
The Pedestrian Problem in
Maryland
How Developing an Effective Enforcement Program is
Saving Lives

October 18, 2018

Sunny

55 Degrees

105

- Na Tasha Newman
- October 18, 2018 3:27 PM
- Sunny and 55 degrees
- CC# 18-291-1418
- 7 years old
- 1 of 105 ped fatalities in MD that year

MD population is 6.165 million
105 people equals .001%

1 person
15 family
50 extended family and friends
500 co-workers, HS and college friends
2000 department or school, neighbors, associates, people who knew me
2,566 total people affected

2,566 total people multiplied by the 105 deaths


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WHY?

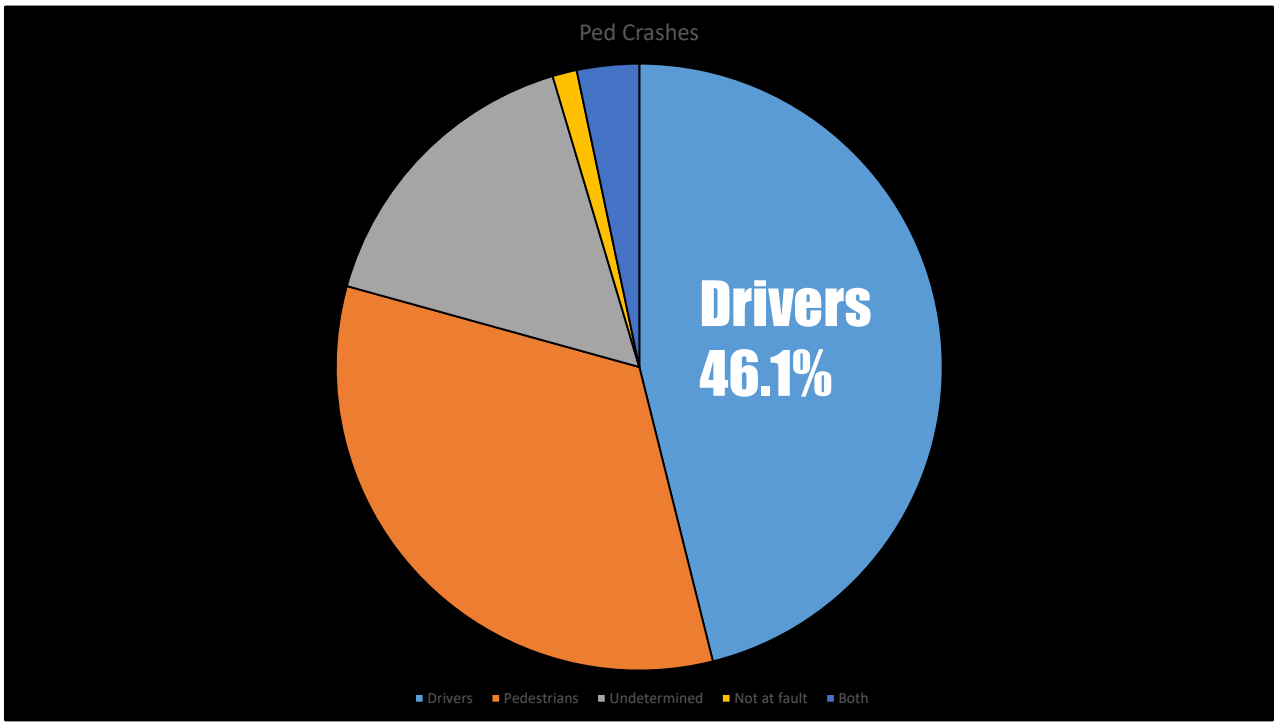
We are losing pedestrians at an alarming rate.
Baltimore County was one of the five jurisdictions in Maryland that accounted for almost 83% of pedestrian injury crashes. (14.6%)
We were one of the five jurisdictions that accounted for almost 73% of pedestrian fatalities. (17%)

850,000 people. 682 square miles. 3rd most populated county in Maryland.

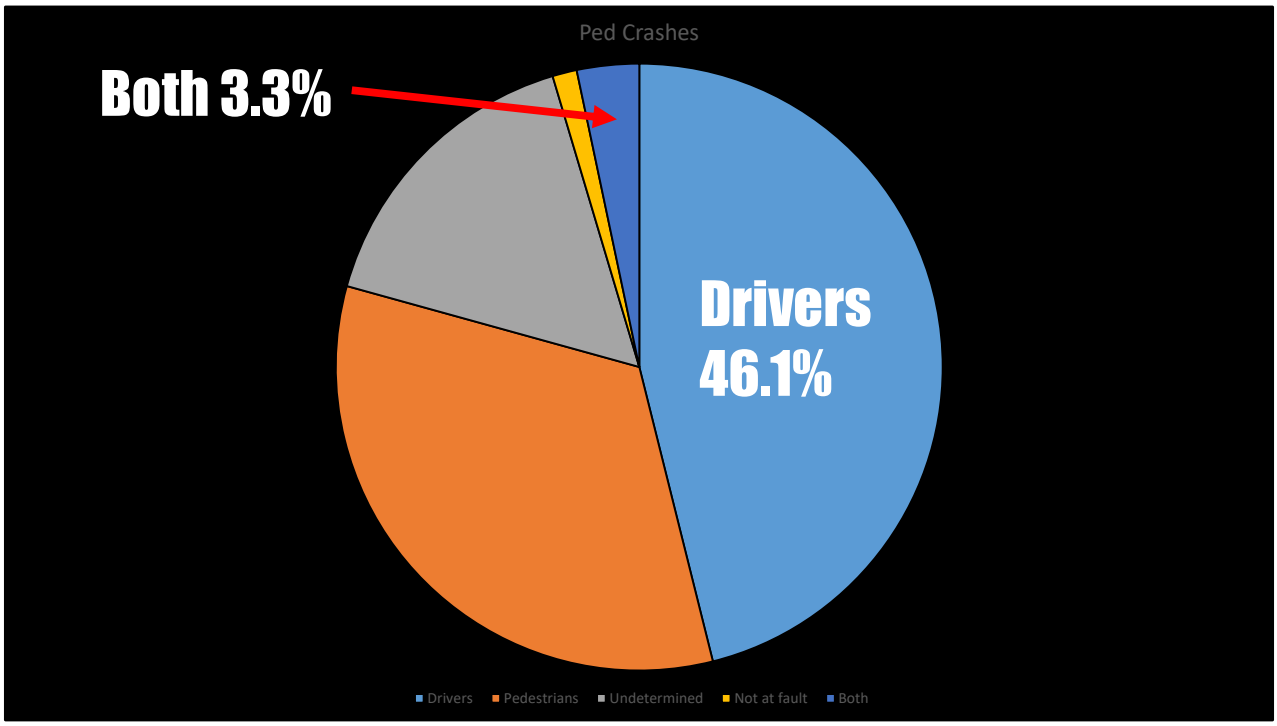
In the past

Historically, whenever a pedestrian fatality occurred, the response was to have officers work the area and basically write jaywalking tickets to pedestrians assuming they were always at fault.

