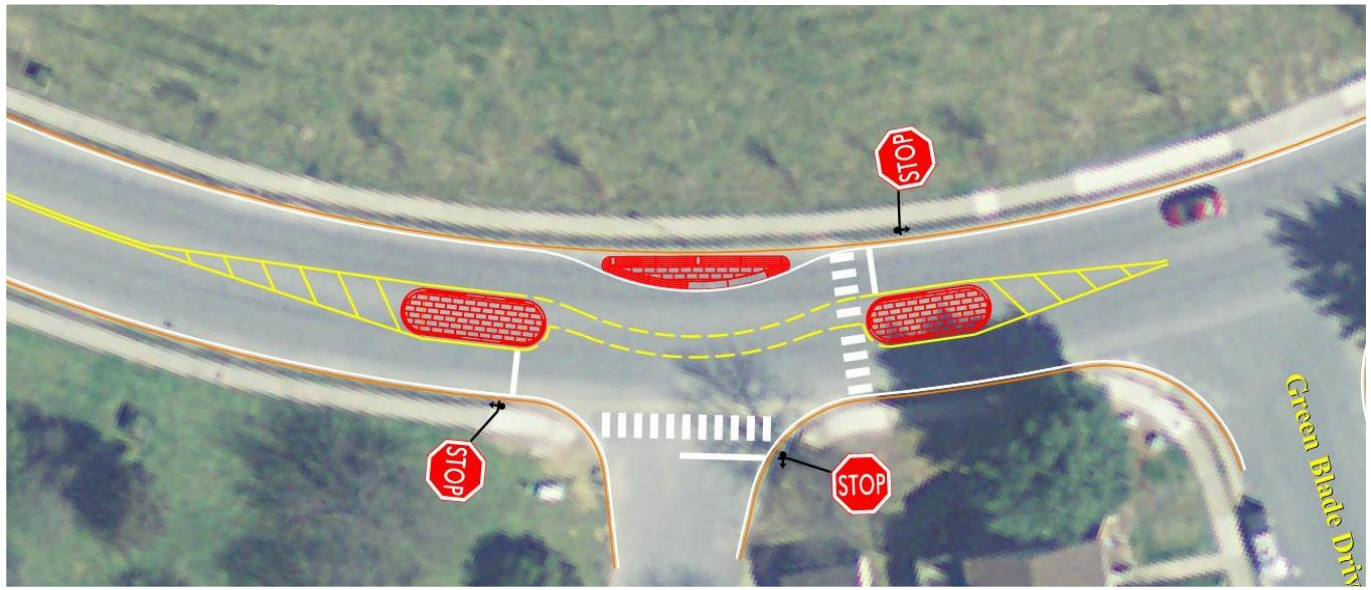

Brownleaf Rd, Newark

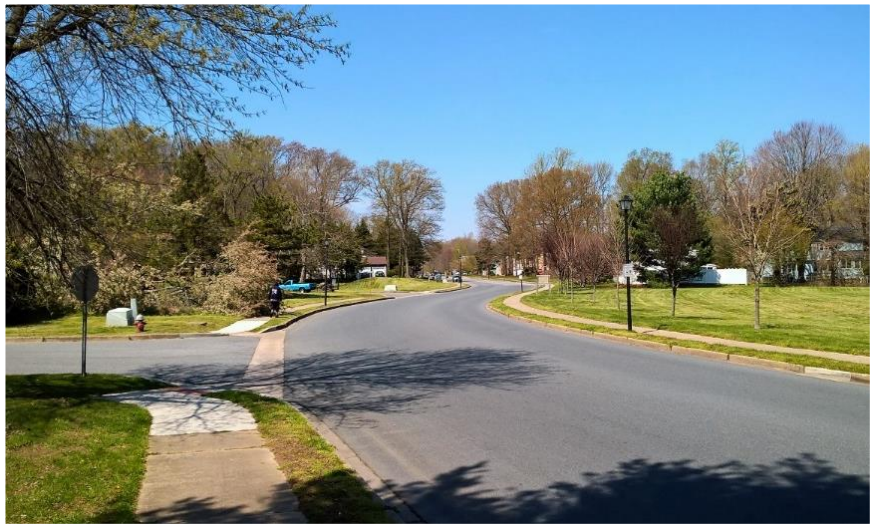

Kennett Pike, Centerville

Justison St, Wilmington

Realigned Intersection – Independence Blvd, Dover

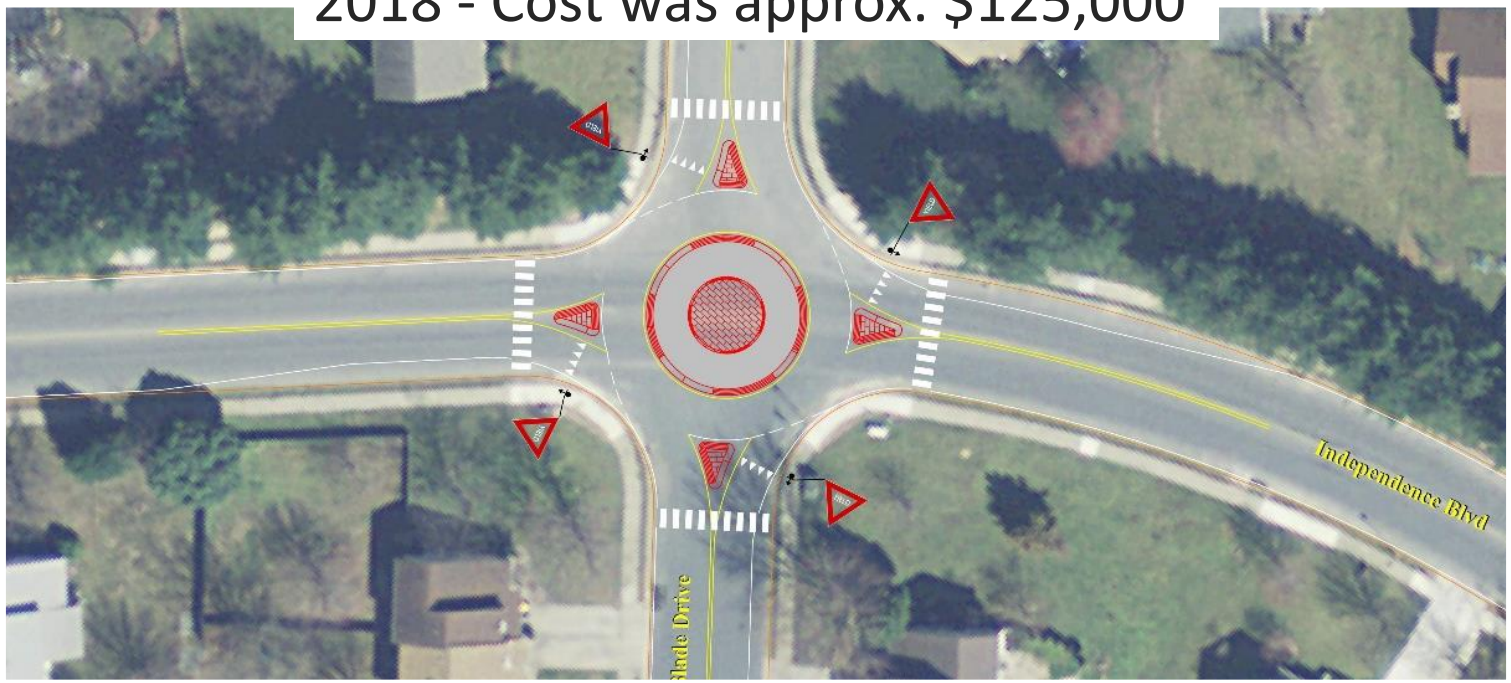
2018 - Cost was approx. $55,000





Mini-Roundabout – Independence Blvd, Dover

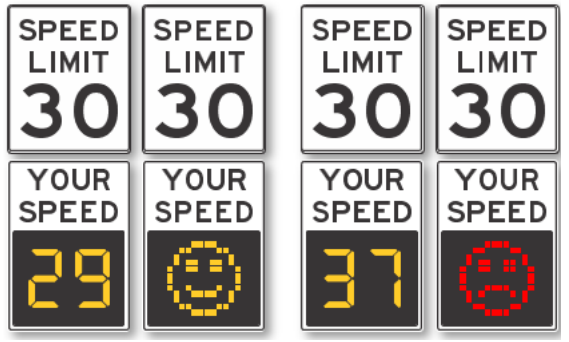
2018 - Cost was approx. $125,000



New Pictorial Radar Speed Signs (pilot)

- Pilot program to determine effectiveness of 11 radar speed signs that display smiling and frowning faces based on speeds

Site	Location	Average Speed Change (mph)	
		At sign	Downstream
1	Grubb Road	-3.8	-2.8
2	Marsh Road	-0.6	-2.2
3	Mt. Lebanon Road	-1.9	-1.6
4	Milltown Road	-3.9	-2.8
5	Glasgow Avenue	-5.2	-1.8
6	Kirkwood St. Georges Road	-0.6	+0.9
7	Forrest Avenue	-6.9	-4.6
8	Peachtree Run	-0.6	-0.5
9	Johnson Road	-2.5	-0.9
10	Long Neck Road	-0.5	+0.5
11	Bayard Road	-1.3	+1.1



All-Way Stop Control (AWSC)

- Low-cost/step-wise countermeasure
- Increased usage of this countermeasure in last 5 years
- 2023 National Roadway Safety Award Recipient

