# DELAWARE STRATEGIC HIGHWAY SAFETY PLAN: TOWARD ZERO DEATHS

## SHSP Stakeholder Summit

June 26, 2018

*Updated July 30, 2018*

# Agenda

- Introductions & SHSP Overview
- Progress in Achieving SHSP Overall Goals
- SHSP Strategy Implementation Highlights
- Summary of Progress in Achieving SHSP Emphasis Area Goals
- Open Discussion & Next Steps

# SHSP Overview

# What is an SHSP?

- Comprehensive transportation safety plan with a goal of reducing highway fatalities and serious injuries on all public roads

- Establishes consistent statewide goals, objectives, emphasis areas, priorities, and countermeasures with stakeholders and other transportation plans

- Makes effective use of State, regional, and local crash data and determines priorities based on crash data

- Addresses engineering, management, operation, education, enforcement, and EMS

# Key MAP-21 Requirements

- SHSP must be evaluated and updated regularly (full updates at least every 5 years)
- States must develop the SHSP in consultation with the stakeholders identified in MAP-21
- To identify safety problems and priorities, States should analyze crash (both fatalities and serious injuries), roadway, and traffic data
- Coordinate SHSP with other transportation and safety plans (e.g., STIP, HSP, CVSP, and Metropolitan Transportation Plans)
- States must set performance-based goals

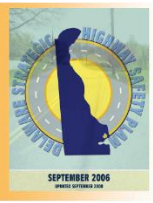
# Delaware's SHSP History

DELAWARE'S SHSP HISTORY

SAFETEA-LU
(August 2005)

**2006**
First Plan Adopted

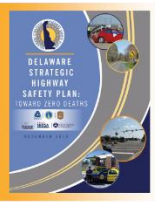

**2008**
First Plan Update




**2010**
New Plan Adopted

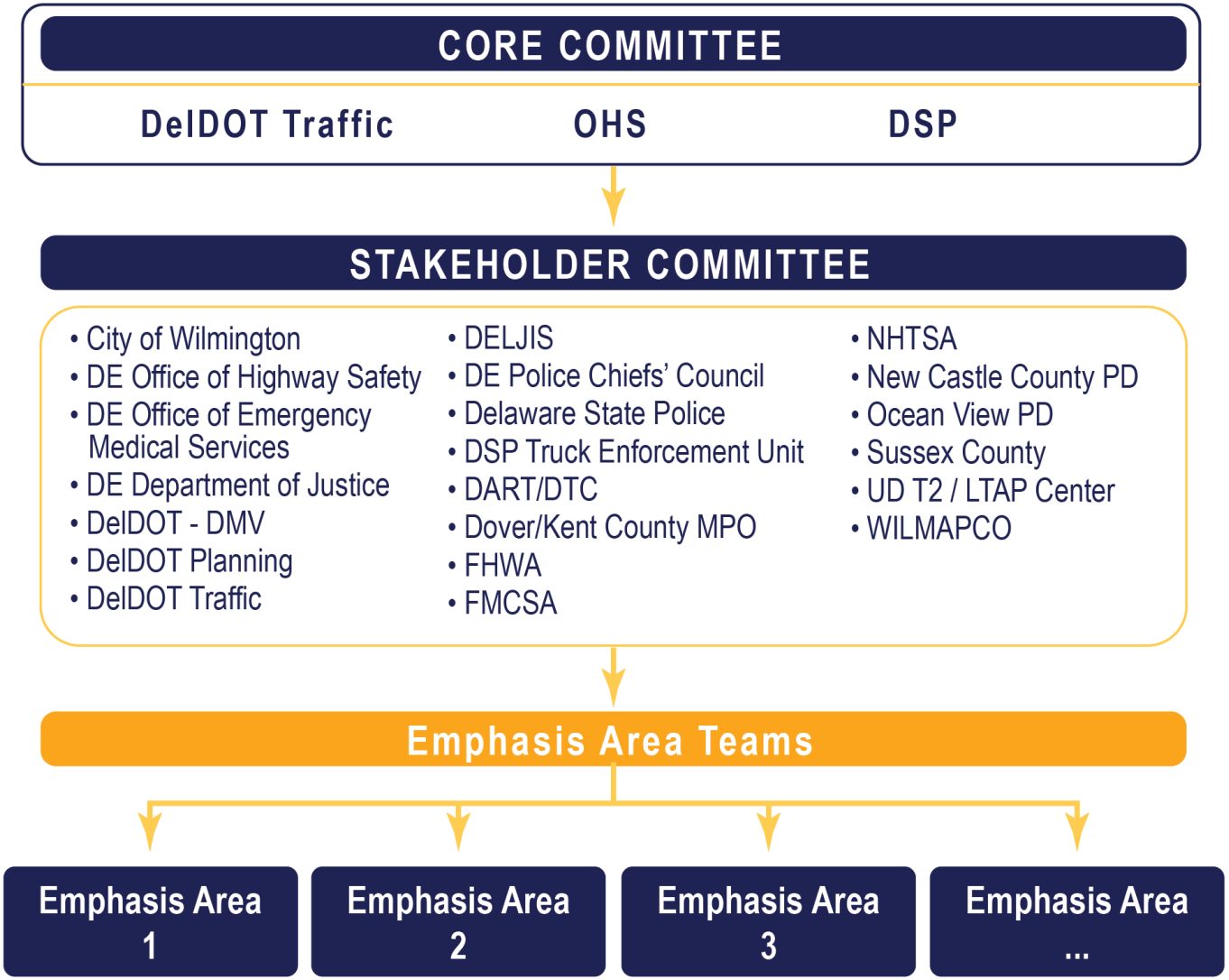

MAP-21
(July 2012)

**2015**
New Plan Adopted

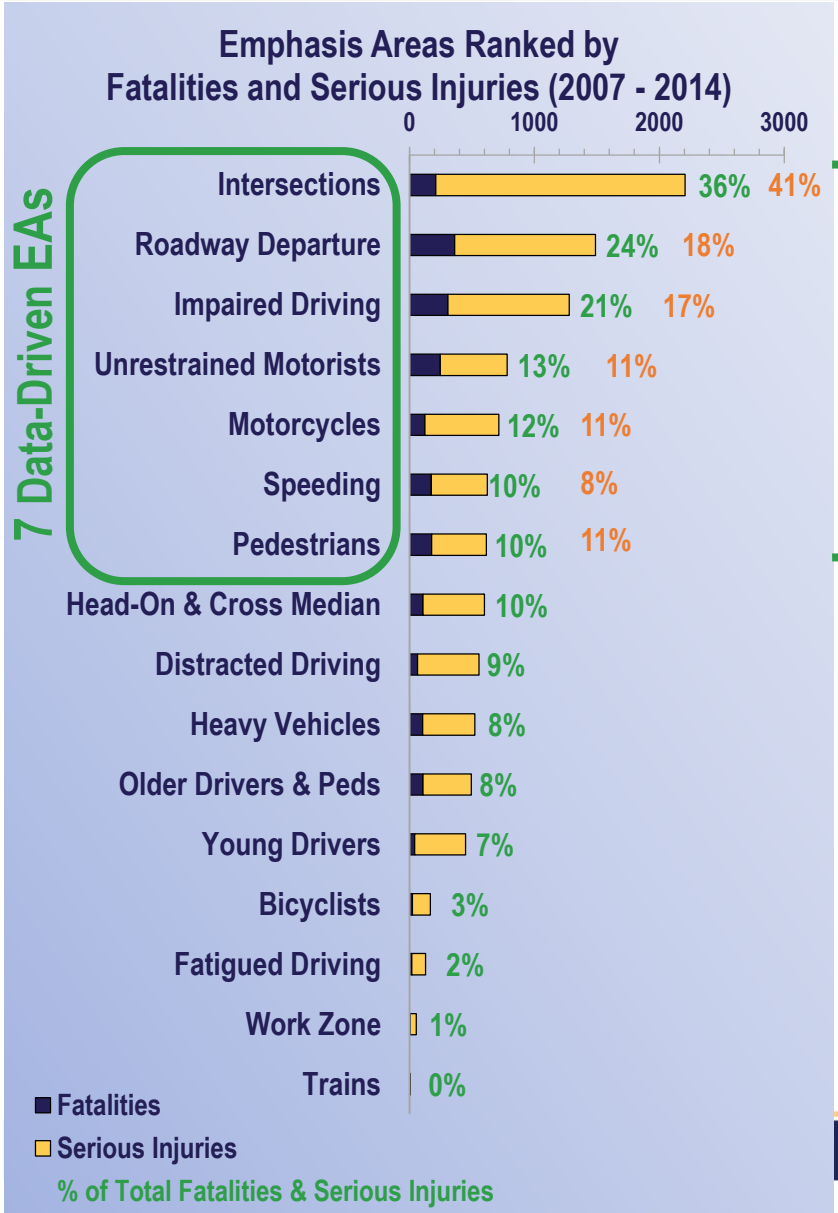



**2020**
Plan Update Scheduled

# Stakeholder Input



# Delaware's 2015 SHSP Emphasis Areas




**Account for**
**94% (91%) of fatalities and**
**81% (75%) of serious injuries**

**(2007 – 2014 data)**
**(2015 – 2017 data)**

# Progress in Achieving SHSP Overall Goals

# 2015 SHSP Mission & Overall Goal Statements

## MISSION

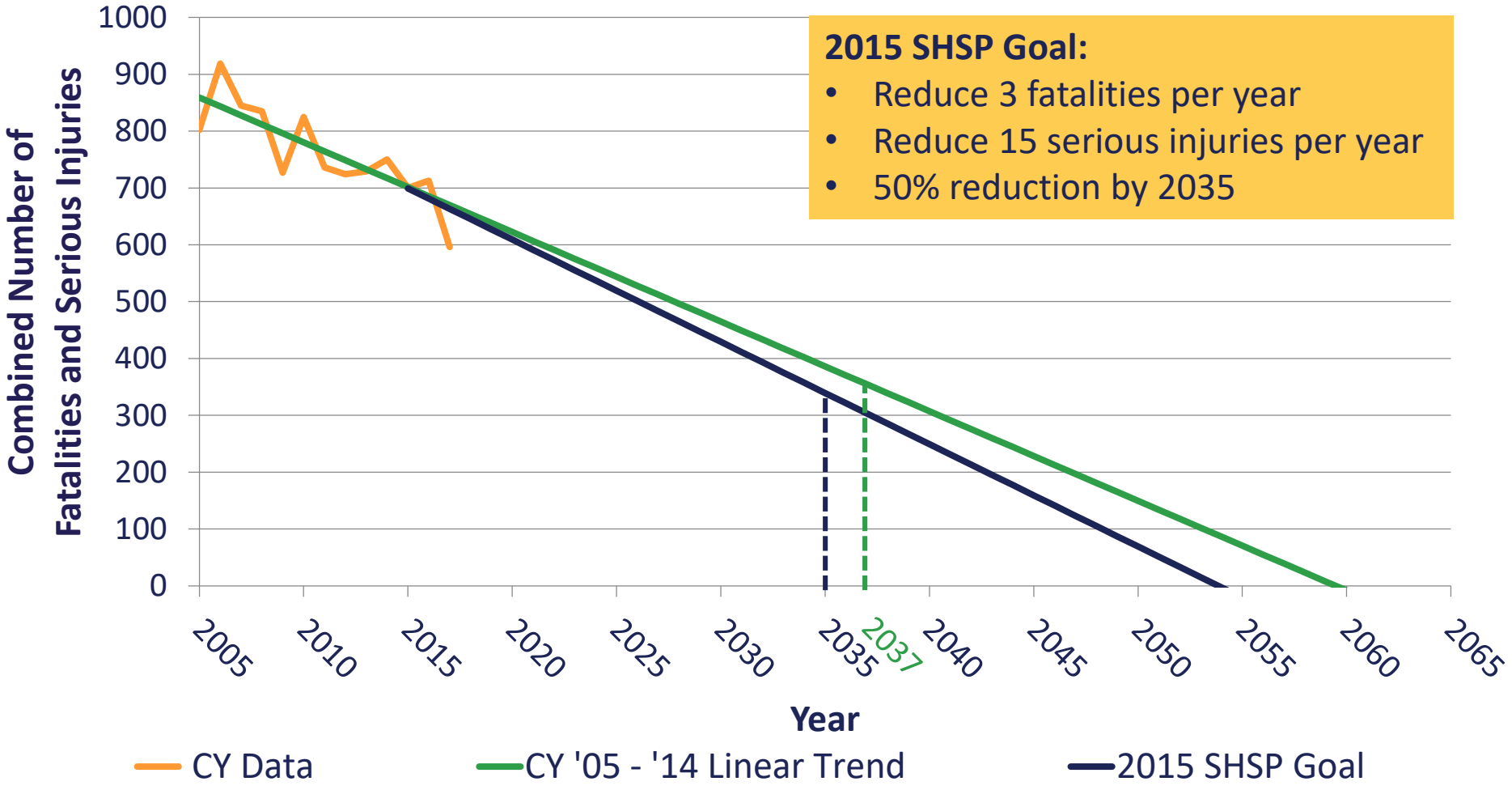
The *Delaware Strategic Highway Safety Plan: Toward Zero Deaths* aims to eliminate fatalities and serious injuries on Delaware's roadways through a multi-agency approach that utilizes education, enforcement, engineering and emergency medical service strategies.

OVERALL GOAL

The goal of the *Delaware Strategic Highway Safety Plan: Toward Zero Deaths* is to achieve a reduction of at least 3 fatalities and 15 serious injuries annually and continue to reduce the total number of fatalities and serious injuries to achieve at least a 50 percent reduction by 2035.