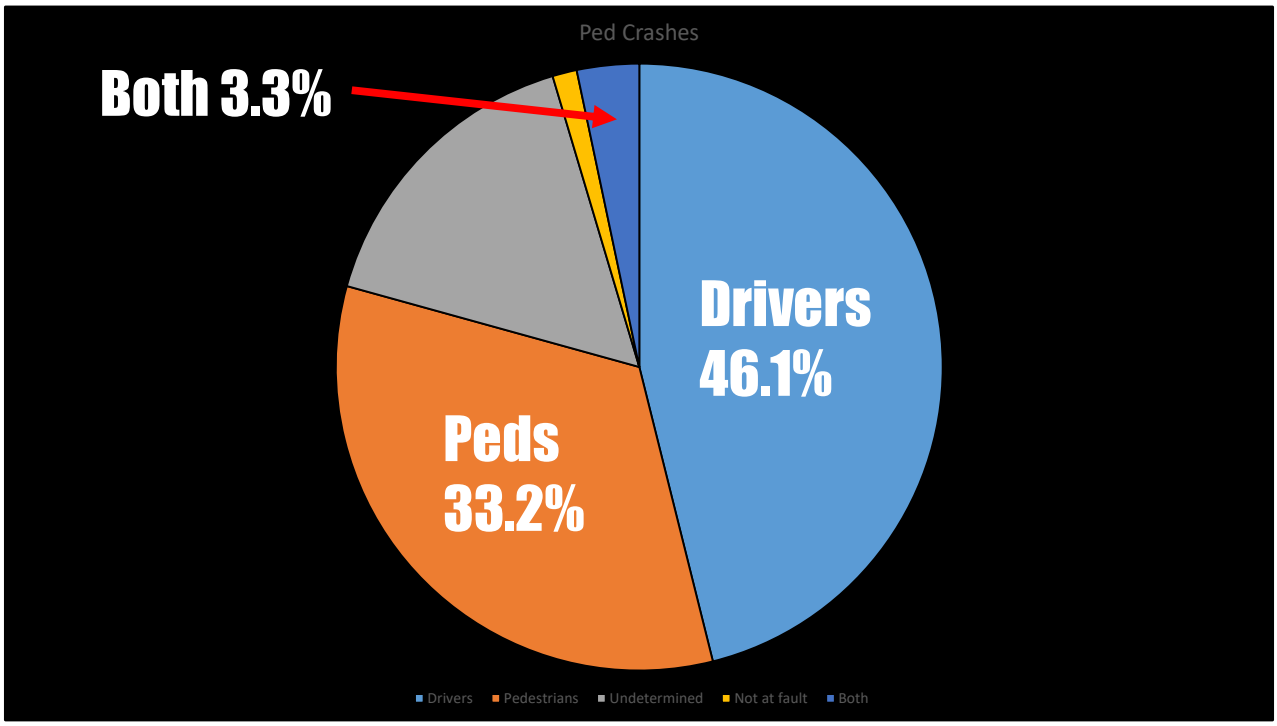
The reality is that the research shows that pedestrians are at fault 33% of the time. Most of the pedestrian crashes are because the driver is at fault.



46.1% of the time, the driver is listed at fault in a pedestrian crash.



3.3% of the time, both parties are listed at fault.



Almost 50% of the time, the driver was partially or fully at fault in a pedestrian crash.

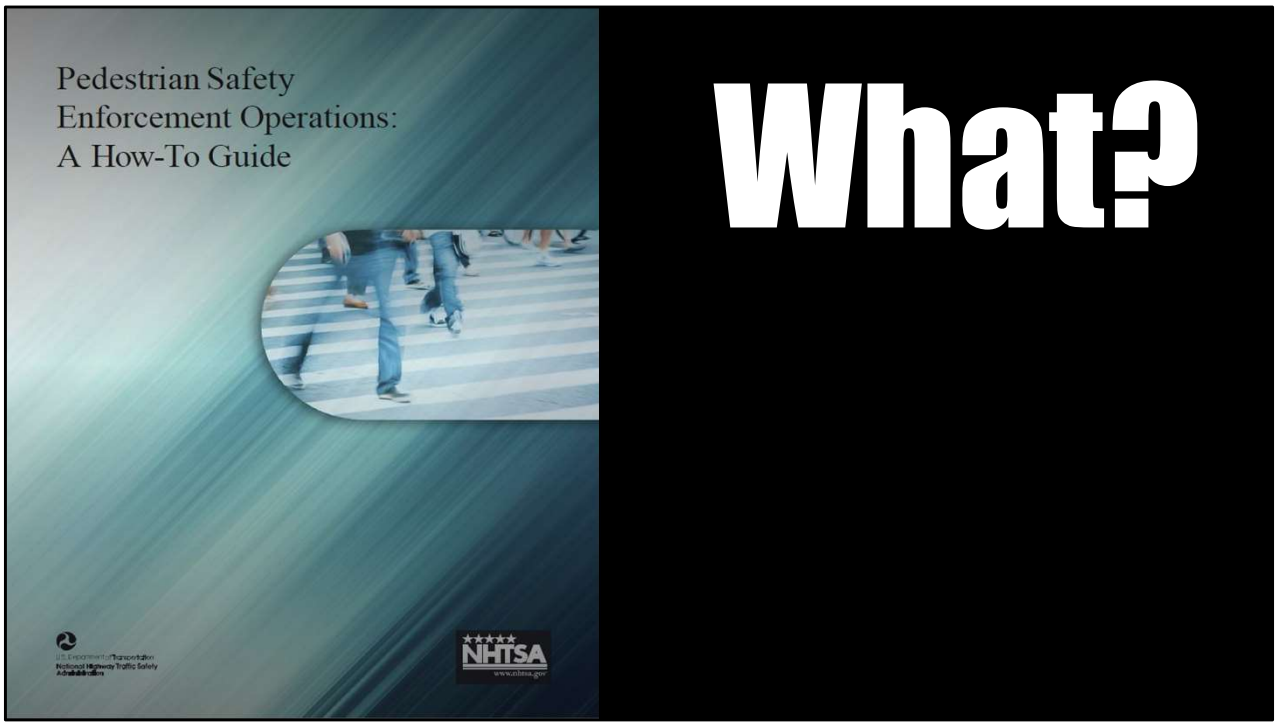
Table 1. Average Risk of Severe or Fatal Injury for Pedestrians Struck by a Vehicle at Various Speeds

	10%	25%	50%	75%	90%
Chance of **Severe Injury** for Pedestrian Struck by a Vehicle	16 mph	23 mph	31 mph	39 mph	46 mph
Chance of **Fatal Injury** for Pedestrian Struck by a Vehicle	23 mph	32 mph	42 mph	50 mph	58 mph