Table 2. Annual Crashes at 25 Newly Converted AWSC Intersections

Total Annual Crashes from All Study Intersections	Crash Type					Severity		
	Total	Angle	Rear End	Single Vehicle	All Others	PDO	Injury	Fatal
Before	120.67	67.33	17.00	19.33	17.00	70.33	48.67	1.67
After	52.33	22.67	12.17	11.33	6.17	43.67	8.67	0.00
% Change	-57%	-66%	-28%	-41%	-64%	-38%	-82%	-100%

Traffic Signal

- New signals
- Design upgrades
- Left-turn phasing
- Advanced warning
- Yellow times
- Red Protect
- Pedestrian upgrades

Table 1. Annual Crash Rate Changes at New Signals

Before	Total	Rear End	Angle	Other	PDO	Injury
	3.83	1.21	1.73	0.89	2.72	1.11
After	Total	Rear End	Angle	Other	PDO	Injury
	5.86	3.05	1.47	1.34	4.40	1.46
% Change	53%	152%	-15%	51%	62%	31%

Roundabouts

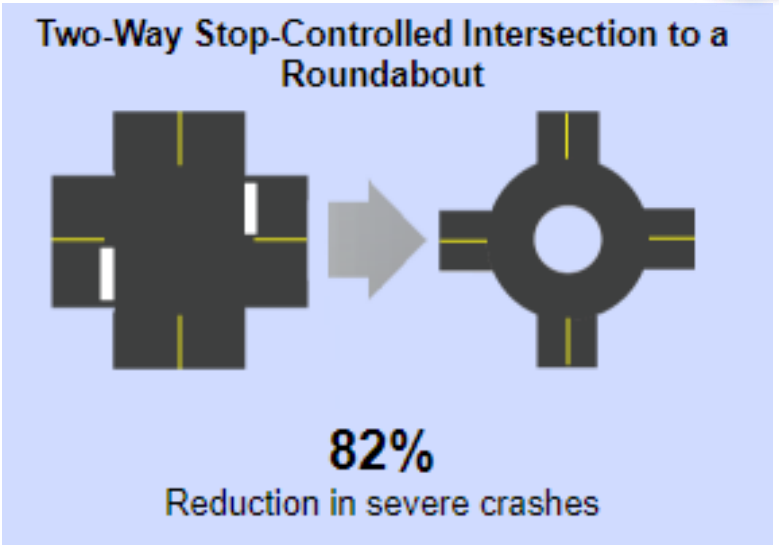
- 31 existing in Delaware
- Dozens in various phases of planning/design

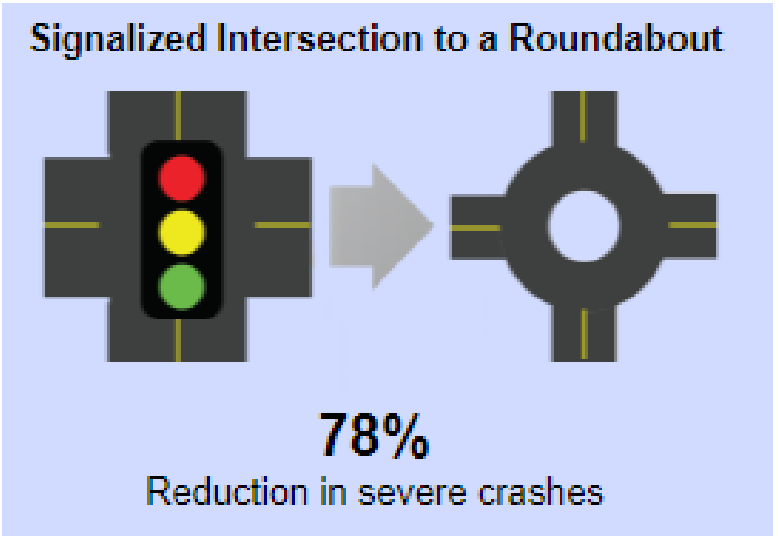
	PDO	PI	Fatal	Total
Crash Rate Before	1.74	0.53	0.01	2.24
Crash Rate After	1.33	0.28	0.00	1.62
Crash Reduction	***23.4%***	***46.1%***	***100.0%***	***27.7%***

DelDOT Roundabouts: https://deldot.gov/Programs/roundabouts/index.shtml

Why a roundabout?