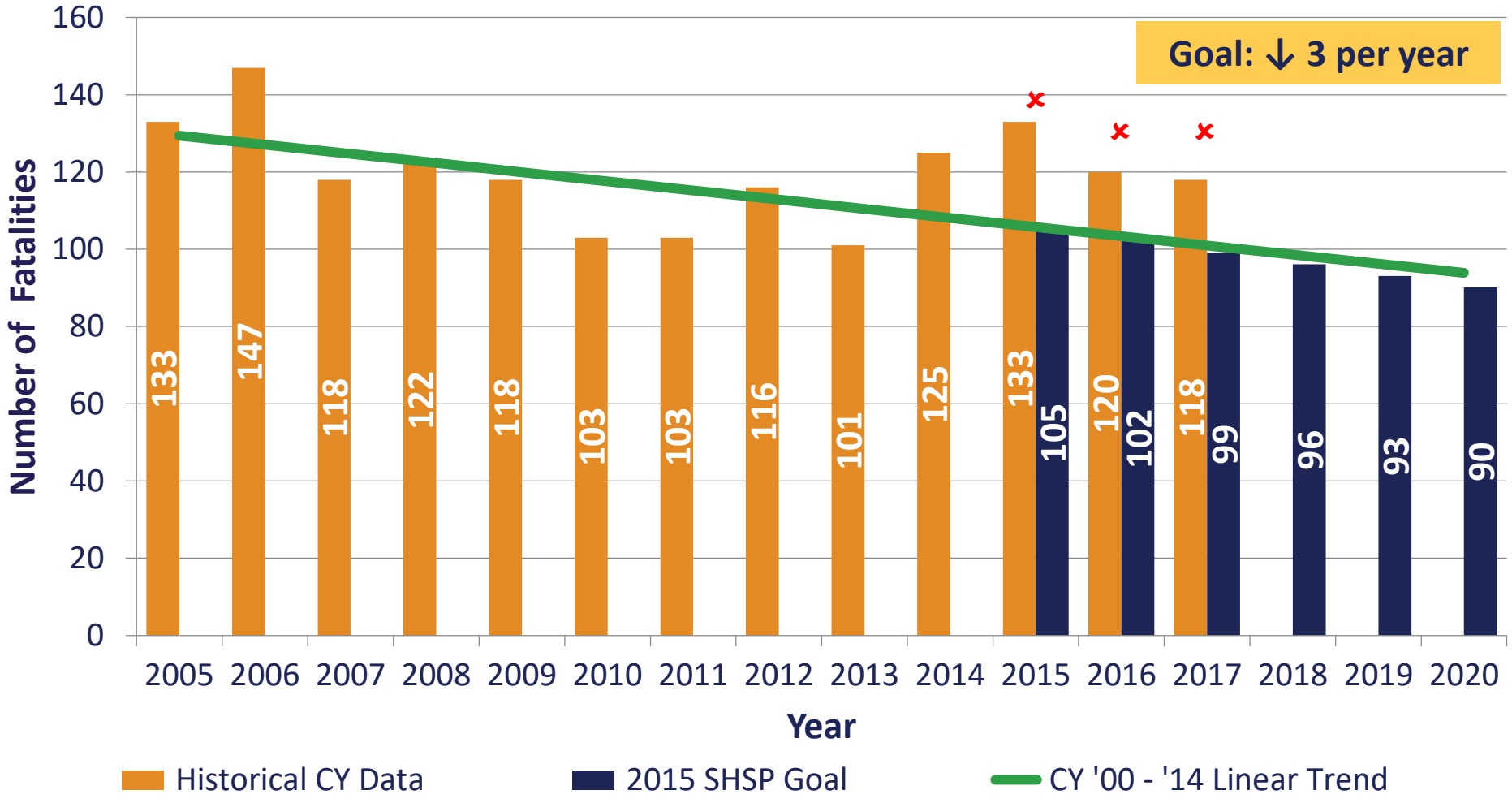
# 2015 SHSP Overall Goal

## (Combined Fatalities & Serious Injuries)




*Source: CARS (2017 data is preliminary)*

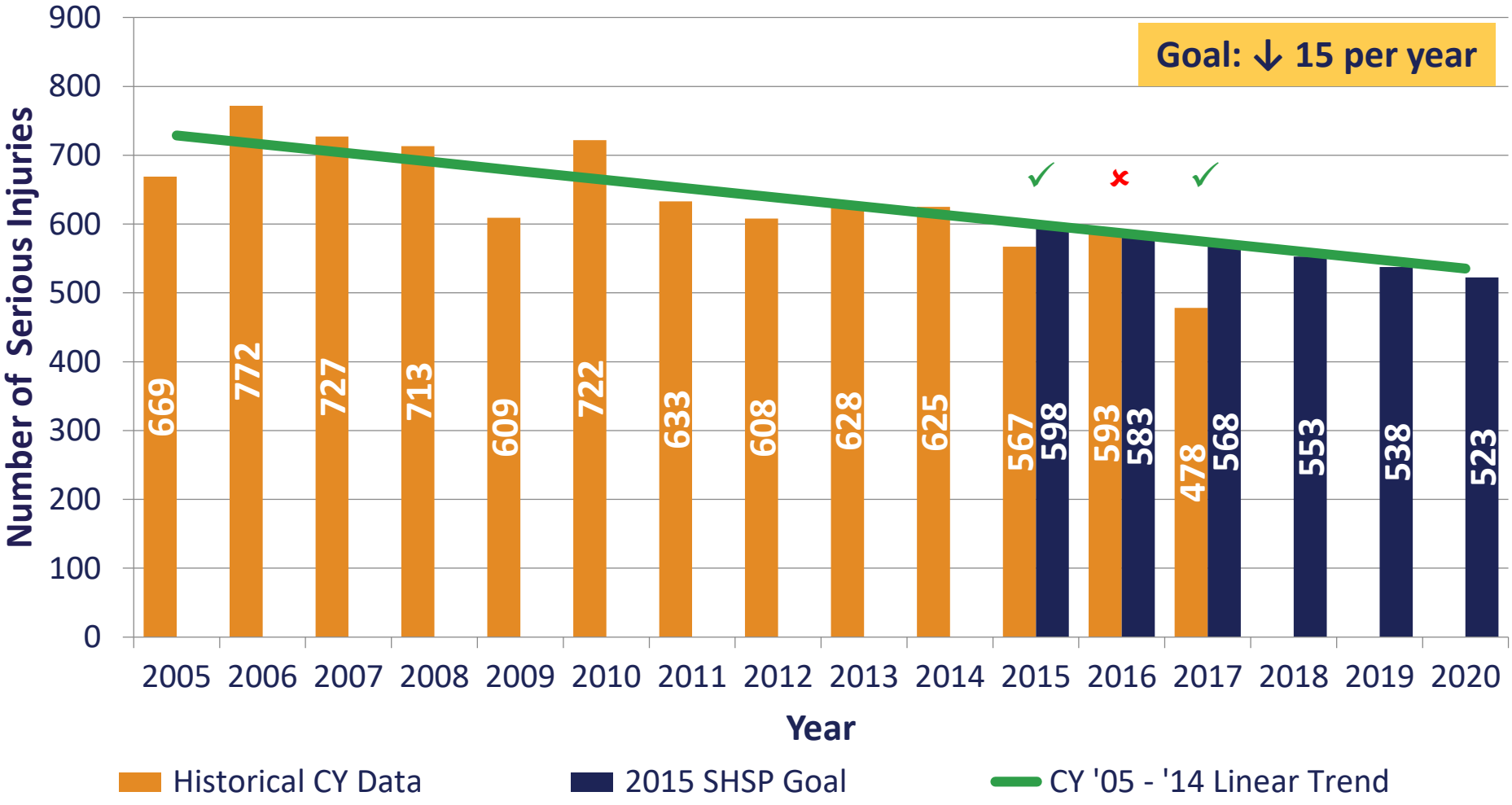
# Number of Fatalities




*Source: CARS*

✓ Goal Met × Goal Not Met

# Number of Serious Injuries

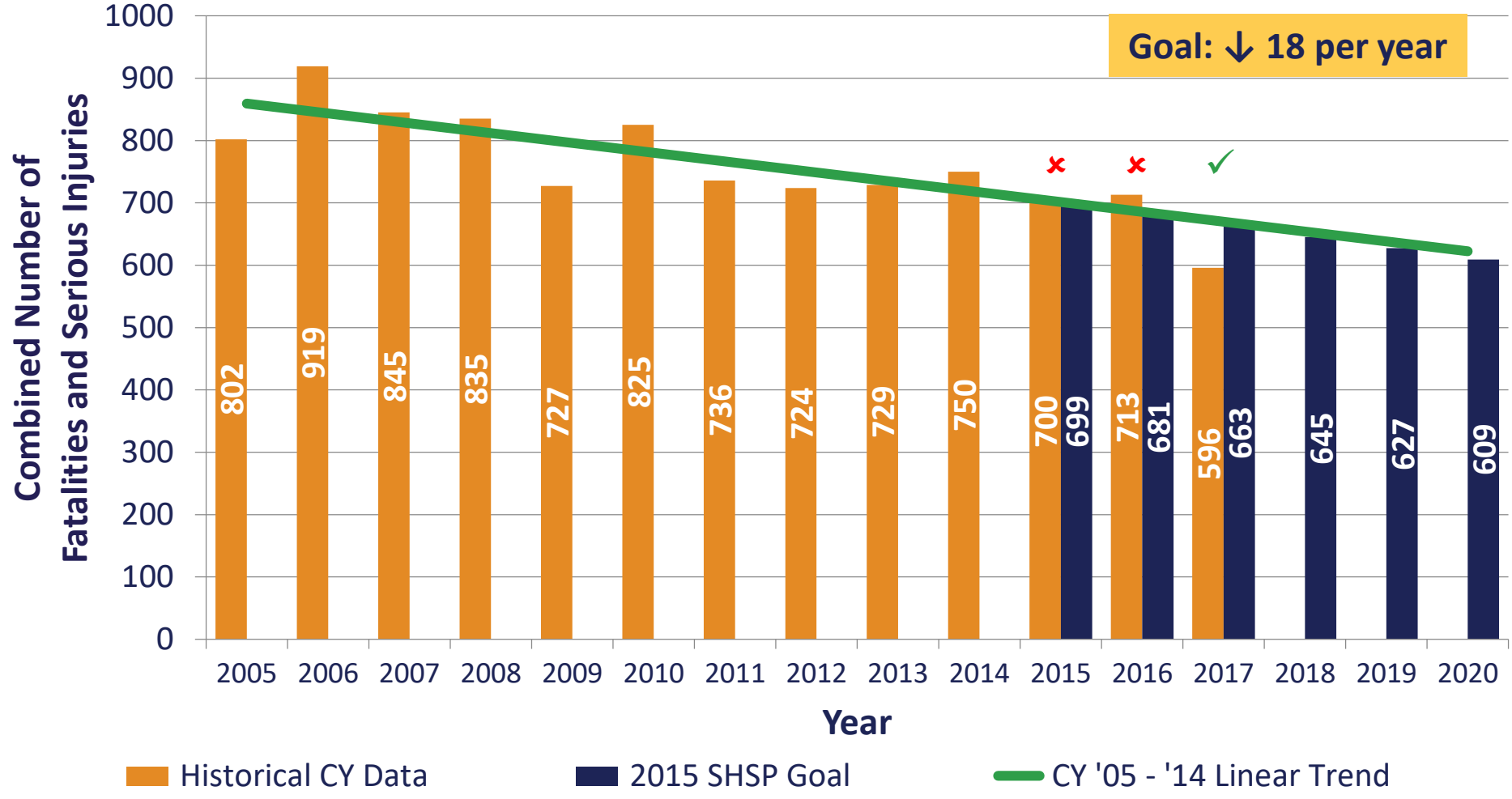



*Source: CARS*

✓ Goal Met ✗ Goal Not Met

# 2015 SHSP Overall Goal

## (Combined Fatalities & Serious Injuries)




*Source: CARS*

✓ Goal Met  × Goal Not Met

# 2018 Fatalities Snapshot

## (as of June 19, 2018)

| | 2017 | 2018 | 2018 - 2017 |
|---|---|---|---|
| **Total Fatalities** | **40** | **44** | **+4 (+10%)** |
| **Person Type** | | | |
| Vehicle Occupants | 19 | 28 | +9 (+47%) |
| Seat Belts Worn | 8 | 13 | +5 (+63%) |
| Seat Belts Not Used | 11 | 12 | +1 (+9%) |
| Seat Belt Use Unknown | 0 | 3 | +3 (n/a) |
| Motorcyclists | 5 | 5 | 0 (0%) |
| Pedestrians | 13 | 10 | -3 (-23%) |
| Bicyclists | 3 | 1 | -2 (-67%) |
| **Crash Involvement** | | | |
| Alcohol/Drug Related | 22 | 8 | -14 (-64%) |
| Roadway Departure | 13 | 20 | +7 (+54%) |
| Work Zones | 0 | 2 | +2 (n/a) |

*Source: OHS and DelDOT based on analysis of CARS and fatal crash notices;*
*Current year count is unofficial and could rise as fatal investigations are completed*

# SHSP Strategy Implementation Highlights

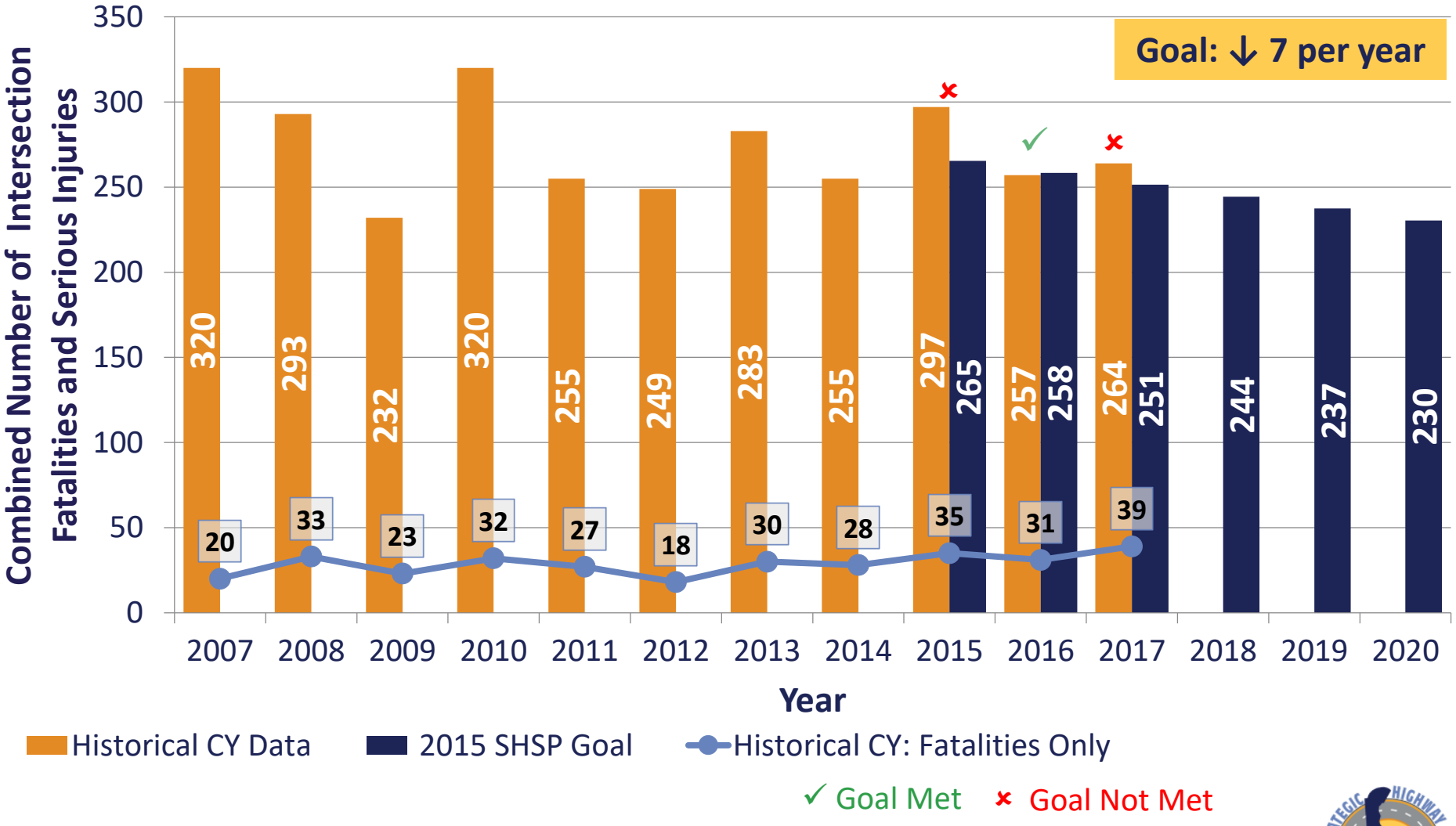
# Implementation Tracking

- DelDOT, OHS, DSP tracking SHSP efforts
- Agencies meet at least once annually to discuss and coordinate strategy implementation and initiatives