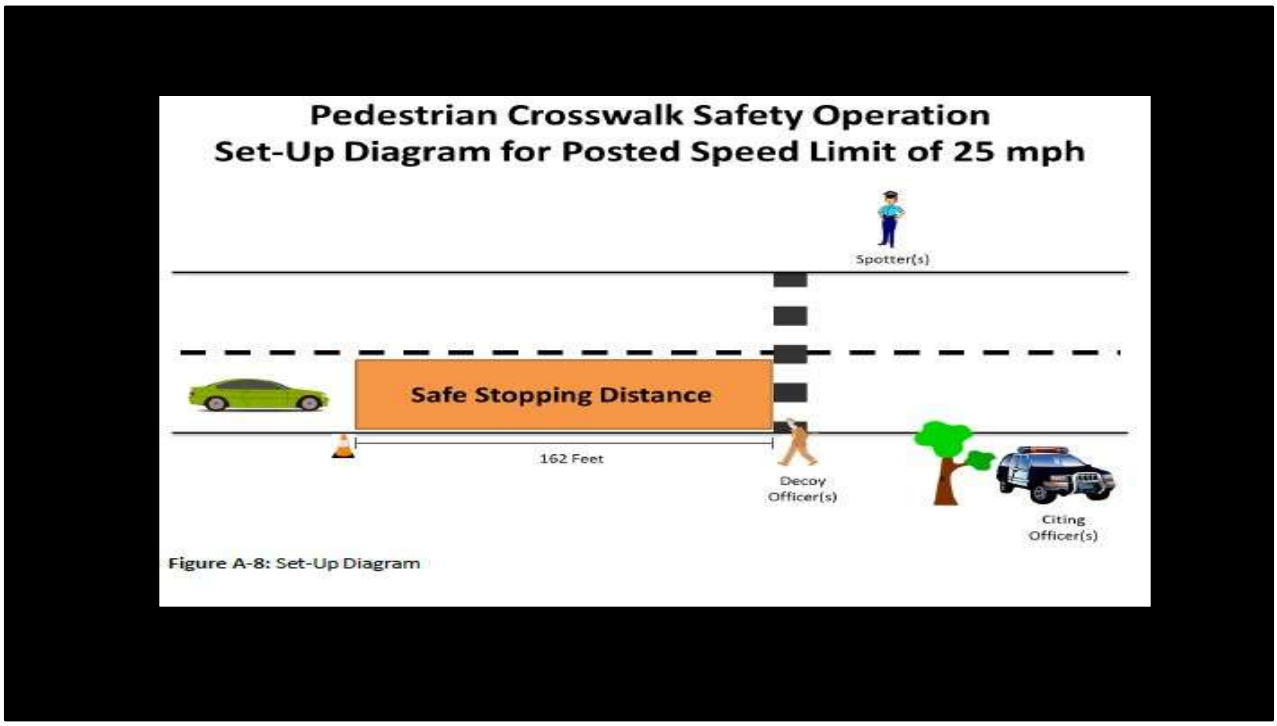
Source: Tefft, 2011

We have to consider the speeds of the vehicles. At 31 mph, which many people would not consider that fast, pedestrians have a 50% chance of receiving severe injuries. At 46 mph, pedestrians end up with severe injuries 90% of the time. At 42 mph, there is a 50% chance the pedestrian will die as a result of the injury. As the speed goes up, the injury severity and risk of death increase.

This information is based on sedans. For trucks and SUVs, the speeds required to cause injury or death are lower.



We had to do something. We looked for help and found this NHTSA guide on pedestrian enforcement operations. We read the book, put together the enforcement details and went to work.



The book had all the information we needed to set up the detail. This is a diagram of the detail from the book. The book is available for download at NHTSAs website free of charge.

[Explain how the detail is set up]

Appendix G. Calculating a Safe Stopping Distance

The safe stopping distance should be marked a specific number of feet from the crosswalk (in both directions, as appropriate). It is based on two conservative assumptions: (1) that the vehicle is traveling 10 mph above the posted speed limit, and (2) that the driver's reaction time is two seconds. The distance reflects the total time to stop, which includes both reaction time and stopping time.

The chart below shows appropriate safe stopping distances for posted speed limits from 15 to 45 mph.

Posted speed (mph)	Assumed speed (limit + 10 mph)	Feet per second (at assumed speed)	Distance to react (2 seconds) (feet)	Distance to stop (feet)	Total safe stopping distance (feet)
15	25	36	72	30	102
20	30	44	88	43	131
25	35	51.3	103	59	162
30	40	58.7	117	76	193
35	45	66	132	97	229
40	50	73.3	147	119	266
45	55	80.7	161	144	305

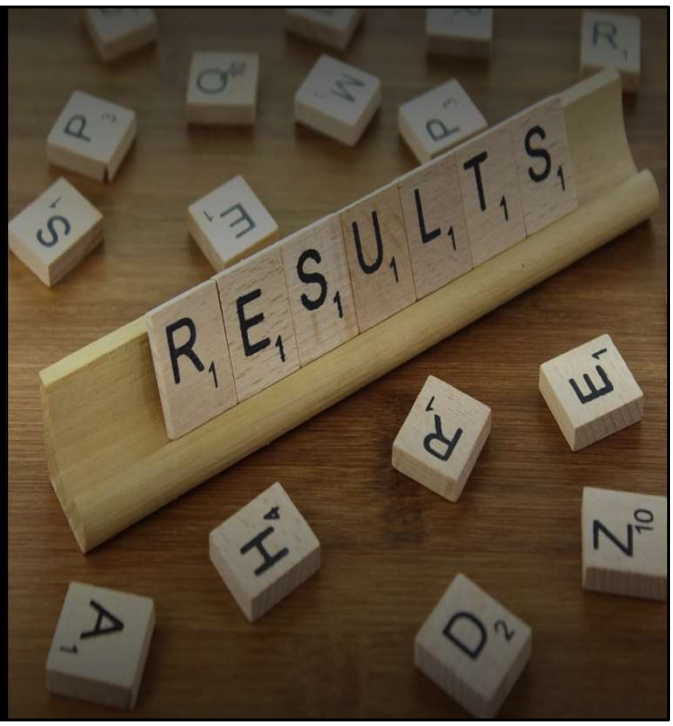
Note: This assumes a street with no grade.

f=0.69 assuming 100% braking.