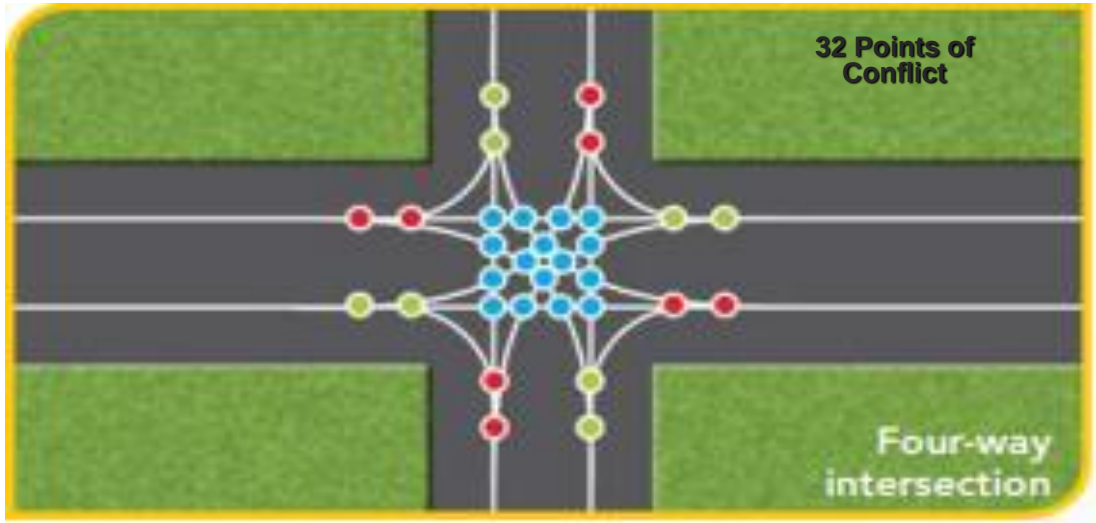
- Intersections is the #1 Primary Emphasis Area in the 2021-2025 Delaware Strategic Highway Safety Plan (SHSP)
  - Accounts for 39.4% of the fatal and serious injury crashes
- Success throughout the US (MD, MO, WI, etc.) and Countries (Europe/Australia)
  - Over 7,000 roundabouts in the US (https://roundabouts.kittelson.com/)
- Less delay in many situations
- Traffic calming
- Aesthetics / streetscaping / environmental benefits
- Lifecycle cost benefits
- Easier for novice and senior drivers
- Safety Benefits
  - Drastically reduces crash percentages
  - Proven safety countermeasure by FHWA





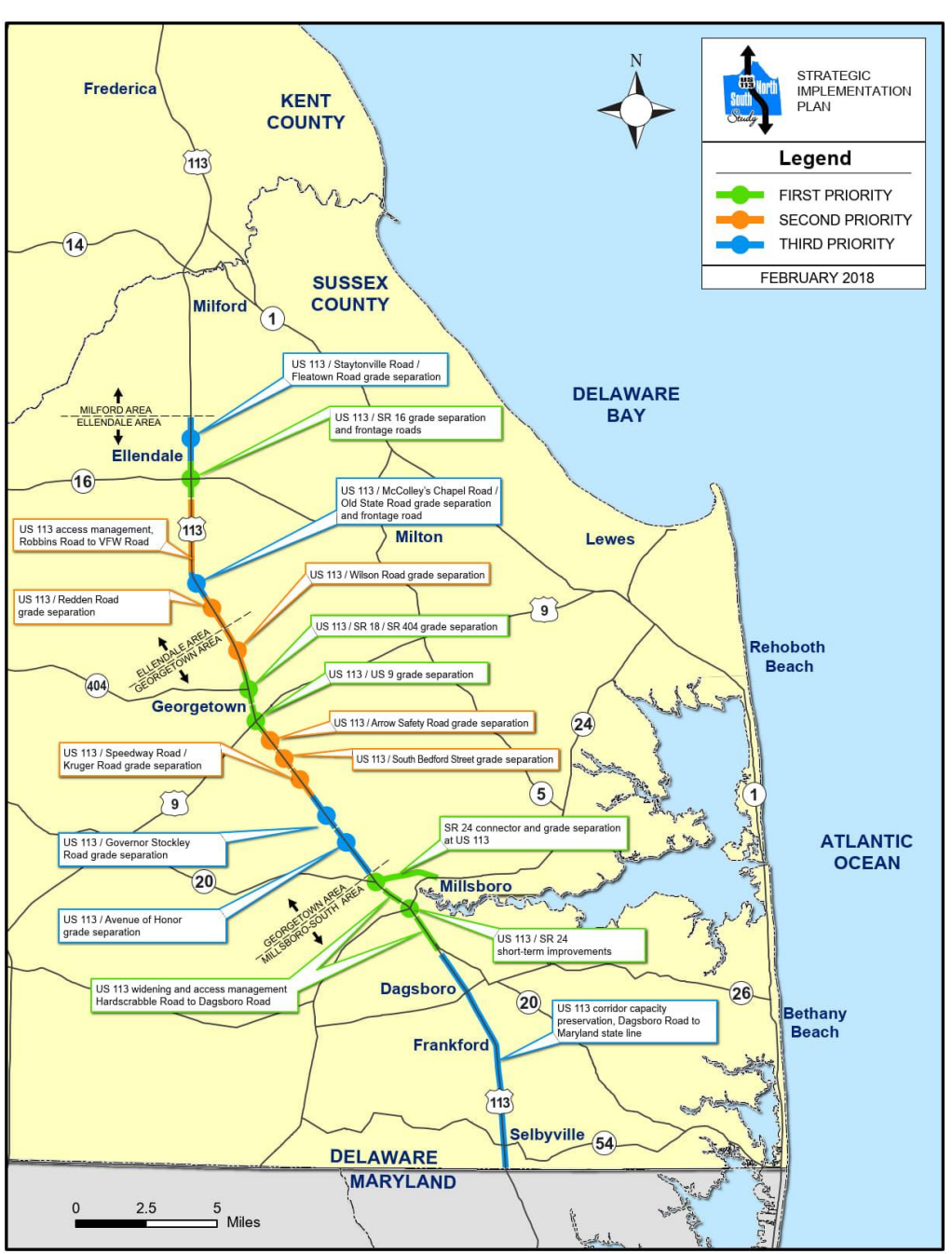
Roundabout Safety Benefits

- Reduced speeds (typically <25 mph)
- Elimination of left-turn and right-angle conflicts
- Drastically reduces severe crash injuries
  - 90% reduction in fatal crashes
  - 75% reduction in injury crashes
  - 30-40% reduction in pedestrian crashes
  - 10% reduction in bicycle crashes
- Improves travel times
- Reduce pollution and fuel use



Grade Separated Intersections

- SR 1 Corridor, Dover to Lewes
  - All signals removed except for SR 16
    - GSI under construction, completion in 2025
  - 2 GSIs in design
- US 113 Corridor
  - 6 GSIs in design
- New Castle County
  - US 40 / SR 896
  - SR 896 / Bethel Church Road
  - US 40 / SR 7
- Corridor Capacity Preservation Program



Grade Separated Intersections

- SR 1/Thompsonville
  - 14 crashes per year with signal
    - 32% injury crashes
  - 7 crashes per year with GSI
    - 1 injury crash