| EA | Item # | SHSP Strategy | Tasks | Nov. 2016 Status Update | | Feb. 2018 Status Update | |
|---|---|---|---|---|---|---|---|
| | | | | Status | Action Item(s) | Status | Action Item(s) |
| 1 - Intersections | 101 | Prioritize and implement systemic intersection-related safety improvements | Adopt a policy/update Traffic Design Manual to require/encourage the use backplates. At a minimum, require backplates with 2" retroreflective borders when used. | Require for mast arms; Engineering study for span wire | - WRA to investigate<br>- WRA to write policy for backplates | Completed - see 1/27/17 design directive | |
| | 102 | | Identify systemic safety improvements for unsignalized intersections and develop program to systemically implement | - Dan Blevins has started something similar<br>- Focus on roundabouts and median crossovers | WRA to investigate | - SR 1, Milton to Five Points improvements; traffic/safety study completed; discussions needed with Leg Hall regarding recommendations<br>- Next study corridor may be US 113 in Millsboro<br>- Median Crossover Signage Implementation<br>- Treat these studies as a corridor safety audit | |
| | 103 | Develop a high-crash intersection prioritization process | Develop a high-crash intersection prioritization process | Dan Blevins has started something similar | WRA to investigate implementing WILMAPCO vs. CARS methodologies | Focus on crash numbers and severity (not rates) | - Use WILMAPCO's list and perform studies for the top 5 locations; evaluate informally<br>- Do not create a new prioritization process at this time |
| | 104 | Identify and implement effective safety improvements to address crash trends at high-crash intersections | Consider updating DelDOT's lighting guidelines to be more stringent, such as requiring intersection lighting at all signalized intersections | - Decided to leave guidelines as is at this time since it isn't solely a traffic decision/ responsibility<br>- Check crash percent (< 5%)<br>- Continue with focus on ped safety audit | Update Dark Criteria Study by Urban | JMT currently working on updating DelDOT lighting guidelines. Anticipate draft new guidelines in 2018. | |
| | 105 | | Develop a roundabout potential locations priority list | Not officially started; begin with Dan Blevins list (AW to provide) | WRA to investigate; prioritize based on factors (e.g., crashes, AADT, # of lanes) | - Roundabouts under consideration as part of HEP and DelDOT Traffic studies | - Use WILMAPCO's intersection priority list as a starting point and prioritize intersections for consideration of a roundabout and/or AWSC considering functional class.<br>- Use Intersection EA location data to help determine which functional classification roadways should be considered and/or prioritized. |
| | 106 | Prioritize critical corridors for safety audits | Consider developing a corridor-based program, specifically along divided highways with a high frequency of crossovers, to identify and install corridor-wide improvements | Not a priority at this time | Continue with evaluation of SR 1 median openings | - SR 1, Milton to Five Points improvements; traffic/safety study completed; discussions needed with Leg Hall regarding recommendations<br>- Next corridor may be US 113 in Millsboro | |
| | 107 | Develop and support guidelines and/or policies for choosing the appropriate traffic controls and safety measures at intersections | Pursue adoption of Flashing Yellow Arrow (FYA) | | ML/WRA to follow up to develop a plan | Not moving forward w/ FYA, only FRA; need to determine next steps for 5-section head | - WRA to follow up with ML with preliminary flowchart for TDM design directive<br>- DelDOT investigating how to convert from protected-only to protected-permissive (FRA) left-turn phasing |
| | 108 | | Develop a program to reduce sign clutter | Not a priority at this time; addressing through other projects | | Occuring at select locations | |

# EA 1: Intersections

## (Combined Fatalities and Serious Injuries)




*Source: CARS*

# EA 1: Intersections

## Data Trends of Fatal and Serious Injury Persons (2015-2017 Crashes)

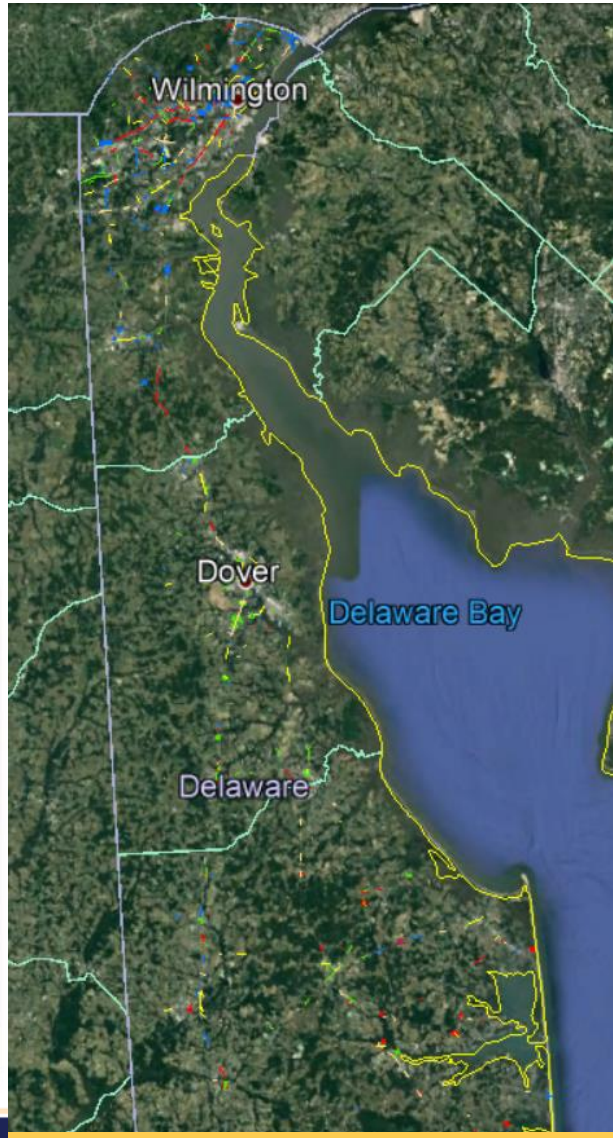
- 76% occurred in urban areas
- 57% were angle crashes
  - 53% of those at signals were angle crashes
  - 51% of those at unsignalized were angle crashes (down from 60%)
- 56% occurred in New Castle County
- 51% occurred at unsignalized
- 54% were male
- 39% occurred between 2 and 7 PM
- 33% occurred on principal arterials
- 22% were 20 to 29 years old
- 14% occurred on wet/snowy/icy roadways
- 13% occurred during dark, unlit conditions
  - 11% for Signals
  - 16% for Unsignalized
- Location
  - 30% at Signals on Divided Hwys
  - 17% at Signals on Undivided Hwys
  - 16% at Unsignalized on Divided Hwys
  - 36% at Unsignalized on Undivided Hwys

*Compared to Data Trends Reported in 2015 SHSP (based on 2007-2014 crash data)*

# EA 1: Intersections

## Hazard Elimination Program

- 15 HEP sites identified and studied annually
  - Site selection based on critical crash rates
- Considering modifications to the site selection process to prioritize corridors and/or intersections
  - Consider fatality and injury crashes only during site selection
  - Consider crash numbers (not rates)


HEP Sites Since 2002

# EA 1: Intersections

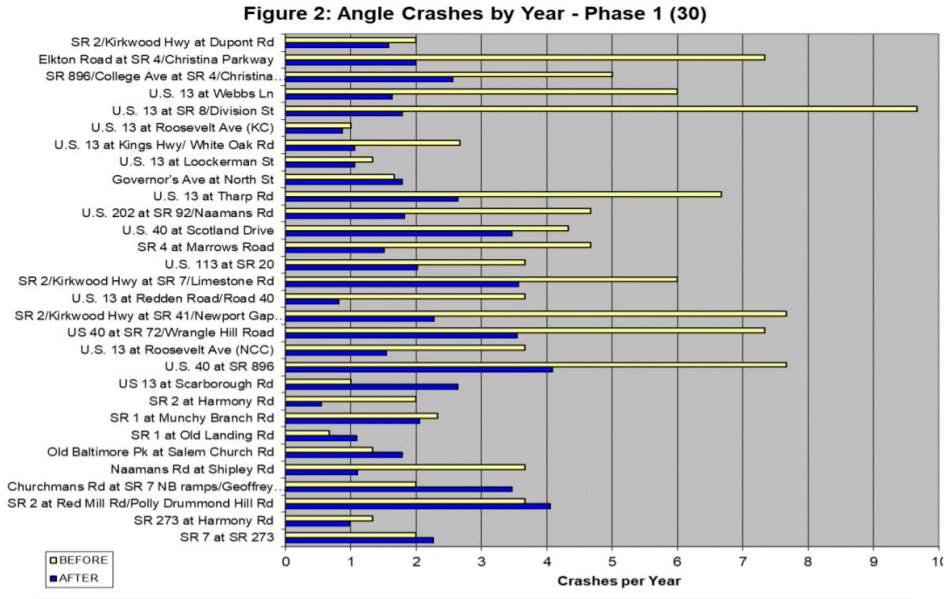
- Unsignalized intersections
  - Multiway stop control installation
  - Roundabout candidate priority program
  - Median opening studies and improvements

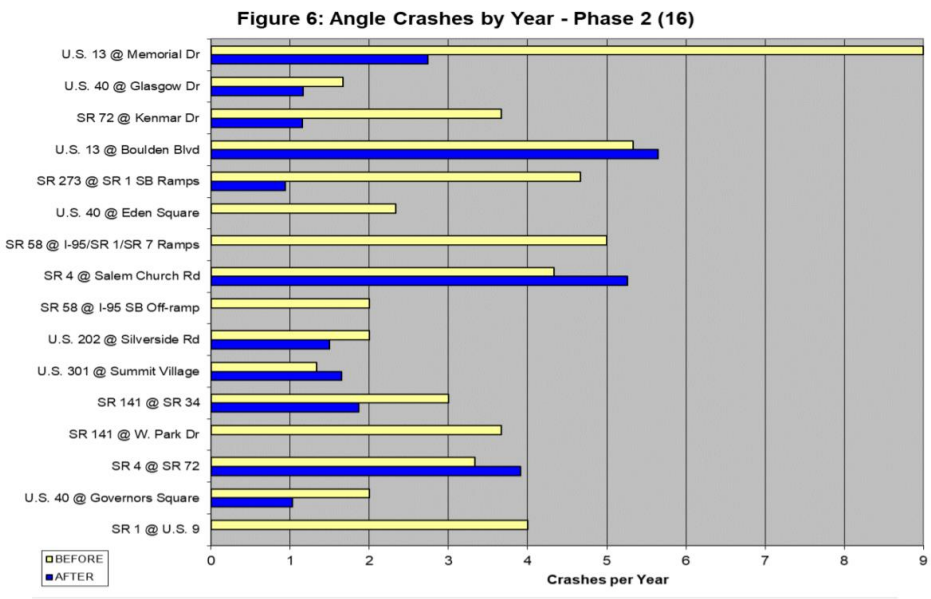
- Signalized intersections
  - Backplate requirements updated
  - Multiple corridors retimed each year
  - Considering applying HFST on intersection approaches

# EA 1: Intersections

## Electronic Red Light Safety Program

- Phase 1 Results
  - 7% increase in all crashes
  - 47% reduction in angle crashes
  - 21% reduction in RLR crashes
  - 11% increase in rear end crashes
- Phase 2 Results
  - 19% increase in all crashes
  - 50% reduction in angle crashes
  - 53% reduction in RLR crashes
  - 33% increase in rear end crashes
  - **20% reduction in injuries**



# EA 1: Intersections

- Countermeasure evaluations
  - Through Route Activated Warning System (TRAWS)
  - Lane narrowing
  - Speed reduction markings
  - Intersection lighting
  - HIBs/ICBs
  - New traffic signals
- Goal is to identify “proven” countermeasures


# EA 1: Intersections

- Connected and Autonomous Vehicles
  - Advisory Council on CAVs (multiple subcommittees)
  - SPAT Challenge
  - DSRC Testing

STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
800 BAY ROAD
P.O. BOX 778
DOVER, DELAWARE 19903