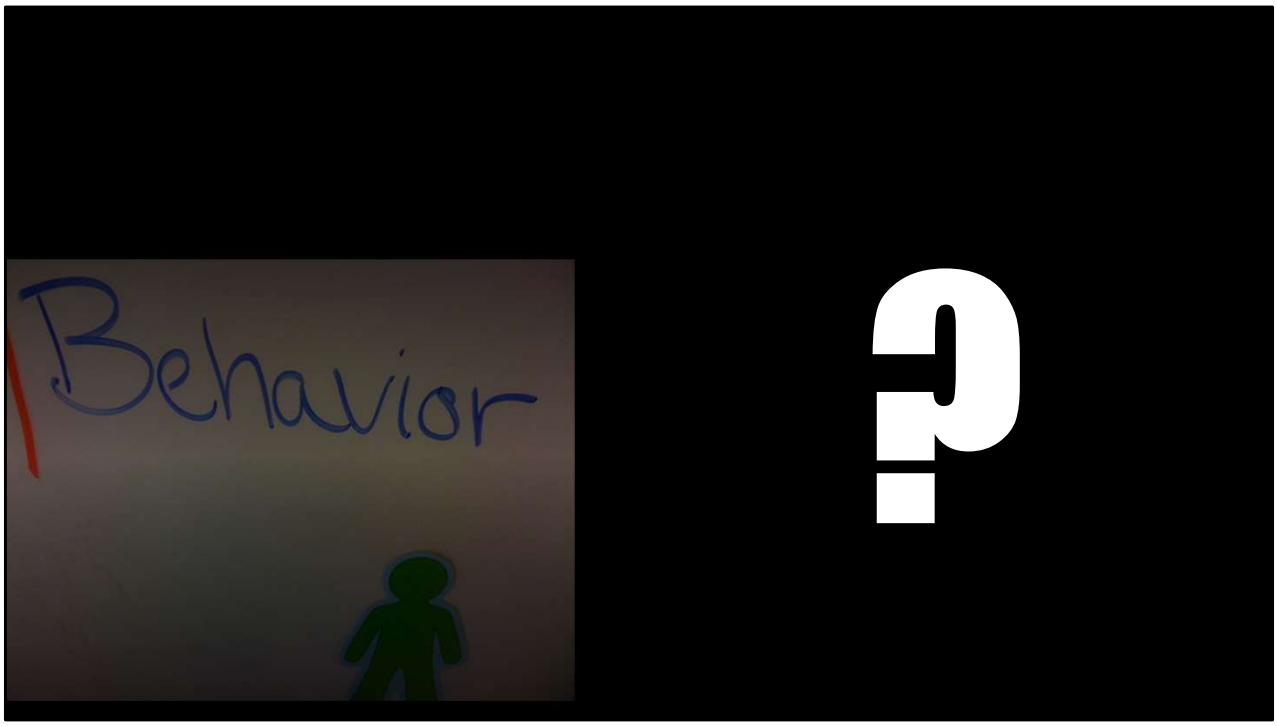
This chart is also from the book. It explains the distances you need for stopping compared to the speed limit of the roadway.

[Explain the distances and what that means.]

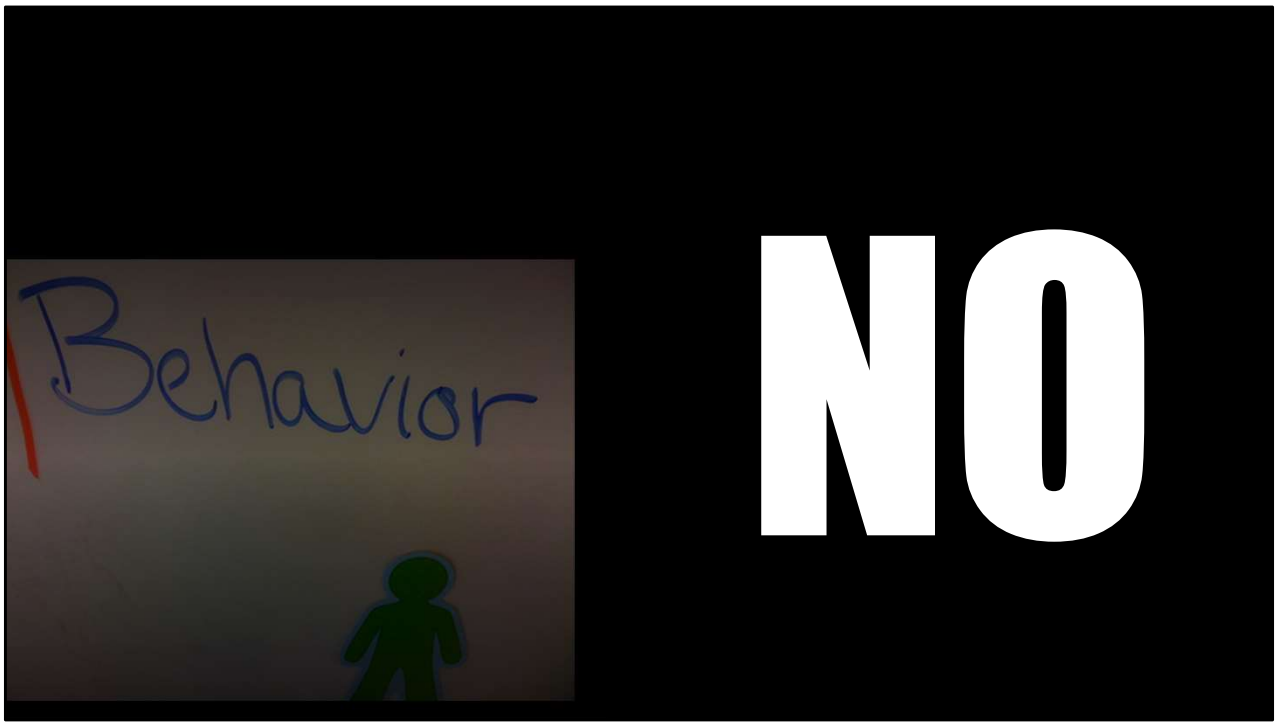
1100 to 1



I wish I could say this was a good number. This ratio did not work for us. When we started the enforcement detail, we averaged 1100 warnings for every citation.



We reviewed the information to see if we were getting the results we wanted. Was behavior changing positively?



The answer was no. With warnings being the overwhelming enforcement response, drivers' behavior did not change. We had to go back to the drawing board.

LETEP

Leading Effective Traffic Enforcement Programs

That's where LETEP came in. LETEP is a training class through the Maryland Highway Safety Office. This course will train officers in basic engineering concepts to effectively become another set of eyes to inform of infrastructure improvements and crash reduction strategies. LETEP also trains officers and leadership how to think beyond the traffic ticket: the core of the curriculum is about encouraging law enforcement to go beyond traditional police work and ask why; to consider how, and if, their work is having an impact on reducing serious crashes.

LETEP

EMS

Engineering

Enforcement

Education

The curriculum is intended to provide police officers a better understanding of the larger science behind highway safety, including the 4E's.

The first "E" is EMS. We look for ways to make things more efficient for our EMS partners.

LETEP

EMS

Engineering

Enforcement

Education

The second “E” is engineering. Traffic engineers train the students how to recognize if the engineering of the roadway is part of the problem. They also learn how to work with roadway engineers to correct the issue if that was found to be part of the problem.