BEFORE

AFTER

Electronic Safety Programs

- Electronic Red Light Safety Program
  - State program started in 2004
  - Data-driven selection process
  - Currently, 46 signalized intersections; 102 approaches
    - Total crashes increased by 6%
    - Angle crashes reduced by 41%
    - Red Light Running crashes reduced by 25%
    - Rear end crashes increased by 10%
  - CY2023: 59,716 violations issued
- Electronic Vehicle Obstruction/"Block the Box" Program
  - Signed October 2022 by Governor
  - Regulation, program business rules, and contract documents under development

Period	Inter-sections	Data Years	Total Years	Crash Severity[1] Rates per Year					
				K	A	B	C	O	U
Before	16	3.00	48.00	0.04	0.33	2.69	1.08	16.27	1.58
After	16	6.54-7.10	109.38	0.00	0.09	2.08	1.33	15.08	2.51
Average Annual Reduction				0.04	0.24	0.61	-0.25	1.19	-0.92
Percent Reduction				100%	73%	23%	-23%	7%	-58%

[1]Legend:
K: Fatal Injury
A: Suspected Serious Injury
B: Suspected Minor Injury
C: Possible Injury
O: Property Damage Only
U: Unknow n

Electronic Speed Enforcement: I-95 pilot

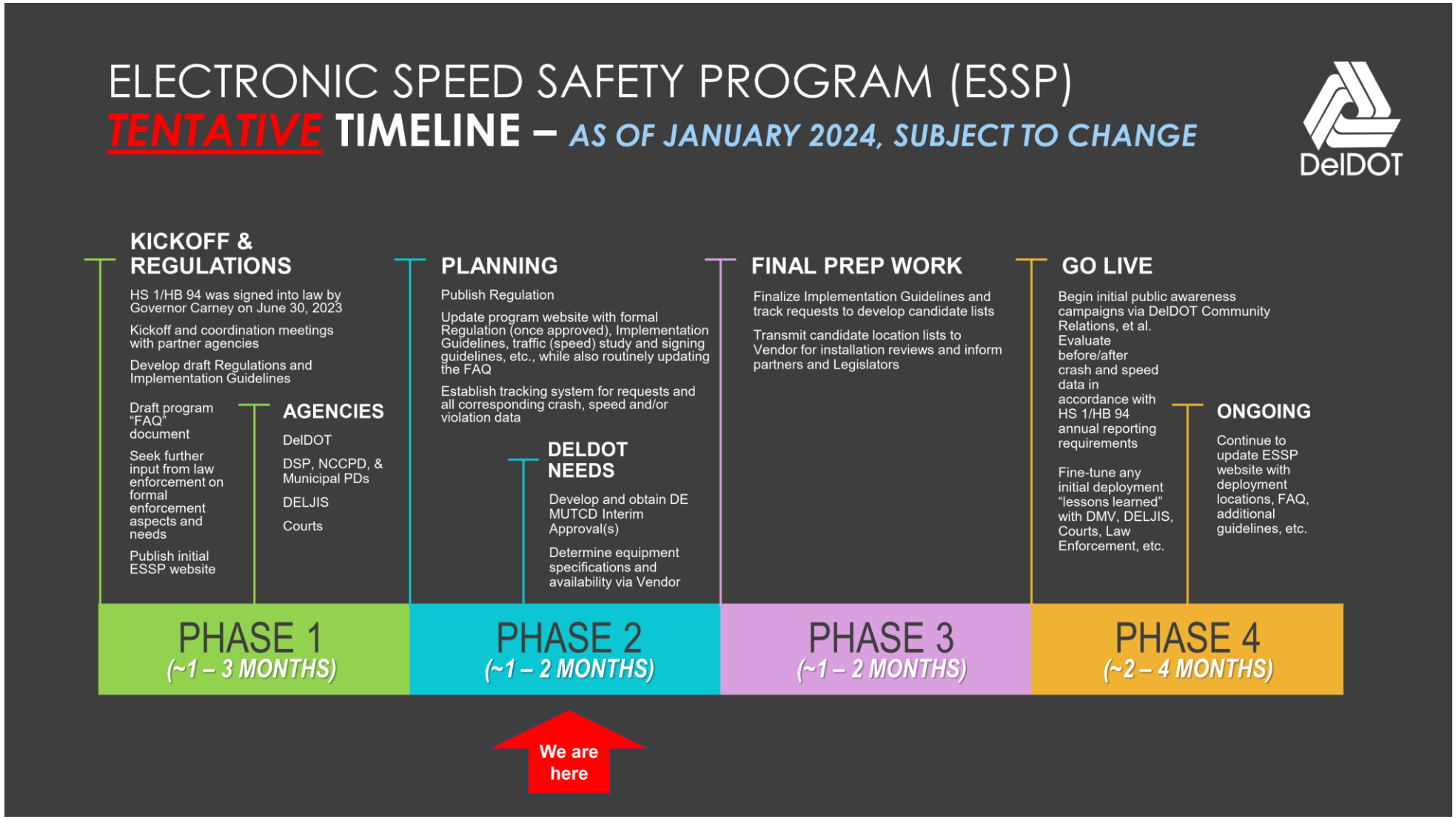
- Epilogue Language Authorizing Pilot for the I-95 Restore the Corridor Project
- Cameras Installed January 17, 2022
- Warning Period from January 17 – April 17
- Violations Started April 17
  - First Violation was a Warning
  - Second Violation was a Citation
- Cameras Removed in November 2022
- 63,714 Warnings Issued
- 8,765 Citations Issued

Daily Average Speeds		
	NB	SB
Before Cameras	54.3	49.0
After Cameras	49.0	43.1
Difference (mph)	**-5.4**	**-5.9**
% Difference	*-9.9%*	*-12.1%*

2021 – Viaduct Under Construction

	2021	2022	Change
Total Crashes	267	141	-47%
Injury Crashes	42	23	-45%

Electronic Speed Enforcement



Electronic Speed Enforcement Devices (House Substitute 1 for House Bill 94) signed June 30, 2023

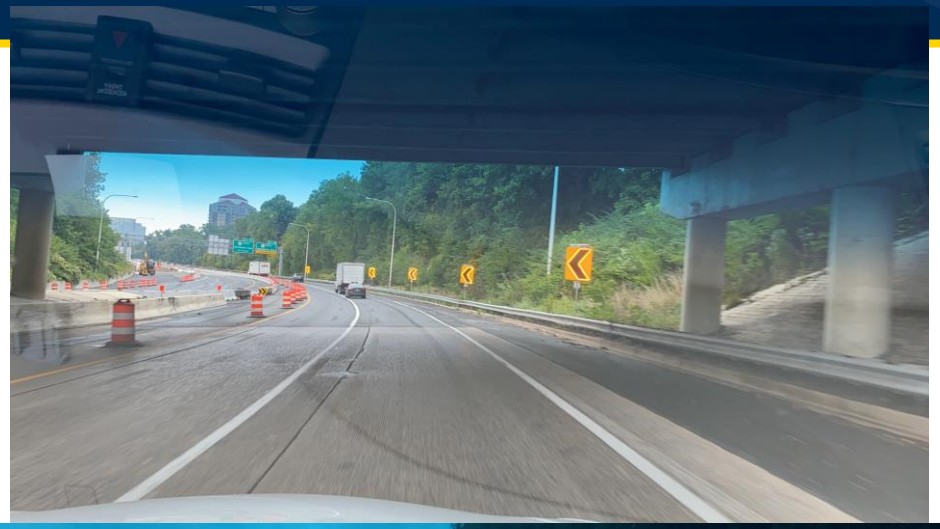
Horizontal Curve Warning Sign Program

- Road departures
  - Nationally – 51% of fatalities
  - Delaware – 28% of fatalities and 16% of serious injury crashes