JENNIFER COHAN
SECRETARY

**Advisory Council on Connected and Autonomous Vehicles**

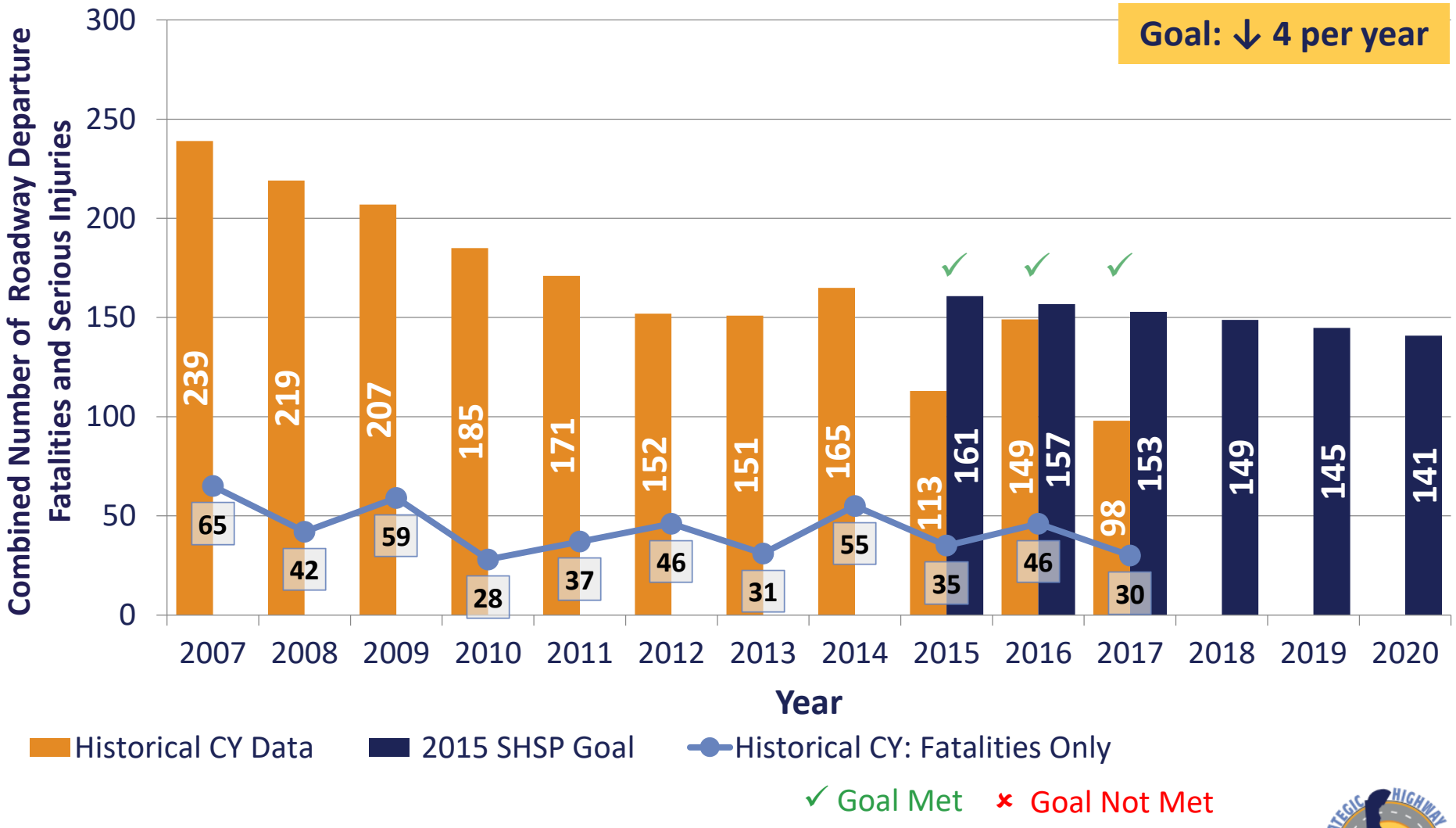
**Public and Highway Safety Subcommittee**

*Monday June 25, 2018*
*1:00pm-3:00pm*

DelDOT Administration Building, 800 Bay Road, Dover, De
Fenwick Conference Room

# EA 2: Roadway Departure

## (Combined Fatalities and Serious Injuries)




*Source: CARS*

# EA 2: Roadway Departure

## Data Trends of Fatal and Serious Injury Persons (2015-2017 Crashes)

- 77% were single-vehicle crashes
- 68% were male
- 58% occurred along collector and local roadways
- 55% occurred in rural areas (increase from 49%)
- 43% occurred during dark, unlit conditions
- 37% involved impaired driving
- 36% occurred on a Saturday or Sunday
- 28% were 20 to 29 years old
- 27% were unrestrained motorists
- 19% occurred on wet/snowy/icy roadways
- 18% involved speeding
- 21% occurred between 12 AM and 3 AM
- 19% involved striking a tree(s)
- 6% were cross median crashes

*Compared to Data Trends Reported in 2015 SHSP (based on 2007-2014 crash data)*

# EA 2: Roadway Departure

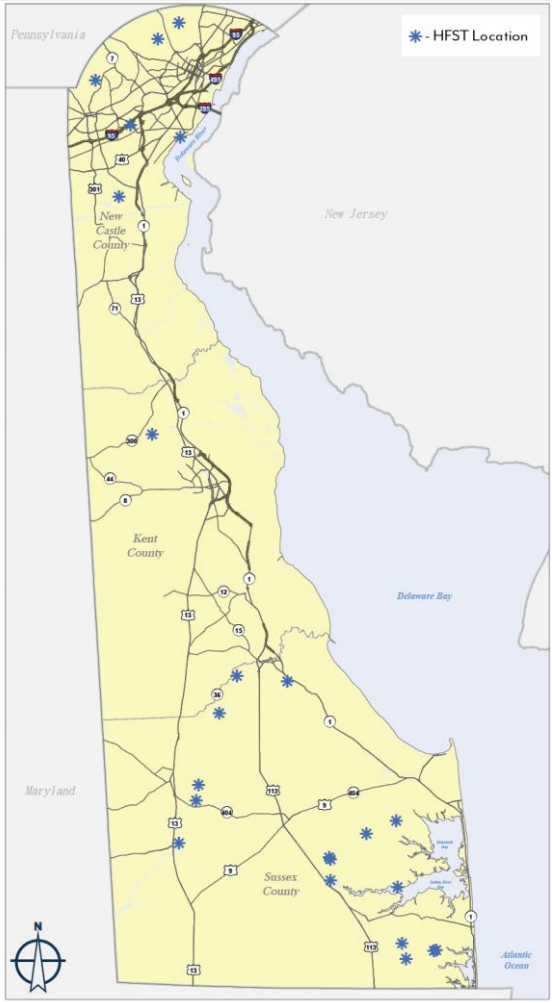
## Rumble Strips

- Proven safety countermeasure at reducing the frequency of roadway departure crashes
- Rumble Strip Open-End Contract:
  - 223 miles of center line installed
  - 133 miles of edge line installed
- Upcoming testing of sinusoidal rumble strips

# EA 2: Roadway Departure

## High Friction Surface Treatments (HFST)

- Candidate locations identified using data-driven process and screening based on several factors
- After testing, 34,500 SF was installed @ over 25 locations (thru 2017)
- Before/after evaluation:
  - Reduced wet-weather crashes per year by 55%
  - Reduced total crashes per year by 21%
  - Reduced roadway departure crashes by 56%
- DelDOT is planning to award a new open-end contract for installation




**National Roadway Safety Award for Infrastructure and Operational Improvements Award Winner**

# EA 2: Roadway Departure

## Freeway Median Barrier


Route 1 cable barrier catches crash; saves lives

Mike Phillips Jan 24, 2018 - 11:08 am (0)


- Median barrier installations since 2009:
  - SR 1 – 4.2 miles of HTCB from SR 299 to SR 896 *(2009)*
  - SR 1 – 2.9 miles of steel guardrail from north of Tybouts Corner to north of SR 273 *(2009/2010)*
  - I-495 – 0.85 miles of HTCB from I-95 to US 13 *(2013)*
  - SR 1 – 2.3 miles of HTCB from Roth Bridge to US 13 *(2014)*
  - I-95 – 1.2 miles of steel guardrail from north of Rest Area to north of SR 273 *(2017)*

- Additional median barrier design underway/planned:
  - I-95 – Approx. 2.5 miles from ½ mile south of Harvey Rd to the PA State Line
  - SR 1 – Approx. 12 miles from south of SR 9 to south of Smyrna
  - SR 1 – Approx. 11.5 miles from Smyrna to Odessa
  - SR 1 – Approx. 1 mile from north of SR 896 to south of Biddles Toll Plaza
  - Installations will be primarily HTCB with small sections of w-beam guardrail
  - Construction will occur in segments under on-call contract

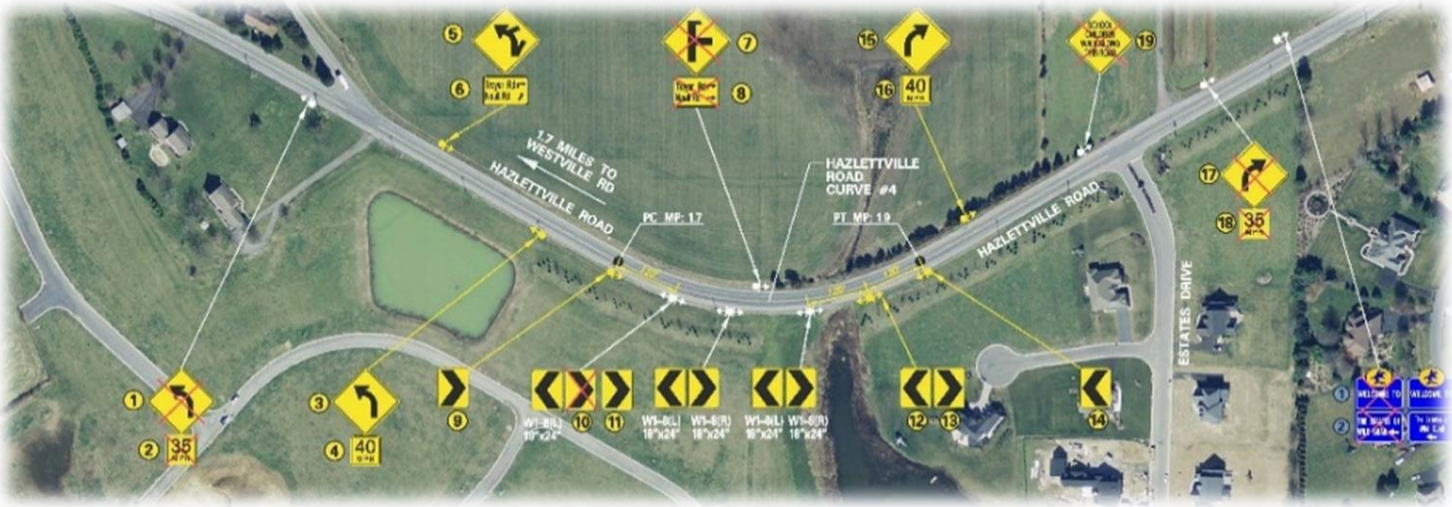


*Photo Credit: Mike Phillips, WDEL*

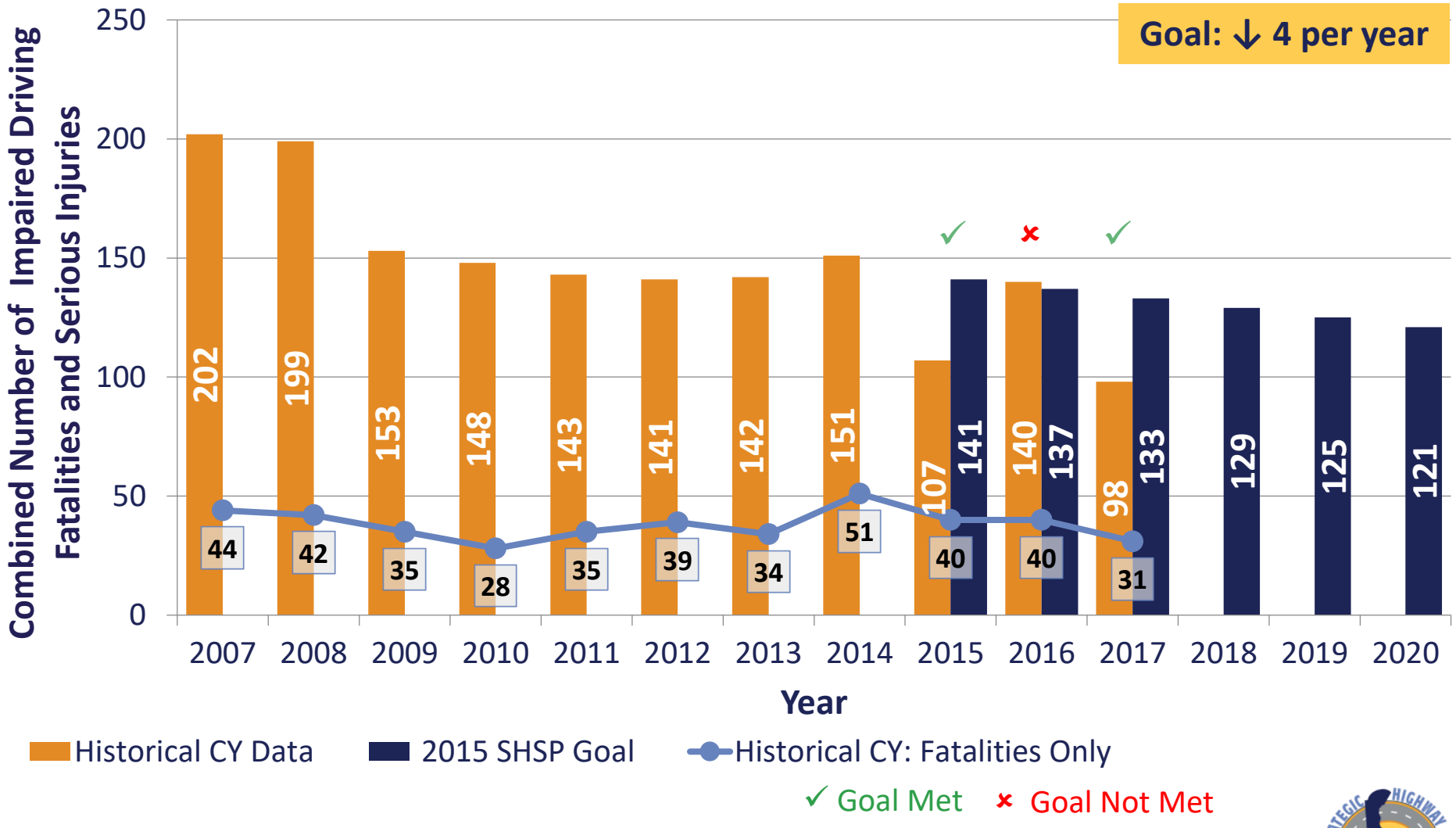
# EA 2: Roadway Departure

## Strategy Implementation Highlights

- Horizontal Curve Safety Project (ongoing)
  - Arterial and collector roadways > 1,000 AADT
  - 3,400 locations statewide
- Investigating feasibility/benefits of increasing yellow centerline width to 10” within curves (pilot will be implemented at a speed transition area)
- DelDOT working with utility companies to relocate and/or improve delineation of utility poles in locations with crash histories



# EA 3: Impaired Driving
## (Combined Fatalities and Serious Injuries)




*Source: CARS*

# EA 3: Impaired Driving

## Data Trends of Fatal and Serious Injury Persons (2015-2017 Crashes)

- 71% were male
- 64% occurred on a Friday, Saturday, or Sunday
- 39% were in roadway departure crashes (down from 51%)
- 47% occurred during dark (unlit) conditions
- 43% occurred in New Castle County
- 34% of impaired drivers were 20 to 29 years old
- 26% were unrestrained motorists
- 25% occurred between 12 AM and 3 AM
- 31% occurred on principal arterials (increase from 25%)
- 12% involved speeding
- 47% were in single-vehicle crashes (increase from 38%)