LETEP

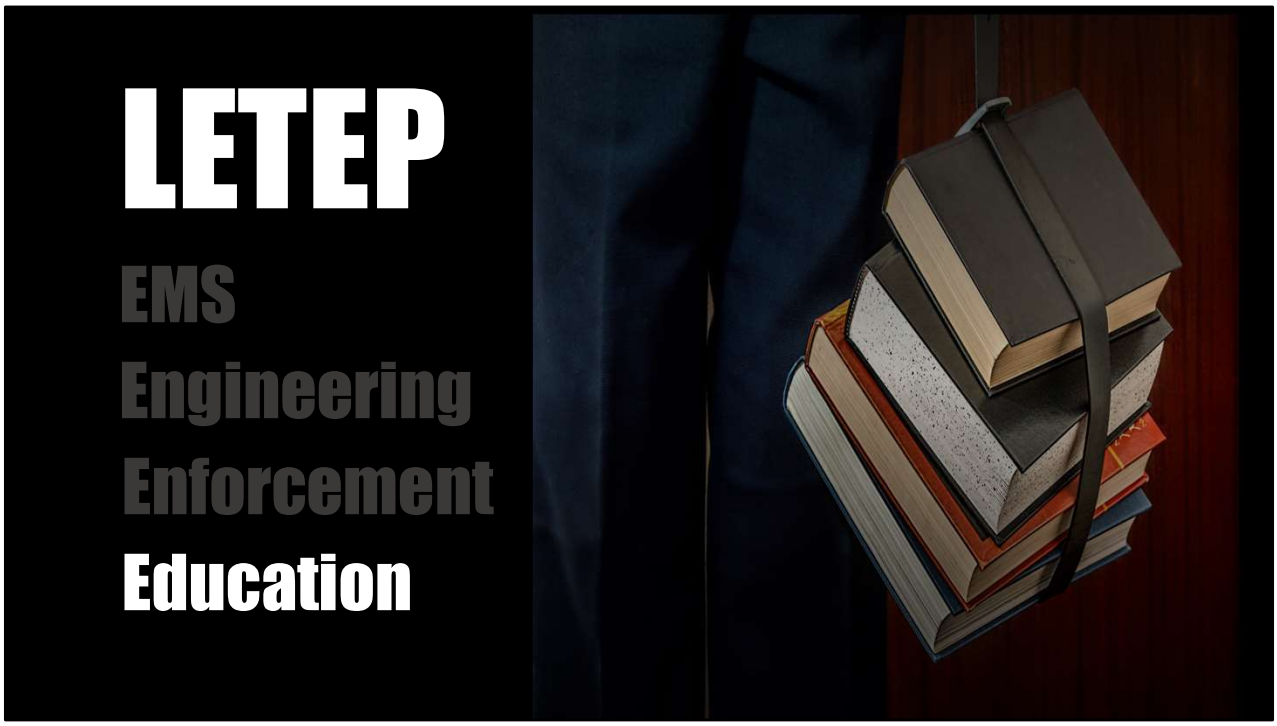
EMS

Engineering

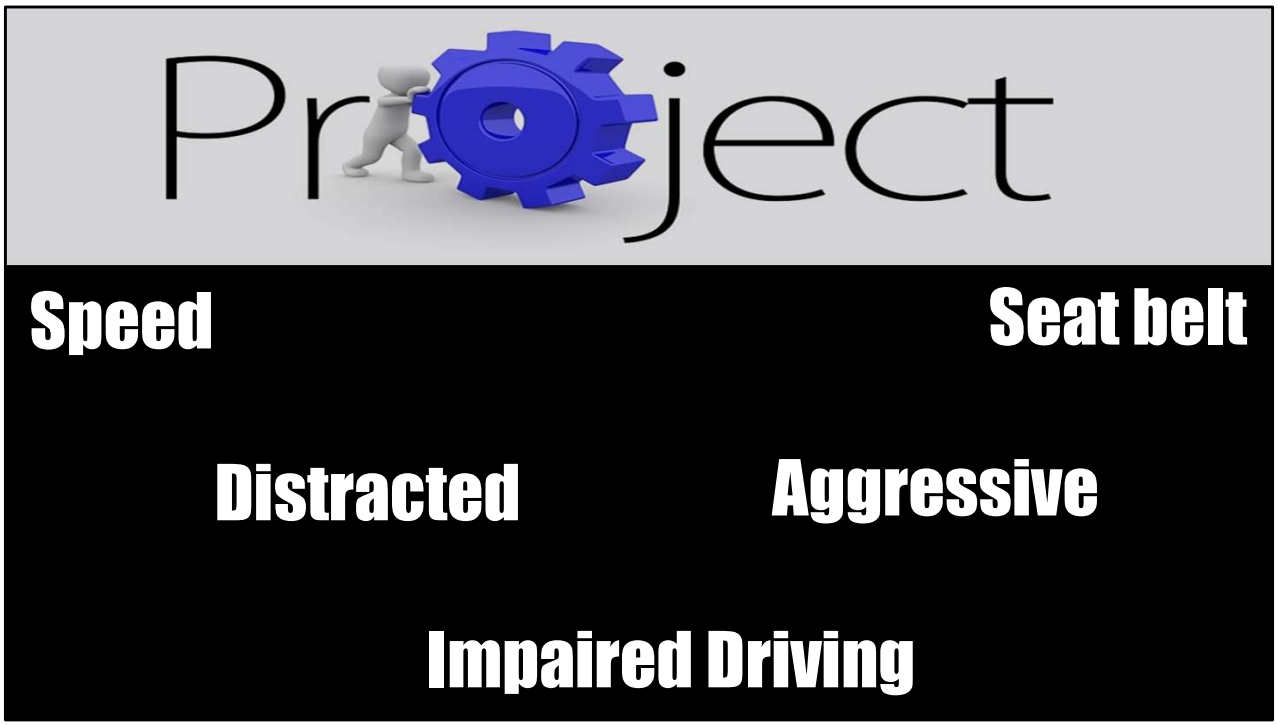
Enforcement

Education

The third “E” is enforcement. Students learn how to conduct quality enforcement. Officers from other agencies discuss details they have done based on their LETEP training, specifically from the enforcement point of view. They learn how to motivate officers to conduct enforcement that changes behavior while remaining fair and equitable.



The final “E” is education. Students learn how to use education to help solve the problem. This could include education of law enforcement, the civilian population, or any other population that could help solve the problem.



At the end of the class, students are separated into groups and are given problems to solve involving speeding, distracted driving, impaired driving, aggressive driving, and seatbelt use. They have to develop a plan to address the problem using the 4 Es and present that plan to instructors.

We decided to look at the problem with our LETEP skills. We were obviously going to continue the enforcement detail, but we decided that some education was needed. The Traffic Training Team of the Baltimore County Police Department developed a one day training class that was required to be attended by anyone working the detail. Students get handouts with relevant information and the class includes a field trip.

Pedestrian Seminar

Pedestrian Problem

Enhanced Enforcement

Grant System

Raven

The first session gives students the “why” behind this detail. They are educated about how many pedestrian crashes there are in Maryland and what they can do to help reduce the problem. This session is designed to inform and motivate the student about working the detail and taking the correct enforcement action.