- Program began in 2014 (systemic vs. hot spot)
- Evaluate curves on roadways and ramps for traffic control devices
  - Systemic - 3,761 curves statewide
    - 1,938 New Castle County
    - 724 Kent County
    - 1,099 Sussex County
  - Hot Spot – 1,990 curves statewide
    - 438 New Castle County
    - 479 Kent County
    - 1,073 Sussex County
- Implementation ongoing

Dynamic Curve Warning System (pilot)

- Enhancement to existing curve warning signs and chevrons
- Flashing LED lights mounted to sign face
  - Solar powered
  - Activated based on approach speeds
- Pilot program – 2 locations
  - I-95 SB approaching Brandywine River Bridge
  - Ramp from I-95 NB to SR 1 SB



Longitudinal Rumble Strips

- Edge Line and Shoulder Rumble Strips
- Installed on all freeways (SR 1, I-95, I-495, etc.)
- Implementation of sinusoidal rumble strips (aka “Mumble” strips)
  - Minimize noise impacts to residential properties (less than a 2 dBa change from distances 50 feet or greater)

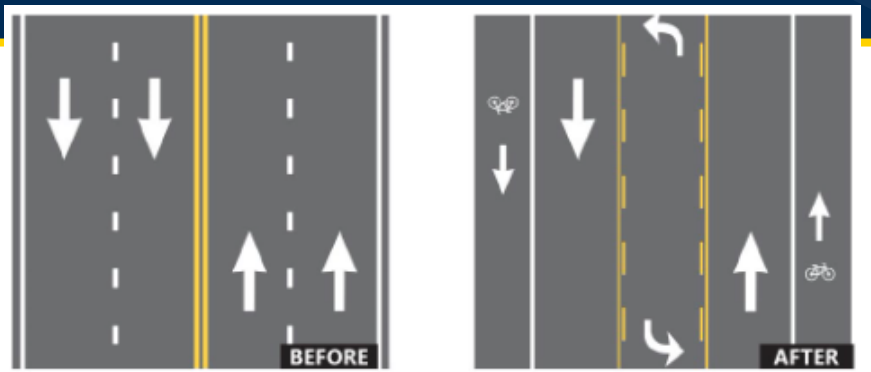
High-Friction Surface Treatment

- Thin epoxy-based pavement overlay
- Aggregate designed to resist polishing
  - Maintains friction longer than traditional aggregates
- 40+ installations statewide
- Curves and stop-controlled approaches
- Before/After crash results
  - 55% reduction in wet weather crashes where HFST is installed
  - 56% reduction in roadway departure crashes where HFST is installed
- 2017 National Roadway Safety Award Recipient

Median Barrier

- Program began in 2009
- Installed median barrier on majority of freeway system to close unprotected medians
  - Interstate 95
  - Interstate 495
  - SR 1 from C&D Canal to south of Dover Air Force Base
  - 38+ miles of barrier installed
- SR 1 from Barker's Landing to SR 30 (in construction)
- US 301 (in design)

Roadway Reconfiguration/Road Diet



- Involves converting an existing 4-lane undivided roadway to a 3-lane roadway consisting of 2 through lanes and a center two-way left-turn lane (TWLTL).

- Safety Benefits
  - Reduction in total crashes by 19-47% [1]
  - Reduces vehicle-to-vehicle conflicts that contribute to rear-end, left-turn, and sideswipe crashes.
  - Reduction in vehicle operating speed which decrease crash severity.
- Operational Improvements
  - Reduce delays at intersections due to separate left-turn lane.
  - Comfortability improved from side-street traffic.
  - Consistent traffic flow vs. “accordion-style”
- Pedestrian and Bicycle Benefits
  - Reallocate space for bike lanes, sidewalks, and median refuges.
  - Reduces pedestrian-to-vehicle conflicts due to fewer travel lanes.
- Quality of Life Benefits

[1]Evaluation of Lane Reduction ”Road Diet“ Measures on Crashes

Lea Blvd - Roadway Reconfigurations/Road Diets

- AADT: 6,130 vehicles/day
- Posted speed: 35 mph
- 85th percentile speed: 44.8 mph
- 1/1/05 to 12/31/21:
  - 100 total crashes (approx. 6 crashes/year)
  - Angle and front to front crashes account for 46% of the crashes

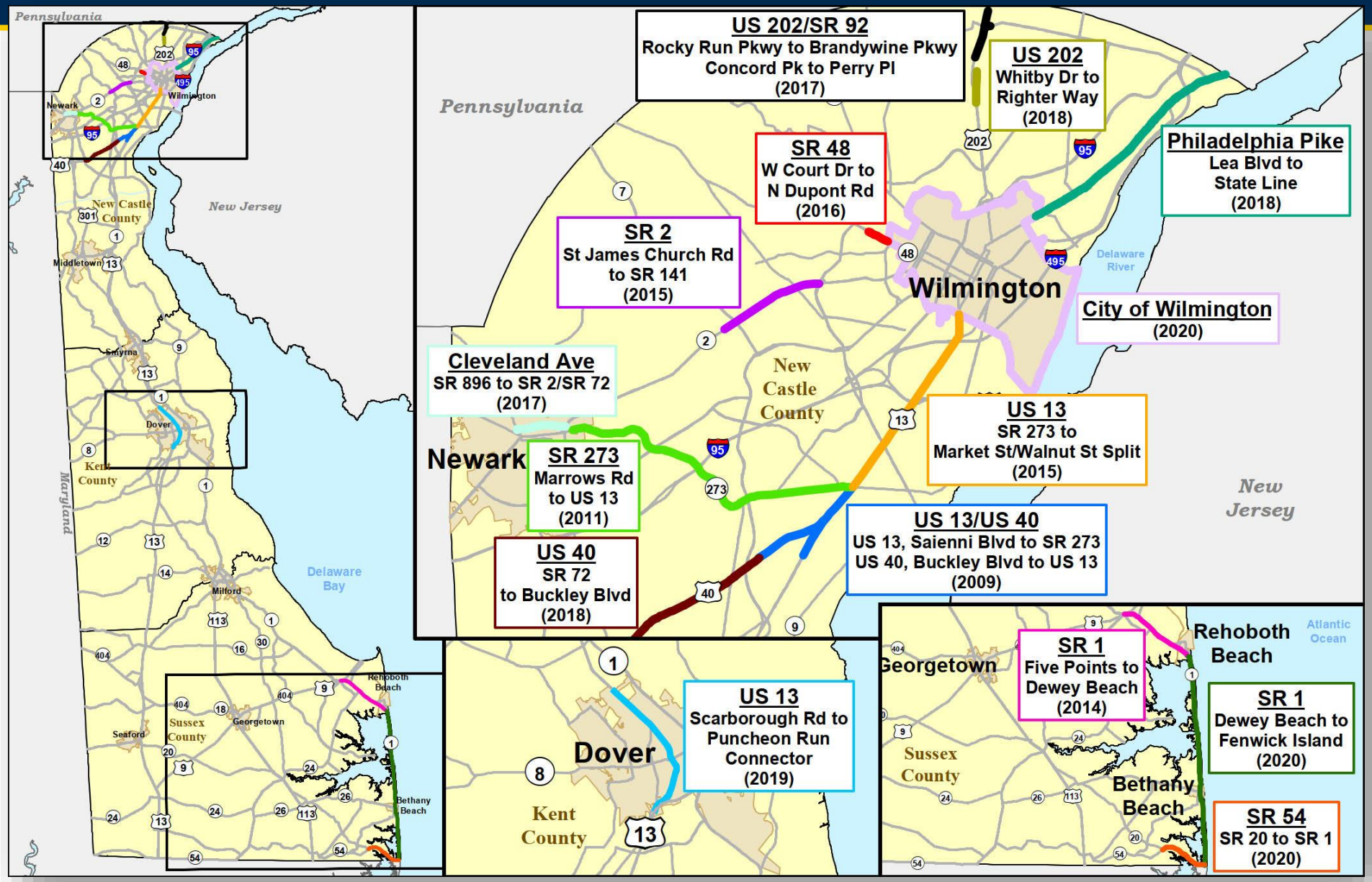
- Length: 3,200 feet
- Duration: 2.5 days
- Approx. Cost: $75,000
- 7/27/23 to 2/29/24:
  - 4 total crashes (2 injury crashes)
  - 0 angle or front to front crashes