*Compared to Data Trends Reported in 2015 SHSP (based on 2007-2014 crash data)*

# EA 3: Impaired Driving

- Recent Trends
- Challenges
- Program Management

# EA 3: Impaired Driving

## OHS's Approach to Media

### PAID MEDIA

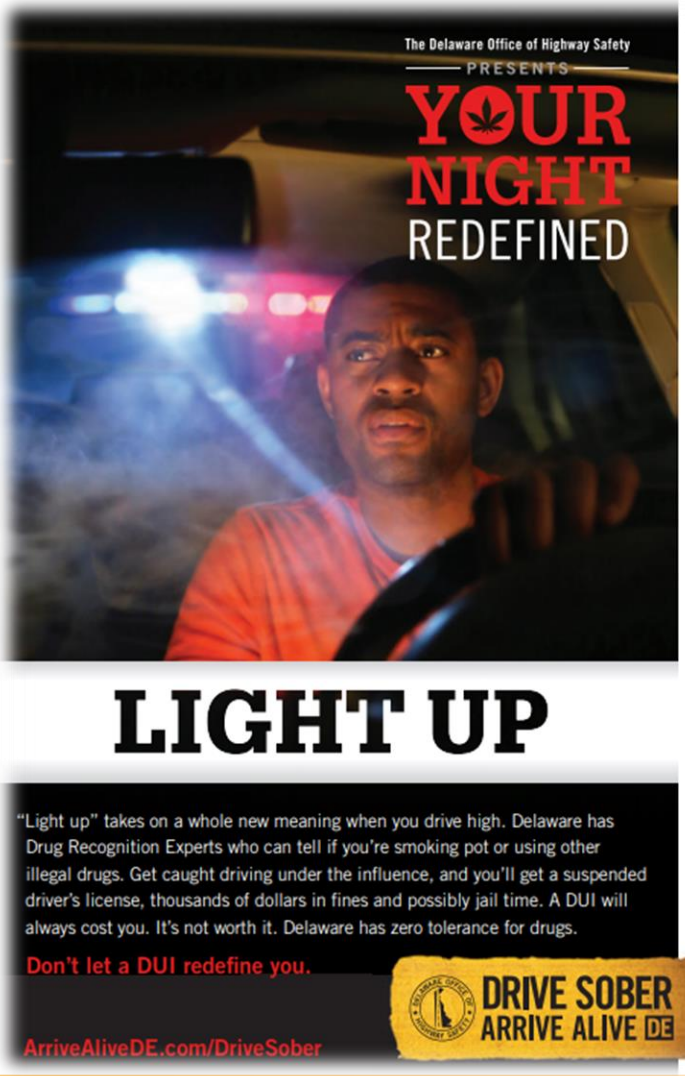
- Video (Facebook; cable TV)
- Sponsored Facebook posts
- Banner ads
- Vehicle wraps
- Text ads – Google Adwords; Bing ads
- Banner ads – MaxPoint; Facebook
- Printed collateral
- Micro website: https://www.arrivealivede.com
- OHS Facebook
- John Q. Rhodes - Facebook character
- Event sponsorships (NASCAR)

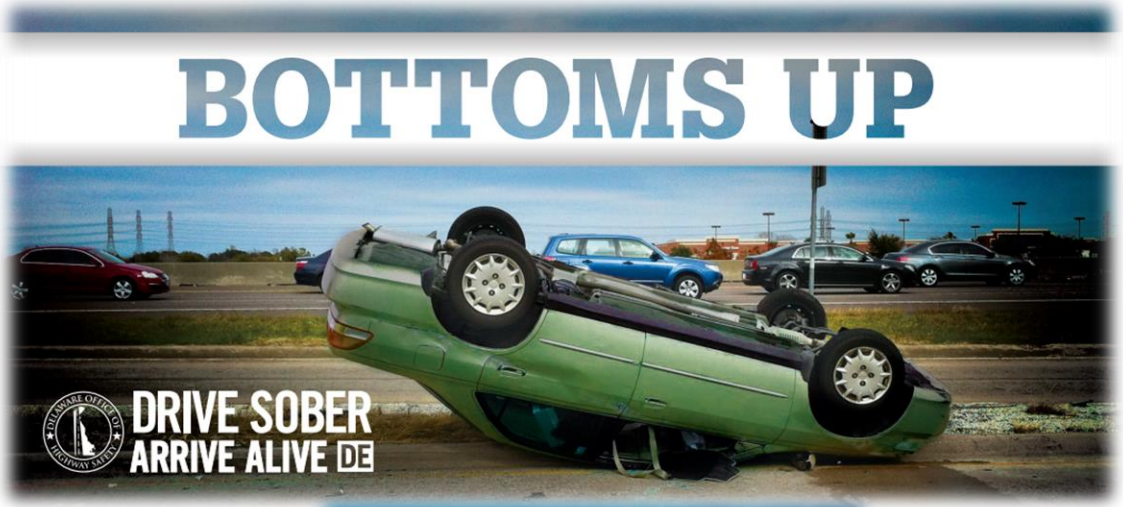
### EARNED MEDIA

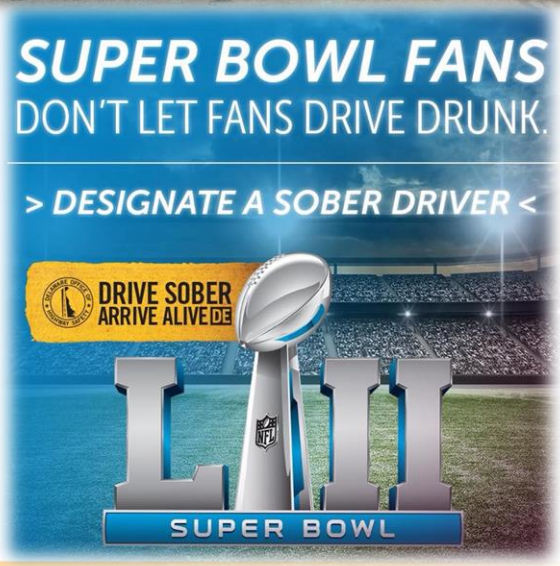
- PSAs – IHeart Radio/High school public address
- Media releases before mobilizations
- Close relationships with local media & press
- Responsiveness to media inquiries
- Working with other state agency PIOs (State, county and local law enforcement; DelDOT, DMV)

# EA 3: Impaired Driving

## Example Media



# Delaware Office of Highway Safety

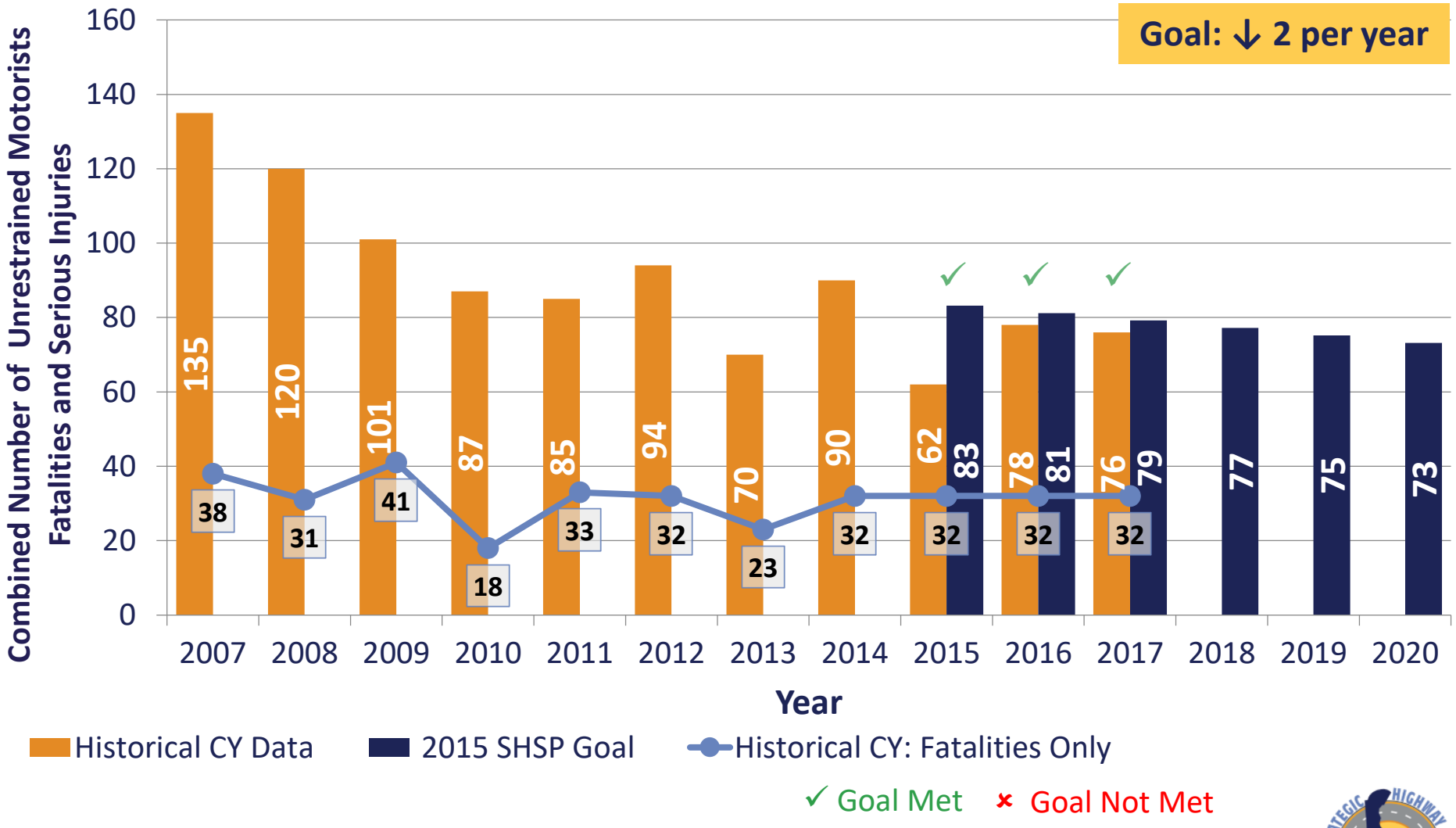
University of Delaware Football
Newark, DE
November 11th, 2017
Attendance 16,333


# Delaware Office of Highway Safety

Buccaneer Bash
Bowers Beach, DE
May 26th - 27th, 2018


# EA 4: Unrestrained Motorists

## (Combined Fatalities and Serious Injuries)




*Source: CARS*

# EA 4: Unrestrained Motorists

## Data Trends of Fatal and Serious Injury Persons (2015-2017 Crashes)

- 69% were male
- 65% were drivers
- 45% were in roadway departure crashes
- 42% were in impaired driving crashes
- 38% occurred on a Saturday or Sunday
- 30% were 20 to 29 years old
- 27% were impaired drivers
- 19% occurred between 12 AM and 3 AM
- 15% involved speeding