Pedestrian Seminar

Pedestrian Problem

Enhanced Enforcement

Grant System

Raven

We give them the “what” in this session. We explain the detail and how to set it up. We also reinforce the idea that these offenses are very dangerous and the effectiveness of a citation over a warning.

Pedestrian Seminar

Pedestrian Problem

Enhanced Enforcement

Grant System

Raven

We give them the “how” in this session. Members of the Highway Safety Office explain the grant system and how to apply for a grant. That way, if there are officers from jurisdictions that want to try to obtain grant money to help fund the enforcement detail, they have the knowledge to do it.

Pedestrian Seminar

Pedestrian Problem

Enhanced Enforcement

Grant System

Raven

Raven is a database system funded by the Highway Safety Office. They collect data from crash reports throughout the state. Students are then given access to the system so they can help identify high pedestrian crash areas in their jurisdiction to help decide where to do the enforcement detail.

Pedestrian Seminar

Successful Prosecution

Driver Enforcement

Pedestrian Enforcement

Field Trip

The second half of the school is dedicated to the legal side of things. Our Traffic Safety Resource Prosecutor usually teaches these blocks. This first block teaches the students how to properly testify and explain the enforcement detail and why we were doing enforcement in that particular area.

Pedestrian Seminar

Successful Prosecution

Driver Enforcement

Pedestrian Enforcement

Field Trip

Remember that we said drivers are fully or partially at fault almost 50% of the time in pedestrian crashes. This block focuses on the violations that drivers can be charged with when interacting with pedestrians. They learn what section of the Transportation Article covers the violation and how to determine which violation the driver committed.

Pedestrian Seminar

Successful Prosecution

Driver Enforcement

Pedestrian Enforcement

Field Trip

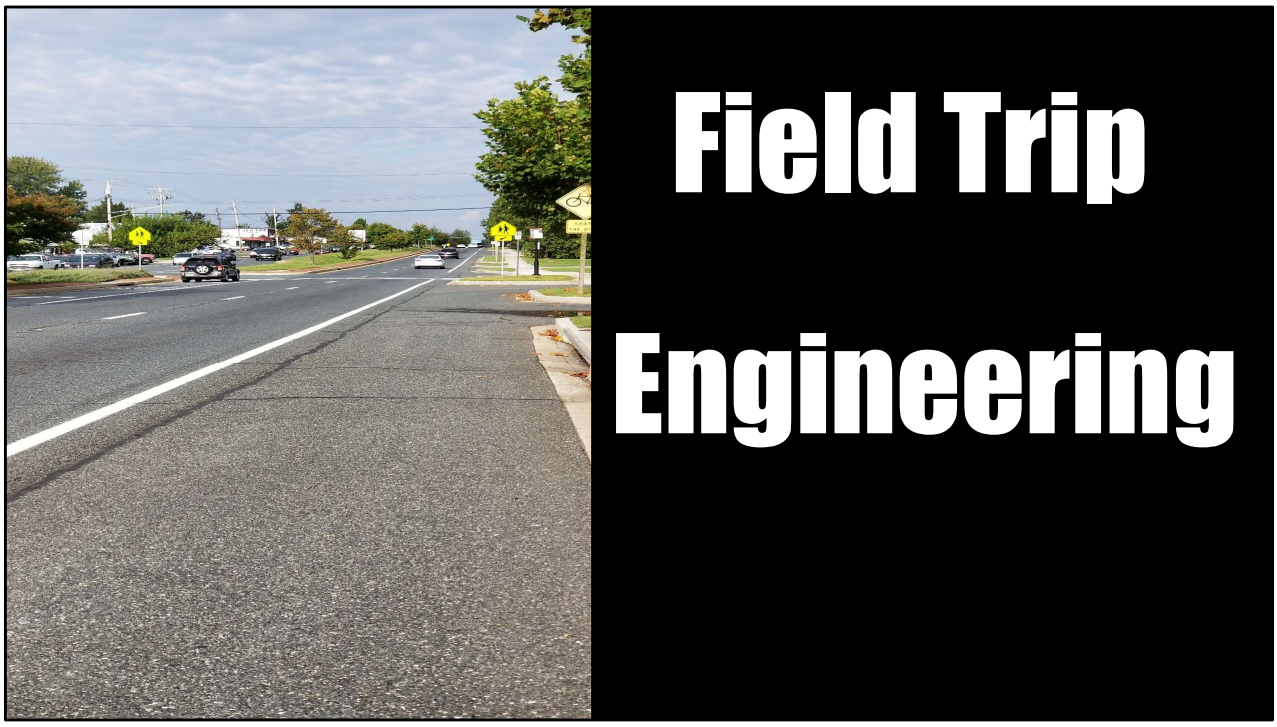
We also remind them that pedestrians are roadway users as well and also have rules to follow. Remember that pedestrians are found to be at fault one-third of the time. Because of this, students learn about what rules pedestrians have to follow and what constitutes a violation. They are also reminded that although our details are geared toward driver violations, we should not ignore pedestrian violations.

We conclude the training with a field trip, because who doesn't like field trips.

We take the students to a location in southeast Baltimore County where our detail has been successful.

Field Trip Engineering

During the field trip, we point out the required engineering that is needed for the detail. We have a nice long straight road. We are using a mid-block crosswalk . The signage and crosswalk are in good condition. They are not in need of repair or replacement. There are no visibility issues because of trees or bushes.



We also point out that from the “point of no return”, the signage, crosswalk, and pedestrian are easily visible.

Field Trip Enforcement

The decoy officer has to be wearing a reflective vest or some other bright colored shirt. As you may be able to see in this picture, the car is positively reacting to the decoy and coming to a stop to allow the pedestrian to cross.

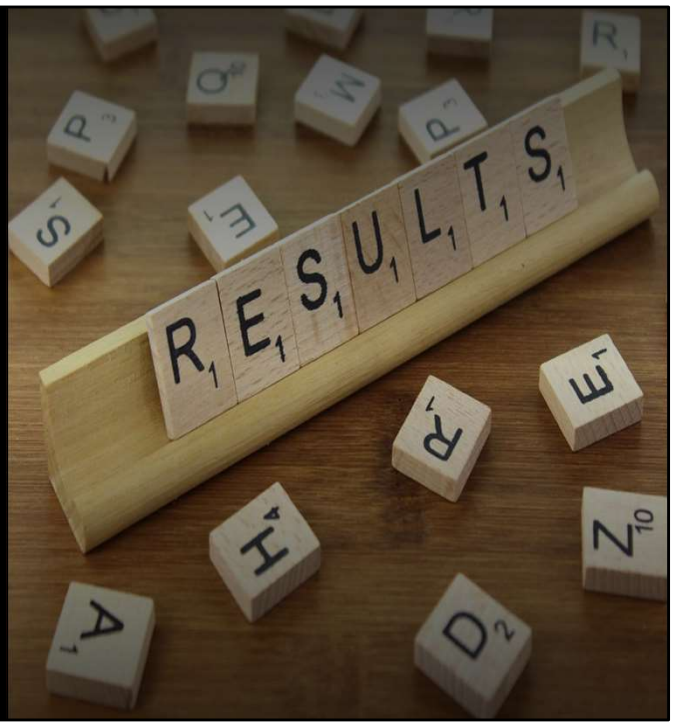
Field Trip Enforcement

35-mile-per-hour road so the point of no return is 229 feet from the crosswalk.