Pedestrian and Bicycle Safety Initiatives

Typical Pedestrian and Bicycle Safety Countermeasures:

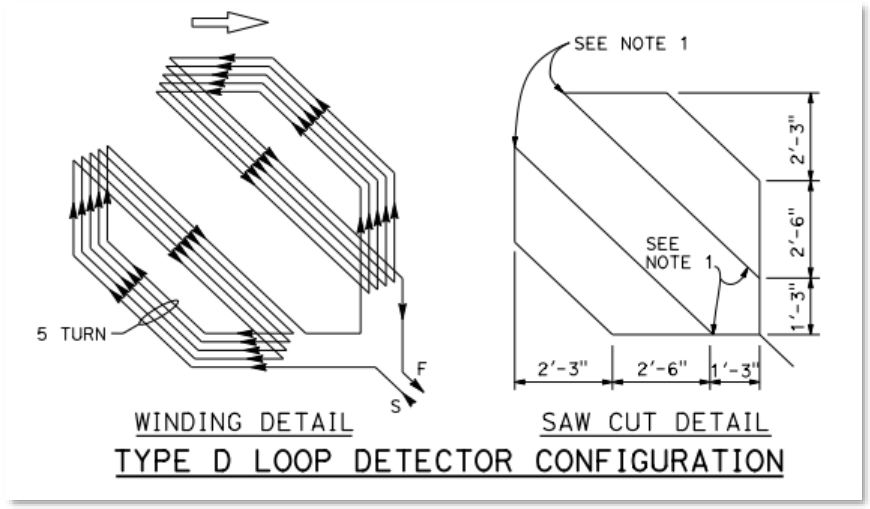
- Painted crosswalks at signalized intersections
- Pedestrian and bicycle signalization
- Marked crosswalks at appropriate mid-block crossing locations
- Active/enhanced pedestrian crossing systems (i.e., RRFBs)
- Corner sight distance improvements
- Curb bump outs to decrease crossing distances
- Median refuge areas
- Audible pedestrian signals
- Transit improvements
- Sidewalk connectivity improvements
- Traffic calming
- Improved warning signage
- Barriers to prevent undesired mid-block crossings

Pedestrian Safety Audits



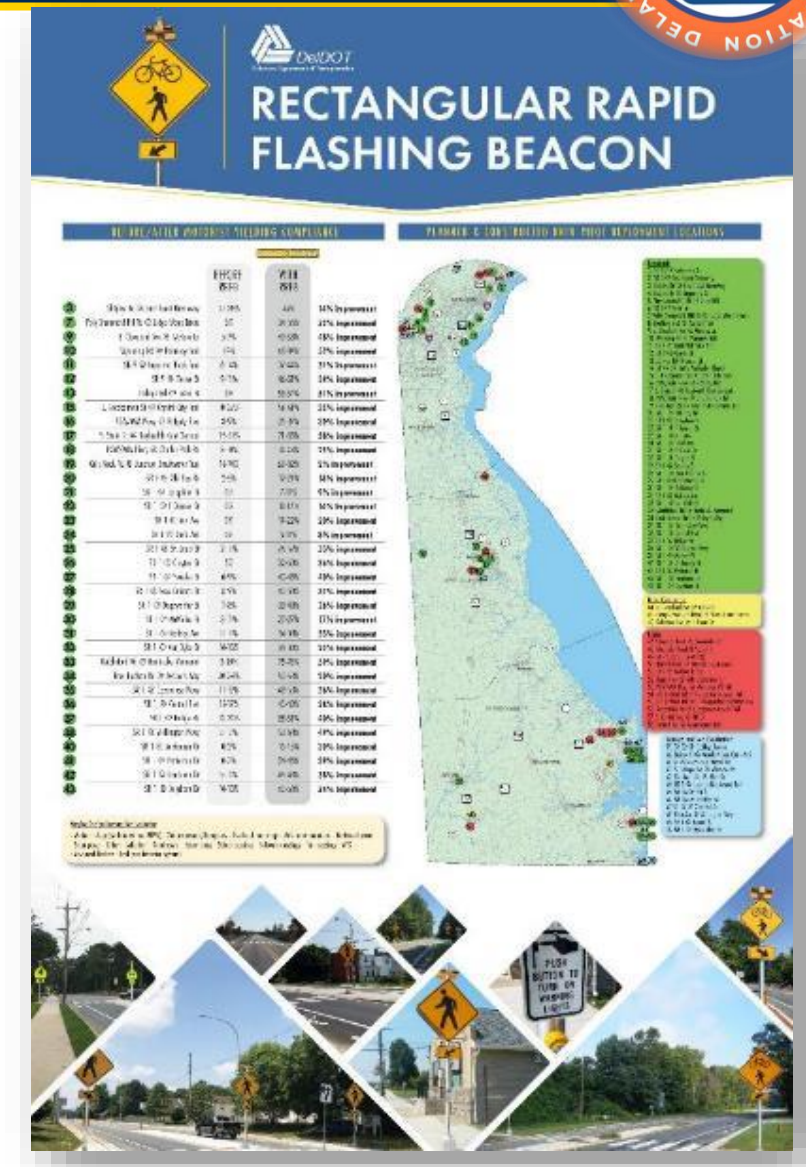
Two-stage Bike Boxes

- SR 1, Dewey Beach
  - Delaware's first ever application
  - FHWA interim approval issued 2017
  - Allows cyclists to safely make a left turn from the right shoulder/bike lane without having to merge across through lanes and into a left-turn lane
  - Includes specialized in-pavement loop detectors for passive bicycle detection to call the side street phase