*Compared to Data Trends Reported in 2015 SHSP (based on 2007-2014 crash data)*

# EA 4: Unrestrained Motorists

- Recent Trends
- Challenges
- Program Management

# Delaware Office of Highway Safety

William Penn High School
New Castle, DE
October 16th, 2017

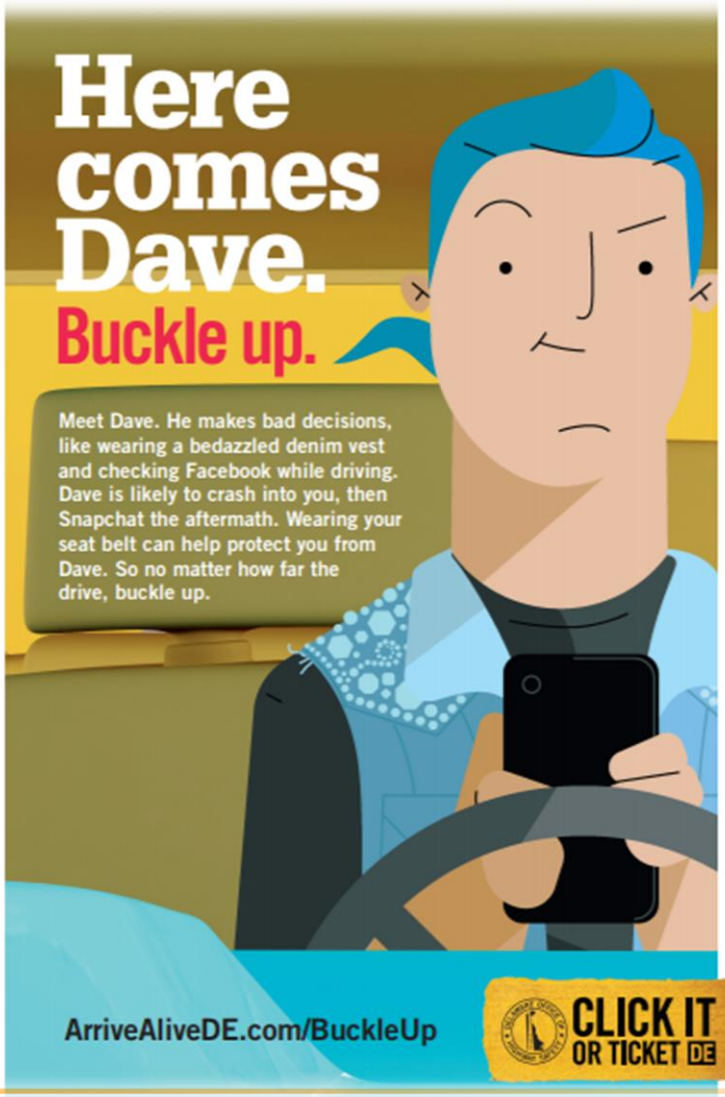
# Delaware Office of Highway Safety

SLOW DOWN BUCKLE UP DE

Camden Wyoming Little League
Camden, DE
May 12th, 2018

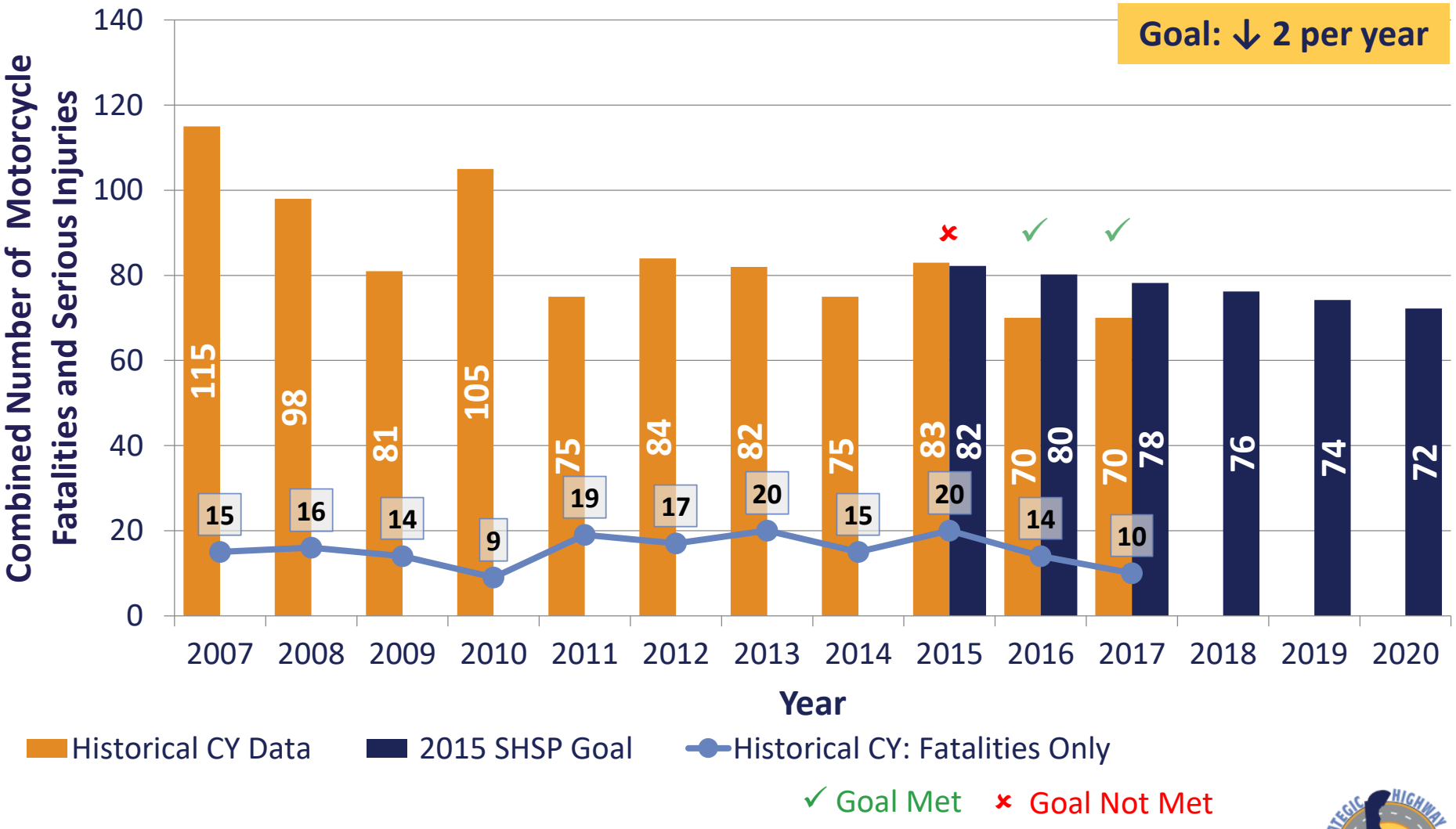

# EA 4: Unrestrained Motorists

## Example Media





# EA 5: Motorcycles
## (Combined Fatalities and Serious Injuries)




*Source: CARS*

# EA 5: Motorcycles

## Data Trends of Fatal and Serious Injury Persons (2015-2017 Crashes)

- 89% were male
- 57% occurred on a Friday, Saturday or Sunday
- 36% occurred in June, July, or August (down from 47%)
- 35% were not wearing a helmet (down from 45%)
- 35% were in angle crashes
- 31% were in single-vehicle crashes
- 39% occurred at an intersection
- 34% occurred between 3 PM and 7 PM
- 42% occurred on principal arterial roadways (increase from 26%)
- 21% were 40 to 49 years old
- 12% were in roadway departure crashes (decrease from 24%)
- 18% were impaired drivers (or riding with an impaired driver)
- 20% during dark, unlit conditions

*Compared to Data Trends Reported in 2015 SHSP (based on 2007-2014 crash data)*

# EA 5: Motorcycles

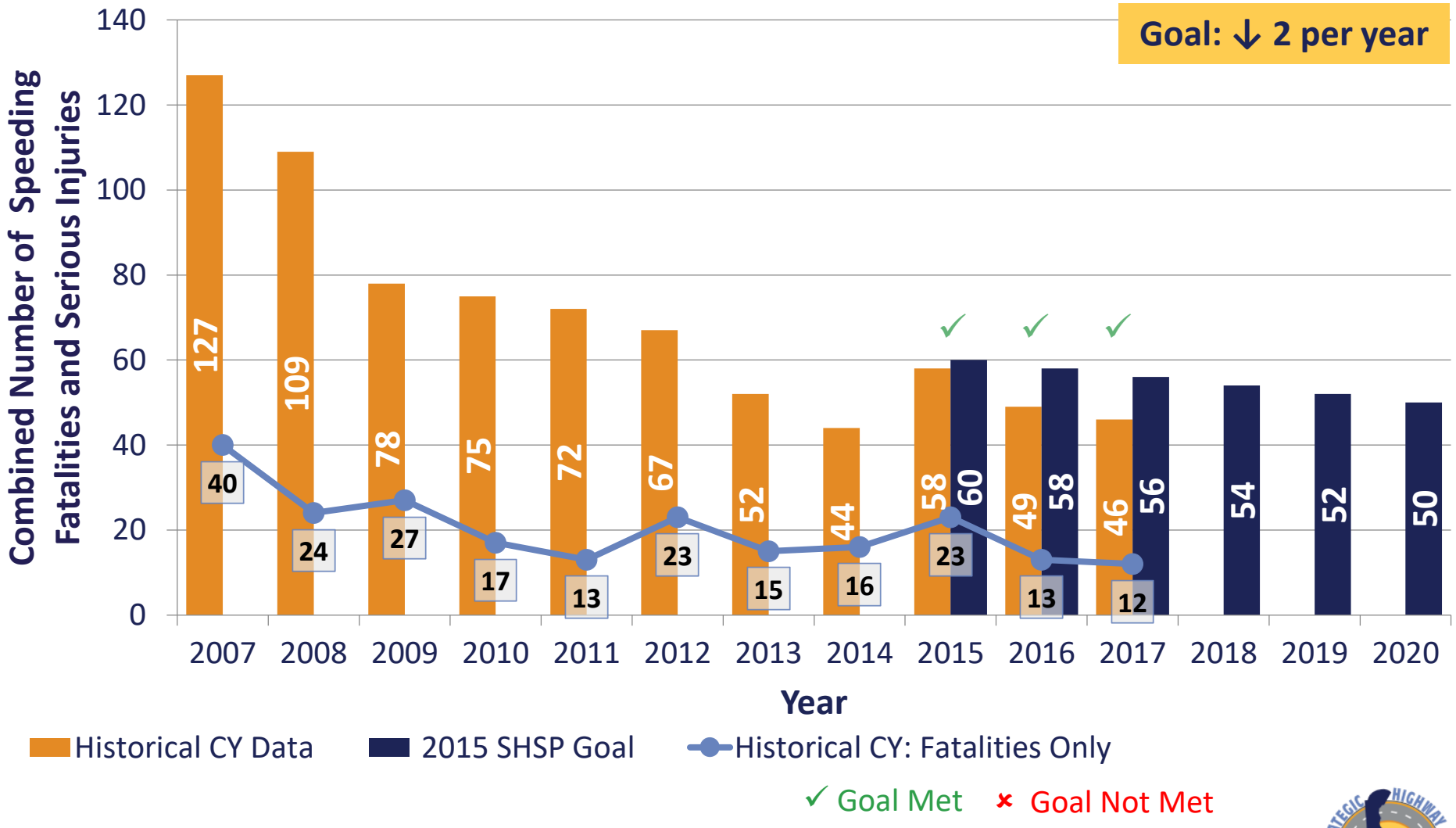
- Recent Trends
- Challenges
- Program Management

# EA 5: Motorcycles

## Example Media



# EA 6: Speeding
## (Combined Fatalities and Serious Injuries)




*Source: CARS*

# EA 6: Speeding

## Data Trends of Fatal and Serious Injury Persons (2015-2017 Crashes)

- 67% were male
- 29% were 20 to 29 years old
- 53% occurred in New Castle County
- 58% were in single-vehicle crashes (increase from 47%)
- 42% were roadway departure crashes (decrease from 54%)
- 55% occurred on collector or local roads
- 51% occurred on a Friday, Saturday, or Sunday
- 36% during dark, unlit conditions
- 29% occurred between 7 PM and 11 PM
- 36% occurred in rural areas
- 24% occurred on wet/snowy/icy roadways
- 28% involved impaired driving
- 22% were unrestrained motorists
- 19% were motorcyclists

*Compared to Data Trends Reported in 2015 SHSP (based on 2007-2014 crash data)*

# EA 6: Speeding
## Strategy Implementation Highlights

- DRIVE TO SAVE LIVES CAMPAIGN
  - The Drive to Save Lives Campaign was initiated by the International Association of Chiefs of Police (IACP) in 2014 with the goal of reducing traffic deaths and injuries across the U.S. *AND* changing the high-risk behaviors of motorists, to include the following:
    - Distracted driving
    - Impaired driving
    - ***Speeding***
    - Unsafe driving behaviors of the operators of large trucks/buses
    - Seatbelt violations (motorists and passengers)

# EA 6: Speeding

## Strategy Implementation Highlights

- DRIVE TO SAVE LIVES CAMPAIGN
  - IACP leaders' goal was to change the high-risk behaviors of motorists in order to decrease crashes by using the following methods:
    - **Education and awareness**
    - **Partnerships**
    - **High visibility traffic enforcement**


# EA 6: Speeding

## Strategy Implementation Highlights

- “I-95 Drive to Save Lives” is a contributing effort to support the IACP’s original Drive to Save Lives Campaign
- It’s meant to be a high visibility-type campaign that takes place across the approximate 1920 miles of the Interstate 95 corridor
- All (15) states patrolling a portion of I-95 have been asked and have participated in the last three campaigns (April 2017, October 2017 and April 2018) and others in the past

# EA 6: Speeding
## Strategy Implementation Highlights

- One step further- DRIVE TO SAVE LIVES **IN DELAWARE**
  - These Delaware-specific initiatives have run simultaneously with the last three “I-95 Drive to Save Lives” campaigns
  - Every patrol-type law enforcement agency in Delaware has been asked to participate and many have participated in the last three initiatives
  - In addition to patrolling I-95 (during the I-95 portion of the initiative) DSP has covered the remaining main corridors in Delaware, US1, US13, and US113, while the municipal agencies covered their own territories, or jurisdictions

# EA 6: Speeding

## Strategy Implementation Highlights

- **April 2017-** National Distracted Driving Awareness Month
- **October 2017-** National Teen Driver Safety Week
- **April 2018 -** National Distracted Driving Awareness Month

# EA 6: Speeding
## Strategy Implementation Highlights

- Accomplishments
  - Motorists have been thoroughly educated and made more aware of their high-risk behaviors
  - Partnerships have been developed and/or enhanced
    - OHS and DelDOT have supported the Drive to Save Lives initiatives in many ways
    - Multiple state and municipal agencies have worked together to accomplish the designated goals
  - High visibility traffic enforcement has surely curbed high-risk behaviors of motorists leading to no fatalities on I-95 during the past three initiatives
  - At least 456 citations were issued on I-95 in Delaware alone, during the past three initiatives
  - At least 2,664 citations were issued in Delaware as a whole, during the past three initiatives

# EA 6: Speeding

## Strategy Implementation Highlights

- Accomplishments regarding speeding
  - Speeding results- At least 1,249 speeding citations were issued during the past three Drive to Save Lives initiatives

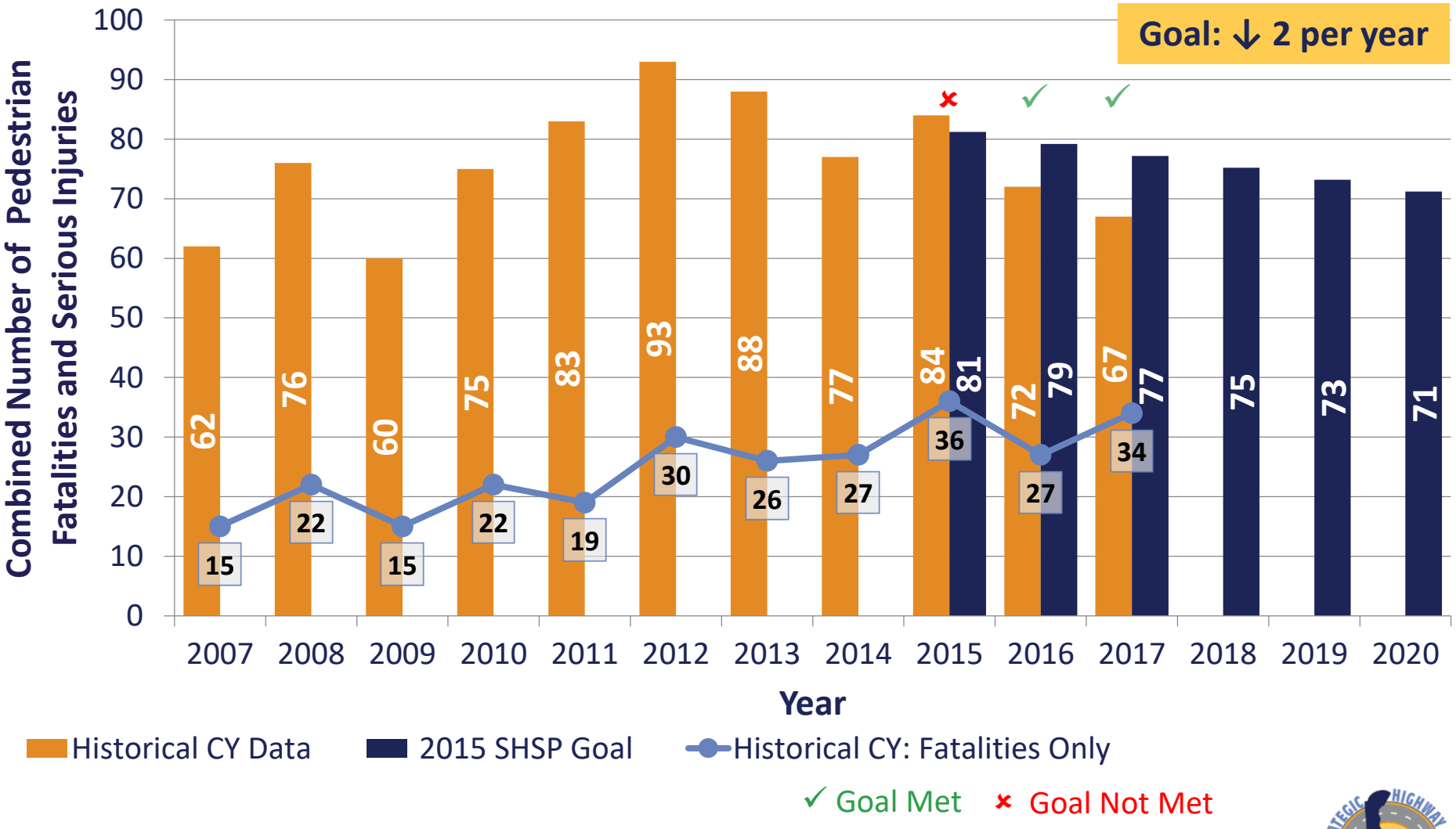
# EA 6: Speeding

## Strategy Implementation Highlights

- Lastly, in August three troops plan to focus on **speeding**, as they participate in the upcoming "Drive to Save Lives in Delaware/Back to School Safety Month- 2018" initiative on August 3rd and 4th
  - The remainder of the troops, along with the participating municipal agencies, will focus on ALL of the Drive to Save Lives campaign's targeted violations
  - Troops 1 and 6 will patrol I-95, specifically, for the I-95 Drive to Save Lives portion of the campaign