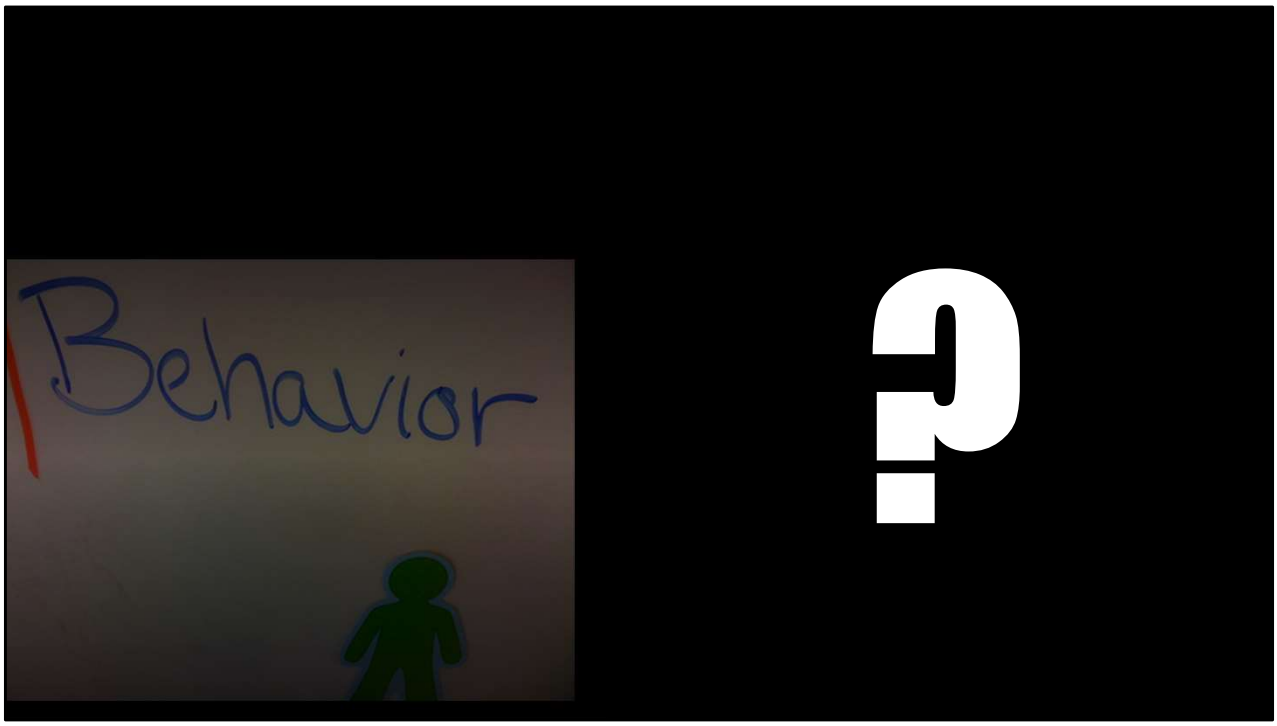
Up next, video of a violation.

In this violation, you can see the van actually swerves partially into a left turn lane to avoid the decoy officer instead of stopping. Then you can see the enforcement officers (wearing reflective vests) flagging the violator into a safe stopping area. One thing to point out is that the enforcement officers also conduct education as well as enforcement during the stop. Drivers are told not only why they were stopped, but also why we were conducting this detail in this area. They are also handed pamphlets that explain all of the driver and pedestrian violations.

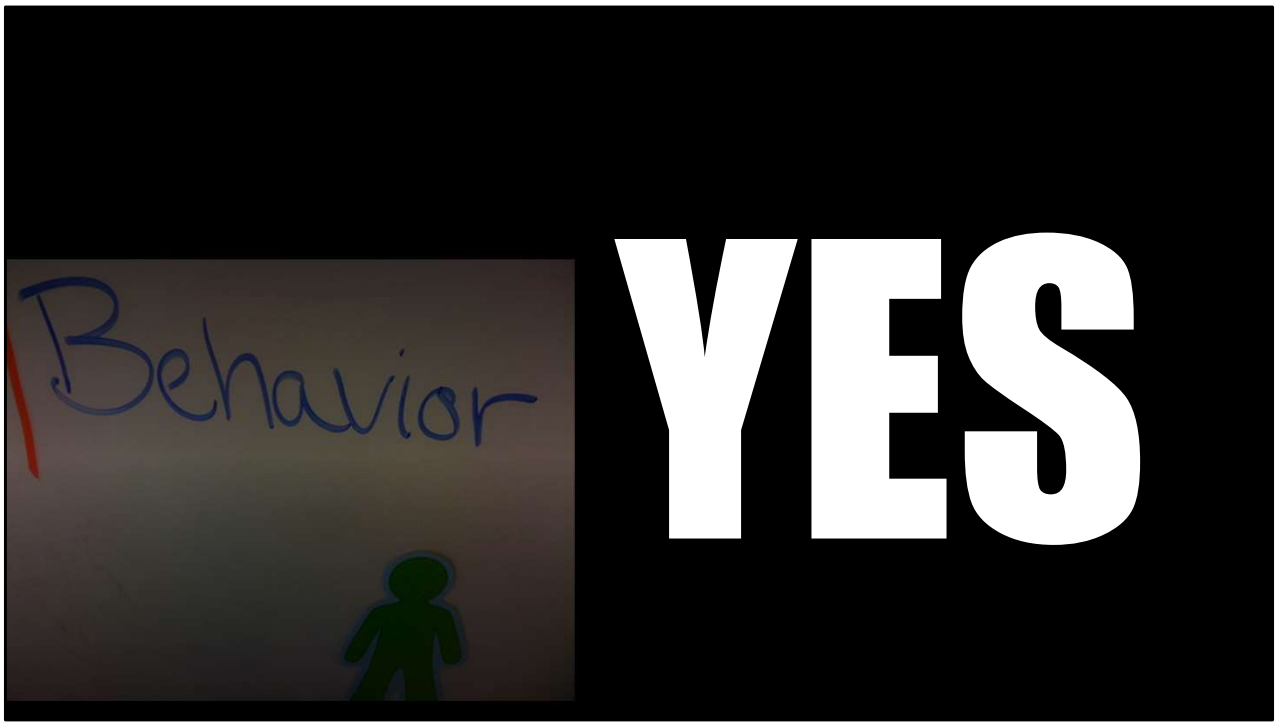
3:2



While these may not be odds you want to bet on because of a lower payout, these numbers are great for us. After developing this training and making officers take the training before they could work the detail, the ticket to warning ratio changed drastically. The ratio is now 3 tickets for every 2 warnings.