Rectangular Rapid Flashing Beacon (RRFB)

- Pedestrian-actuated warning device used at uncontrolled, marked crosswalks
- Intended to improve compliance with motorists yielding to pedestrians in marked crosswalks
- First installation in April 2016
- 25% average improvement in motorist yielding compliance across all sites



High intensity Activated crosswalk (HAWK) Signals

- 5 locations statewide
  - SR 72 at Farm Ln, 2 along SR 1 in Rehoboth, and SR 8 at Heatherfield Way
- Compliance Study completed in May 2020
  - Motorist compliance down 25%-29% from 2016 to 2019
  - Total crashes increased at both SR 1 locations in Rehoboth
    - 27% increase at Rehoboth Ave and 114% increase at Holland Glade Rd
  - Frequent driver and pedestrian/bicyclist confusion and non-compliance observed
- Study Recommendations:
  - HAWKs should be considered at mid-block locations only and should no longer be installed at intersections.
  - HAWKs should only be considered when a single-stage pedestrian crossing can be accommodated.

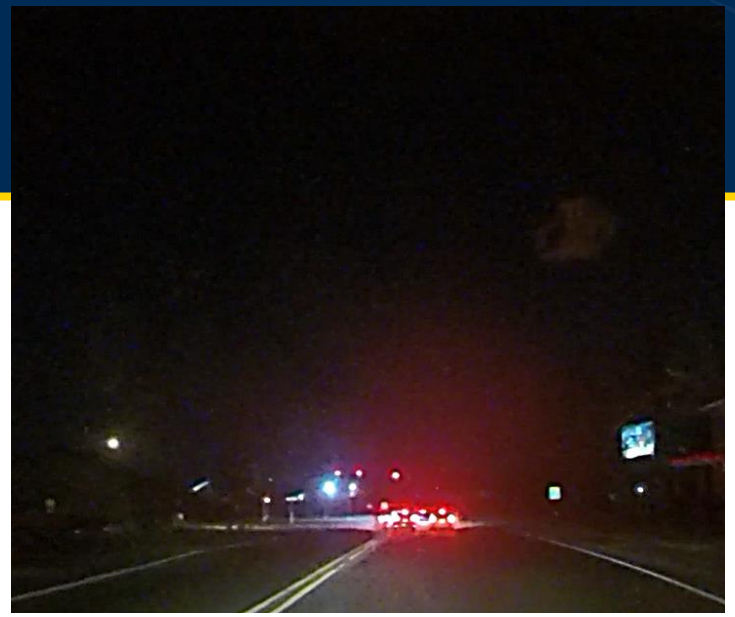
Figure 6: Bicyclists failed to stop for the SR 1 and Holland Glade Road HAWK Signal

Figure 8: Examples of conflicts at SR 1 and Holland Glade Road HAWK Signal

Roadway Lighting

- Driver Safety and Comfort
- Increased visibility
- Increased driver comfortability
- Can see oncoming traffic at intersections
- Vehicular safety
  - Can reduce fatal nighttime crash rates by 65% [1]
    - Nighttime fatalities are 3x that of daytime
  - Can reduce nighttime injury crashes on rural and urban highways by 28% [2]
  - Can reduce nighttime crashes at rural and urban intersections by 33 – 38% [2]
- Pedestrians and Bicyclists safety
  - Can reduce nighttime injury pedestrian crashes by 42% at intersections [2]

[1]Federal Highway Lighting Handbook
[2]Handbook of Road Safety Measures, Elvik, R. and Vaa, T.



Imagine driving down these two roads at night.
Would you be able to see someone on a bike? What about a pedestrian?
What if you were walking along one of these roads? Where would you feel safer?

Pedestrian Median Barrier

SR 1, Dewey – Delaware's First-Ever!

Pedestrian Median Barrier

"Pilot" Median Barrier Project Limits – Saulsbury Street to Read Avenue

- Cost: $470,000
  - Funded by DelDOT Traffic with Town and local legislator contributions
- Limits based on historical pedestrian / bicycle crash clusters and adjacent land use
- ~1,500 linear feet

SR 1, Dewey - Pedestrian Median Barrier

Median Pedestrian Barrier Constructed over 2021-2022 “Off-Season”

- Intended to “funnel” pedestrians to crosswalks and deter mid-block crossings
- Nautical post-and-rope theme
- Removal of 8,500 SF of existing concrete and replacement with 1,000+ low-level native plantings and mulch
- Extension of the town’s lighting system from Houston Street to Bayard Ave
- Town Agreement → Town to own and maintain barrier system, landscaping, and additional lighting

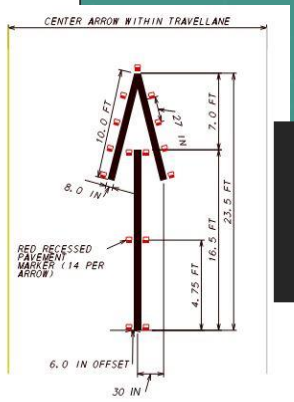
Inspiration Photos

SR 1, Dewey - Pedestrian Median Barrier

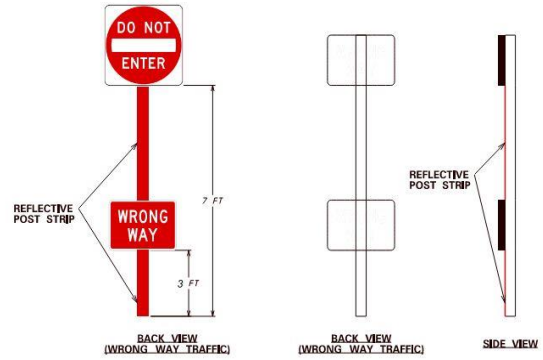
- **1** reported pedestrian crashes along SR 1 from time of installation (April 2022) through February 2024!
- Phase 2:
  - Collins Avenue to Read Avenue and Saulsbury Street to Clayton Street
  - Anticipated construction: end of 2024/early 2025
- Community feedback has been overwhelmingly positive

Do Not Enter/Wrong Way Signage and Striping

- March 2019 – Initiated Do Not Enter/Wrong Way Safety Project (ongoing)
  - Every Interchange ramp that terminates at an intersection
  - 143 locations statewide
    - 117 ramp locations
    - 26 emergency median crossovers