# EA 7: Pedestrian

## (Combined Fatalities and Serious Injuries)




*Source: CARS*

# EA 7: Pedestrians

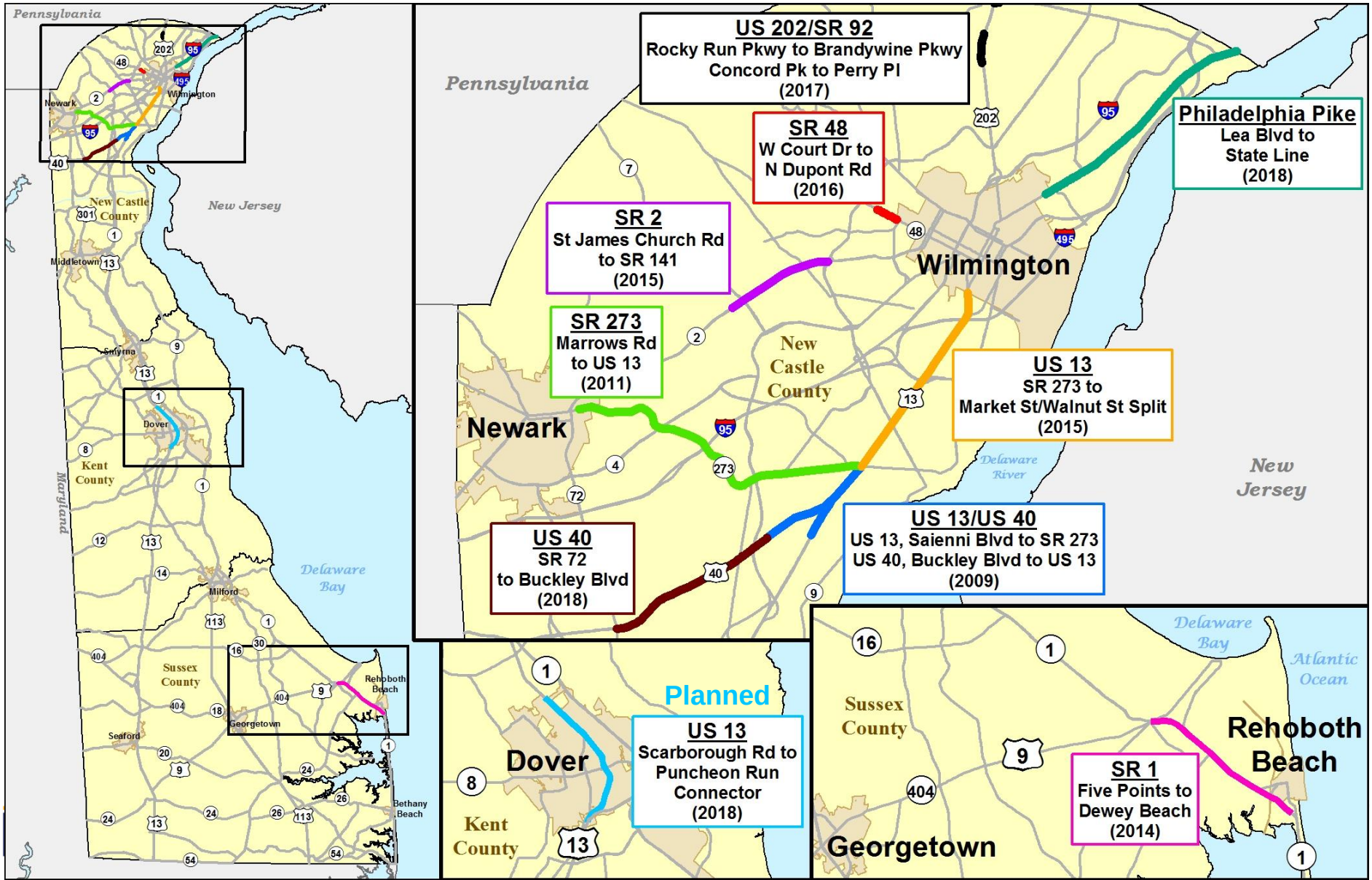
## Data Trends of Fatal and Serious Injury Persons (2015-2017 Crashes)

- 88% occurred in urban areas
- 61% were in New Castle County (decrease from 68%)
- 73% were male (increase from 63%)
- 50% were 20 to 49 years old
- 56% occurred between 4 and 11 PM
- 56% occurred along divided roadways (increase from 42%)
- 48% occurred on principal arterials (increase from 36%)
- 21% of fatalities were impaired (decrease from 33%)
- 37% occurred during dark (unlit) conditions
- 34% occurred on a Friday or Saturday
- 24% were at an intersection

*Compared to Data Trends Reported in 2015 SHSP (based on 2007-2014 crash data)*

# EA 7: Pedestrians

## Pedestrian Safety Audit Locations



# EA 7: Pedestrians

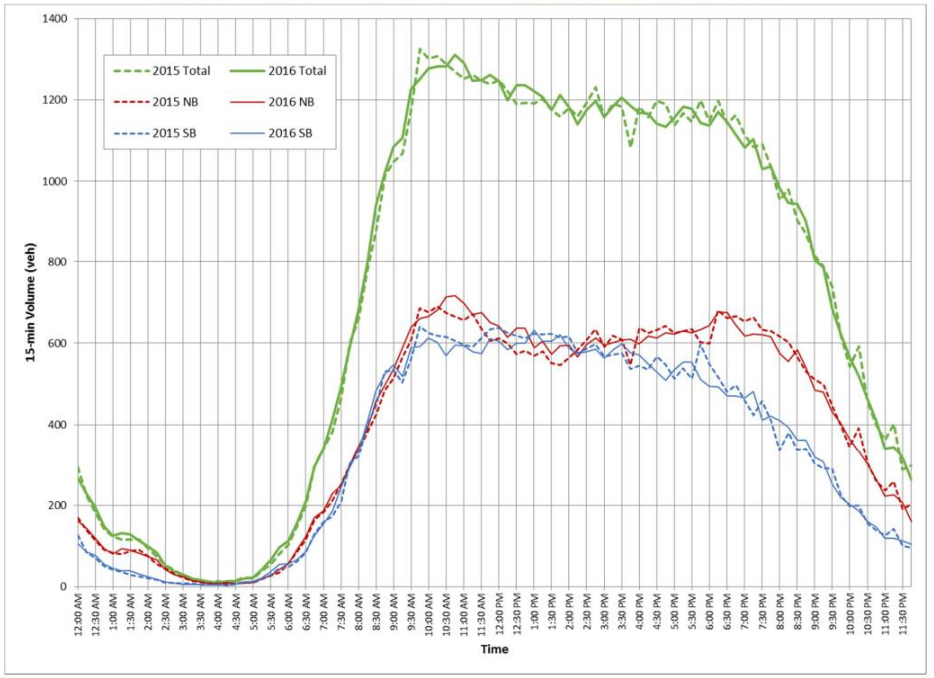
## SR 1 Pedestrian Improvements

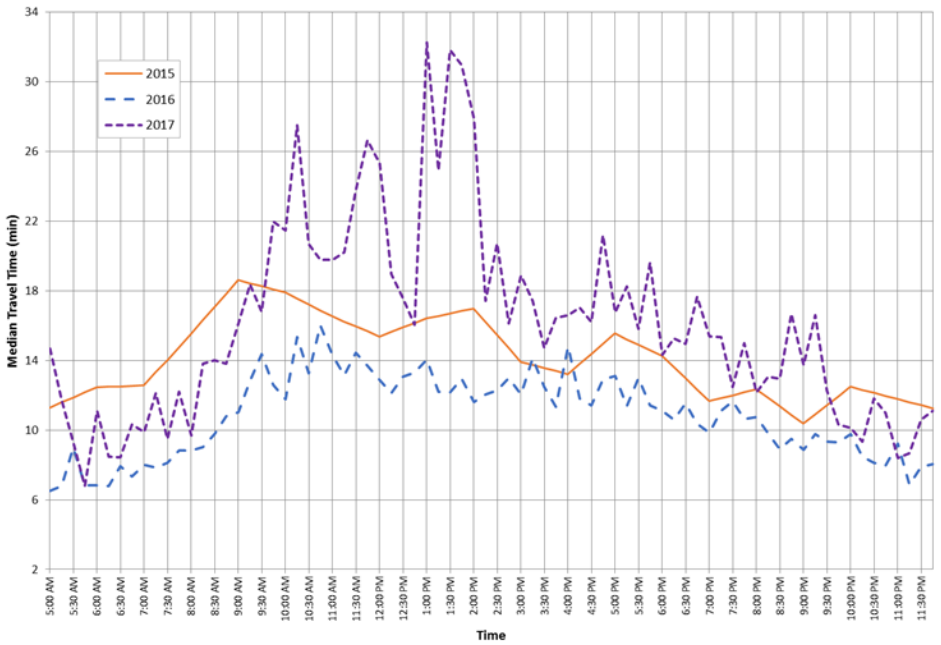
4.7 miles of sidewalk, 211 ADA ramps, 153 roadway lights, transit upgrades, 6 new crosswalks across SR 1


# EA 7: Pedestrians

## SR 1 Pedestrian Improvements - Post Implementation Studies

FIGURE 1. SR 1 AT SR 24 SUMMER 2015 VS. 2016 WEEKEND TRAFFIC VOLUMES




### SR 1 AT REHOBOTH AVENUE 2013 PEDESTRIAN COUNT VS. 2017 PUSHBUTTON ACTUATION SUMMARY

| 15-min intervals with ped activity, 9 AM – 6 PM (36 intervals) | |
|---|---|
| 2013 | Saturday July 13 |
| 9 hours | 4 |

| 15-min intervals with ped activity, 7 AM – 7 PM (48 intervals) | | | | | | |
|---|---|---|---|---|---|---|
| 2017 | Wednesday July 19 | Thursday July 20 | Friday July 21 | Saturday July 22 | Sunday July 23 | Monday July 24 |
| 12 hours | 47 | 47 | 44 | 46 | 46 | 47 |

### SR 1 AT HOLLAND GLADE ROAD 2013 PEDESTRIAN COUNT VS. 2017 PUSHBUTTON ACTUATION SUMMARY

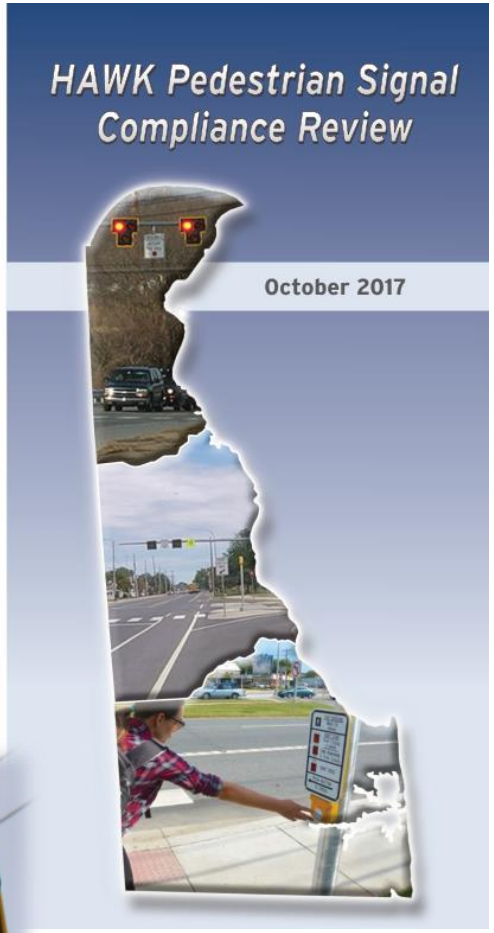
| 15-min intervals with ped activity, 9 AM – 6 PM (36 intervals) | |
|---|---|
| 2013 | Saturday July 13 |
| 9 hours | 3 |

| 15-min intervals with ped activity, 7 AM – 7 PM (48 intervals) | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SB Crossing 2017 | Wednesday July 19 | Thursday July 20 | Friday July 21 | Saturday July 22 | Sunday July 23 | Monday July 24 | NB Crossing 2017 | Wednesday July 19 | Thursday July 20 | Friday July 21 | Saturday July 22 | Sunday July 23 | Monday July 24 |
| 12 hours | 41 | 44 | 41 | 42 | 44 | 43 | 12 Hours | 41 | 44 | 41 | 42 | 43 | 43 |

# EA 7: Pedestrians

## HAWK Construction


Delaware Department of Transportation

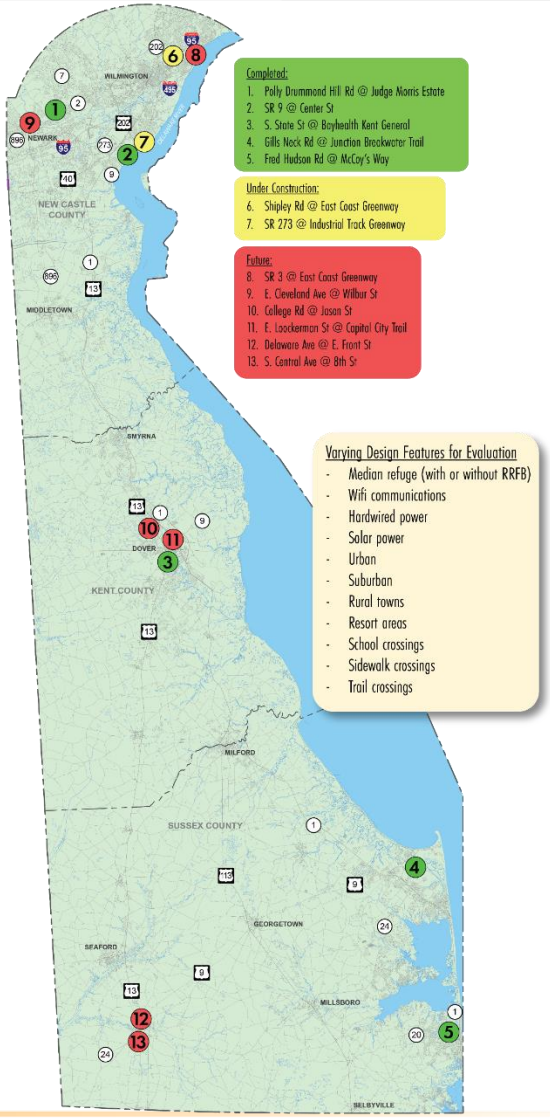



# EA 7: Pedestrians

## Rectangular Rapid Flash Beacon (RRFB)

**BEFORE/AFTER MOTORIST YIELDING COMPLIANCE**


| | BEFORE RRFB | WITH RRFB | |
|---|---|---|---|
| Florida 2009 | 2-4% | 55-70% | **60% improvement** |
| Florida 2009 | 2% | 54% | **52% improvement** |
| Florida 2010 | 4% | 72-96% | **80% improvement** |
| Texas 2011 | <1% | 80% | **79% improvement** |
| Oregon 2011 | 2-25% | 74-83% | **63% improvement** |
| Michigan 2014 | 20% | 69% | **49% improvement** |
| Texas 2014 | <1-28% | 37-89% | **49% improvement** |
| 1 Polly Drummond Hill Rd @ Judge Morris Estate | 3% | 34-36% | **32% improvement** |
| 2 SR 9 @ Center St | 9-11% | 46-51% | **39% improvement** |
| 3 S. State St @ Bayhealth Kent General | 29-51% | 71-85% | **38% improvement** |
| 4 Gills Neck Rd @ Junction Breakwater Trail | 73-74% | 69-82% | **2% improvement** |
| 5 Fred Hudson Rd @ McCoy's Way | 30-34% | 50-53% | **20% improvement** |