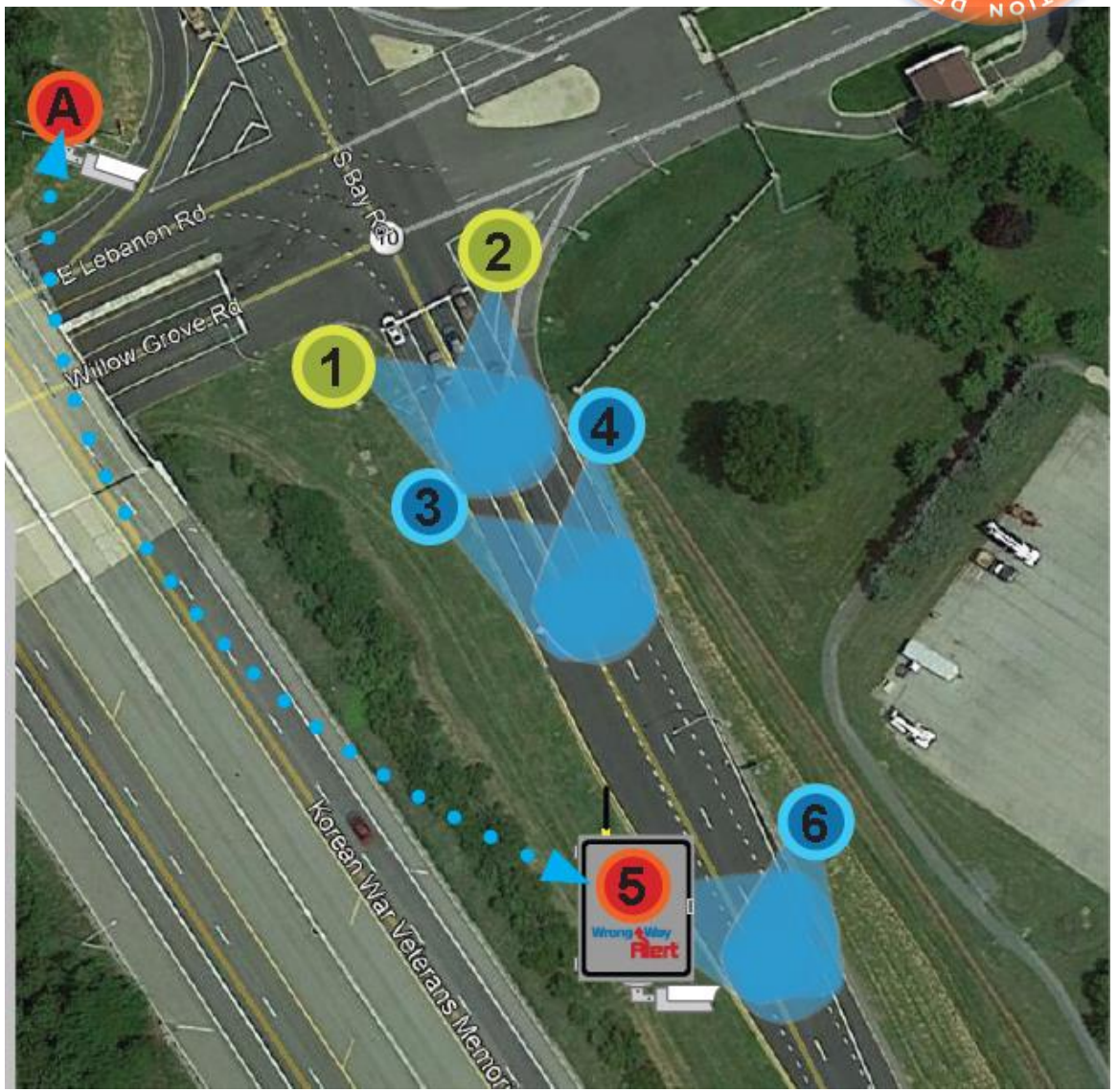
WRONG WAY THROUGH LANE-USE ARROW PAVEMENT MARKING DETAIL



WRONG WAY SIGN AND REFLECTIVE POST STRIP DETAIL

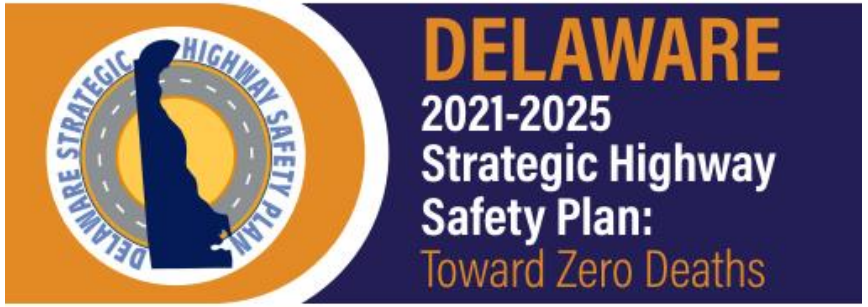
Wrong Way Prevention System (pilot)

- Implemented at Bay Road and SR 10/SR 1 northbound Off-Ramp/Dover Air Force Base North Gate
- Selected based on risk severity (i.e., prevent crashes)
- Operation upon detection:
  - LEDs flash on the Do Not Enter and Wrong Way signs facing the wrong way driver.
  - System provides alerts to DelDOT's Transportation Management Center (TMC).



Resources


CMF
CRASH MODIFICATION FACTORS CLEARINGHOUSE
ABOUT THE CLEARINGHOUSE | USING CMFs | DEVELOPING CMFs | ADDITIONAL RESOURCES
The Crash Modification Factors Clearinghouse provides a searchable database of CMFs along with guidance and resources on using CMFs in road safety practice.
ENTER SEARCH TERMS...
Countermeasure Name
SEARCH
FREQUENT SEARCHES: ROUNDABOUT | SIGNAL | PEDESTRIAN | COMPLETE STREETS | TSMO | BROWSE ALL
United States Department of Transportation
U.S. Department of Transportation
Federal Highway Administration
Search
About FHWA
Programs
Resources
Newsroom
FHWA Highway Safety Programs
Home / Safety / Proven Safety Countermeasures
Proven Safety Countermeasures
Search Safety Proven Countermeasures
Resources
Proven Safety Countermeasures
FHWA's Proven Safety Countermeasures initiative (PSCi) is a collection of 28 countermeasures and strategies effective in reducing roadway fatalities and serious injuries on our Nation's highways. Transportation agencies are strongly encouraged to consider widespread implementation of PSCs to accelerate the achievement of local, State, and National safety goals. These strategies are designed for all road users and all kinds of roads—from rural to urban, from high-volume freeways to less traveled two-lane State and county roads, from signalized crossings to horizontal curves, and everything in between. Each countermeasure addresses at least one safety focus area – speed management, intersections, roadway departures, or pedestrians/bicyclists – while others are crosscutting strategies that address multiple safety focus areas. Search Proven Safety Countermeasures.


DELAWARE STRATEGIC HIGHWAY SAFETY PLAN
DELAWARE
2021-2025
Strategic Highway Safety Plan:
Toward Zero Deaths


DelDOT

Thank you for your time and interest in safety on Delaware's roadways.

Peter Haag, P.E., PTOE
Chief of Traffic Engineering
Peter.Haag@delaware.gov

To Report a Road Condition: https://deldot.gov/Traffic/ReportRoadCondition/index.shtml