# EA 7: Pedestrians

## Rectangular Rapid Flash Beacon (RRFB)

State St at Bayhealth

Gills Neck Road

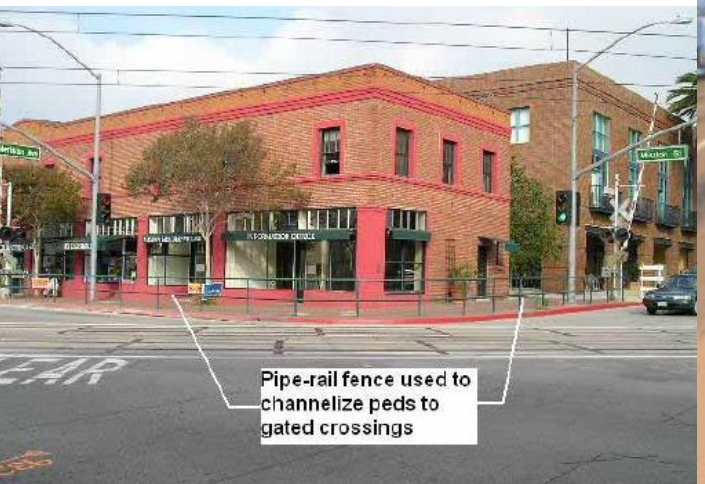

7th St at Dobbinsville

Polly Drummond Hill Road

# EA 7: Pedestrians

## Pedestrian Barriers

- DelDOT is considering barrier options to prevent pedestrians from crossing midblock




# EA 7: Pedestrians

## Delaware Pedestrian Crashes (2013-2017 crash data)

- 1,772 reported crashes
- 46% of crashes occur during nighttime hours
- 41% between 4 PM – 9 PM
- 29% occur between October – January
- 24% of pedestrians were aged 19 & under
- 11% of pedestrians hit were under the influence

WALK SMART. ARRIVE ALIVE DE

*Source: OHS*

# EA 7: Pedestrians

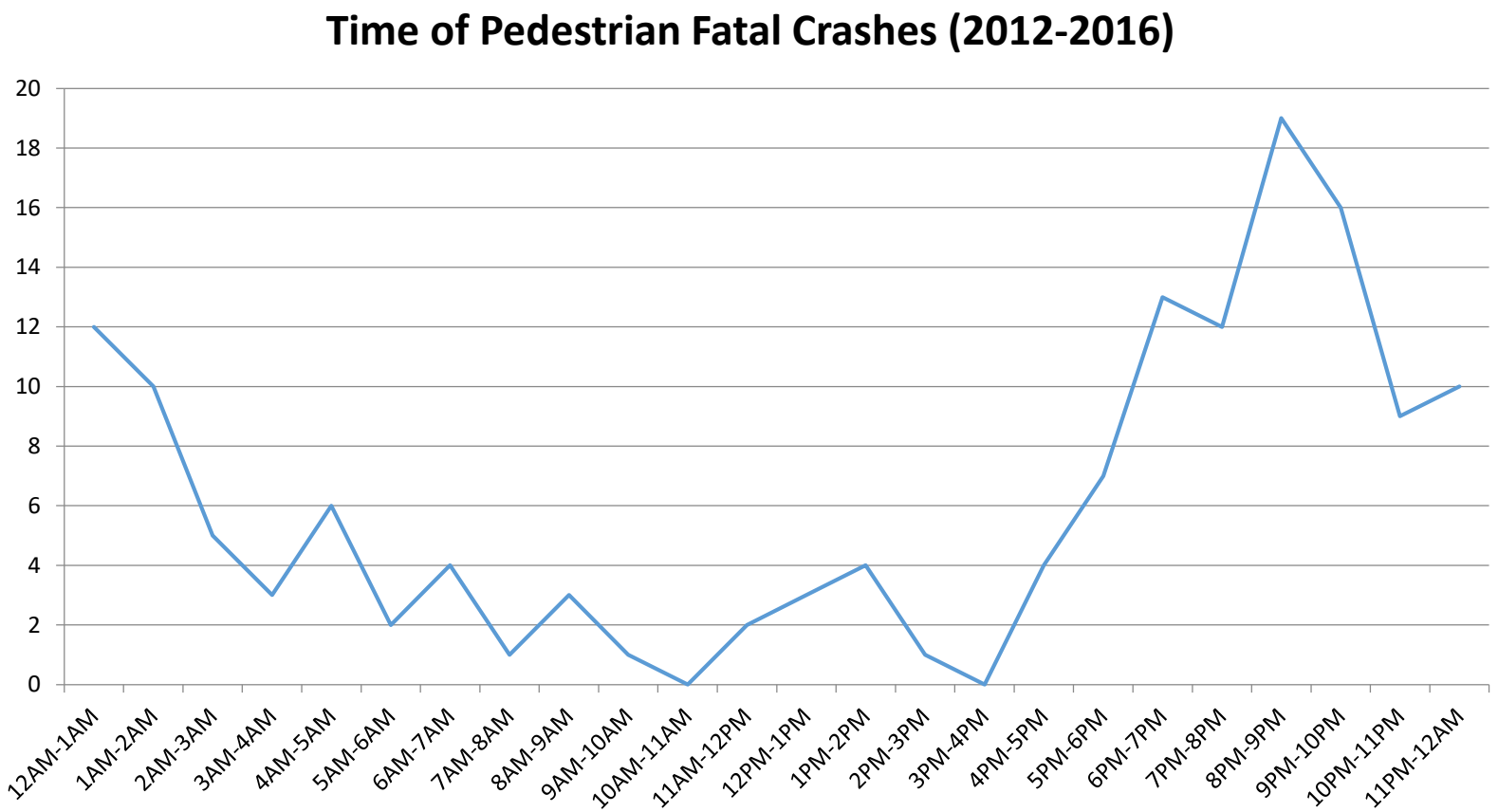
## Pedestrian Fatality Crashes

- 52% of pedestrian were under the influence
  - Average known BAC is 2.5x the legal limit
- Tend to be aged between 35-64
- Judged to have contributed to 96% of crashes
- 82% occur where speed limit is ≥ 35 MPH
  - High speed roadways like US 13, SR 2, US 40
- 77% occur during dark hours
- 9% occur within a crosswalk

*Source: OHS*

# EA 7: Pedestrians

## Pedestrian Fatality Crashes




*Source: OHS*

# EA 7: Pedestrians

## How OHS Focuses on Ped Safety

- Data driven: Timing; geo fencing; targeted demographics
- Coordinate with law enforcement
- Work the plan (HSP) & plan accordingly
- Innovate: Think outside the box; use humor
- Focus on target audience for message development
- Use the right channels
- Measure and adjust
- Work with advertising partners experienced in issue advocacy

# EA 7: Pedestrians

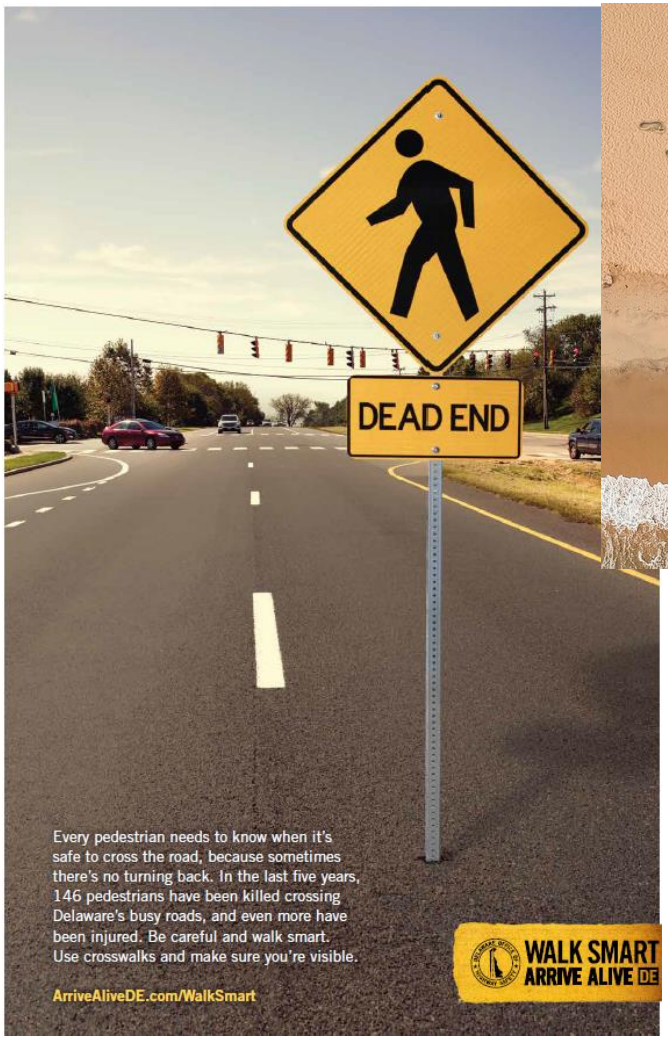
## Crosswalk Champions

# EA 7: Pedestrians

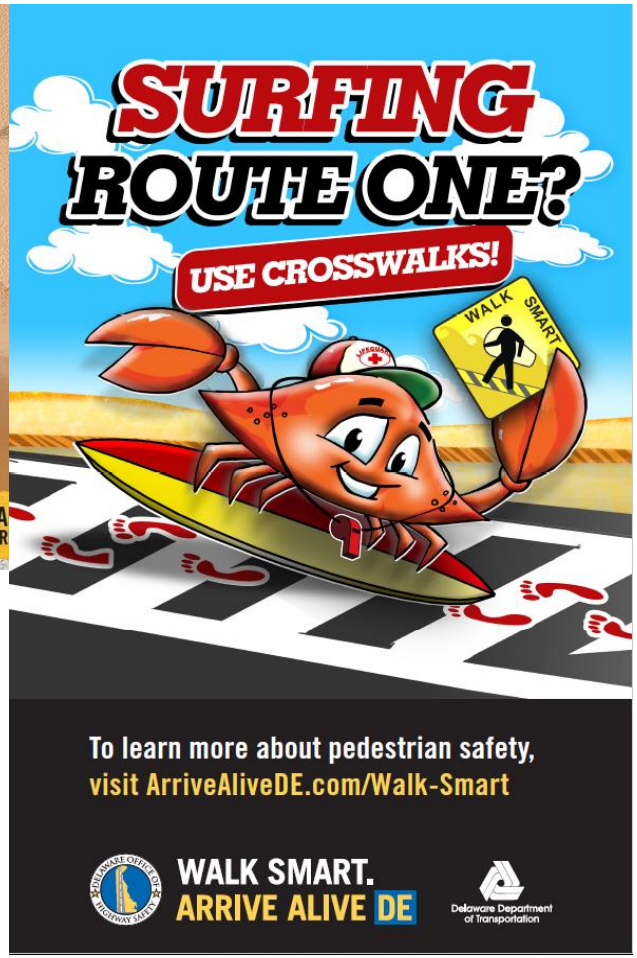
## Pedestrian Speed Demo

# EA 7: Pedestrians

## Example Media







# EA 7: Pedestrians

## Example Media

**John Q. Rhodes**
June 6 at 4:28pm ·

I'm putting the safety of Delaware's beachgoers on my back. #WalkSmart #rhodesDEfender


Like Comment

**John Q. Rhodes**
June 5 at 2:37pm ·

It's beach season, Delaware. Do people tan the bottom of their feet? I have no idea. Do they use them on crosswalks when crossing the street? Chyeah. #WalkSmart #rhodesDEfender

Like Comment

# EA 7: Pedestrians

## Community Outreach

- Alliance Sports Marketing
  - Cross Country Races
  - Elementary school programs (still in planning)
- Corporate/Public Partner Program
- OHS Safety Conference
- Banners for schools
- Beach events: Partnership with Ocean City Pedestrian Task Force


# Summary of Progress in Achieving SHSP Emphasis Area Goals

# Progress Towards 2015 SHSP Goals

| Performance Measure | | Goal Met? | | | | | |
|---|---|---|---|---|---|---|---|
| | | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
| **Overall Goal** (Combined Fatalities & Serious Injuries) | | ✗ | ✗ | ✓ | | | |
| *Overall Fatalities* | | ✗ | ✗ | ✗ | | | |
| *Overall Serious Injuries* | | ✓ | ✗ | ✓ | | | |
| Emphasis Areas (Combined K+A) | 1 – Intersections | ✗ | ✓ | ✗ | | | |
| | 2 – Roadway Departure | ✓ | ✓ | ✓ | | | |
| | 3 – Impaired Driving | ✓ | ✗ | ✓ | | | |
| | 4 – Unrestrained Motorists | ✓ | ✓ | ✓ | | | |
| | 5 – Motorcycles | ✗ | ✓ | ✓ | | | |
| | 6 – Speeding | ✓ | ✓ | ✓ | | | |
| | 7 – Pedestrians | ✗ | ✓ | ✓ | | | |

✓ Goal Met ✗ Goal Not Met

*Source: CARS*

# Open Discussion and Next Steps

# Open Discussion

- Initiatives from other agencies?
- Suggestions?
- Questions?

# SHSP Next Steps

- **Spring 2019:** SHSP Core Agencies (DelDOT, OHS, DSP) initiate 2020 SHSP development discussions
- **Late 2019/Early 2020:** Crash Data Analysis
- **March 2020:** Stakeholder Committee Kick-Off Meeting
- **April – July 2020:**
  - Emphasis Area Team Meetings
  - Draft 2020 SHSP
- **August 2020:** Present Draft Plan to Stakeholders
- **Sept 2020:** Adopt 2020 SHSP

# Thank You!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