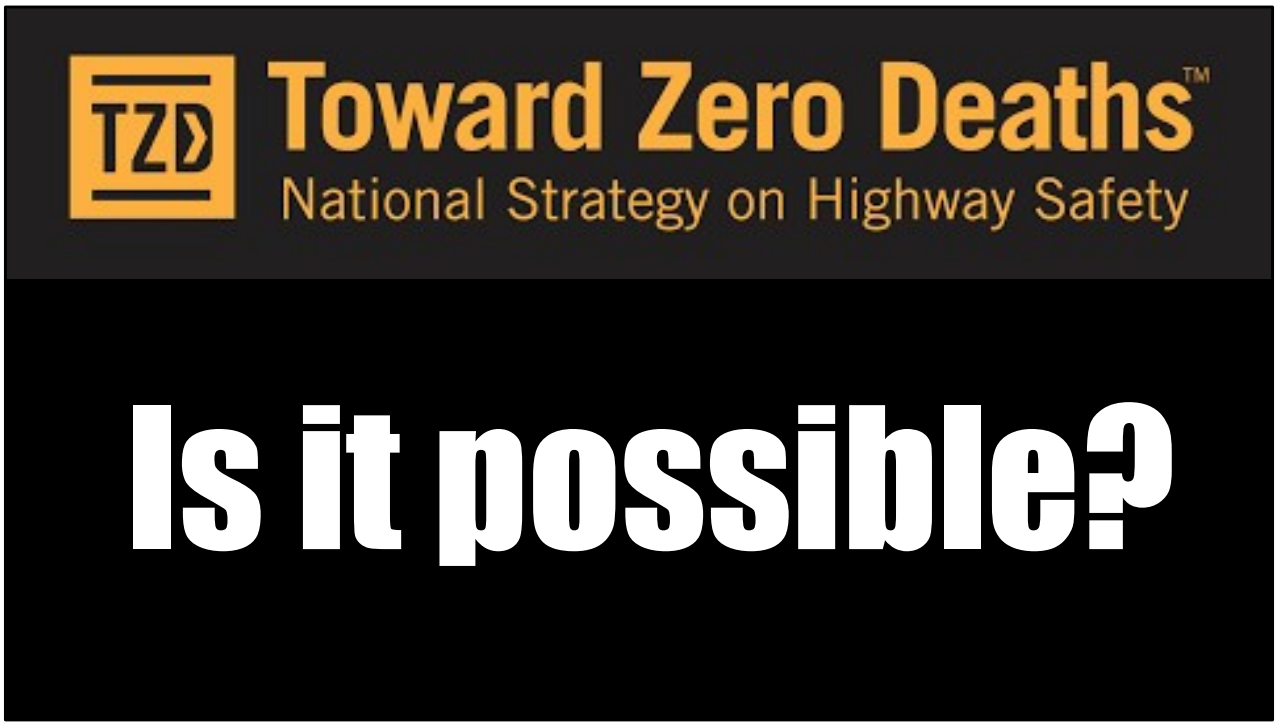


Does this new ratio make a difference?



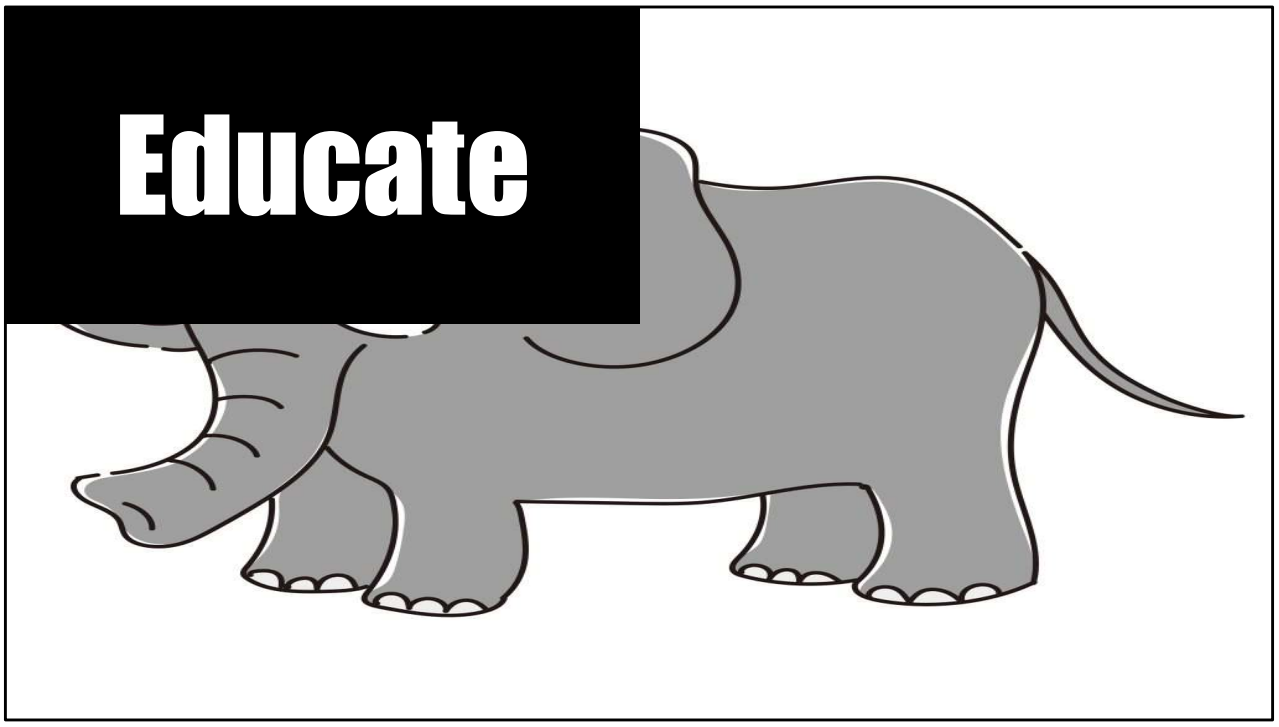
It has made a huge difference in the areas where we work the details. We are seeing positive results and reductions in pedestrian crashes. In the southeast part of Baltimore County where we do the field trip, we have not had a pedestrian crash in the area since we started the detail in 2019! And we didn't have to do it by being "Robocop" and writing thousands of tickets. We're still writing warnings. However, we are writing more citations which caused the negative reinforcement leading to positive behavior.

We were having such good results, that Delaware reached out to us. They had just gone through a NHTSA review of their pedestrian efforts and reached out to us to help them meet some of their goals. In May of 2022, we had a combined class of Maryland and Delaware law enforcement so that Delaware could start addressing their problem.

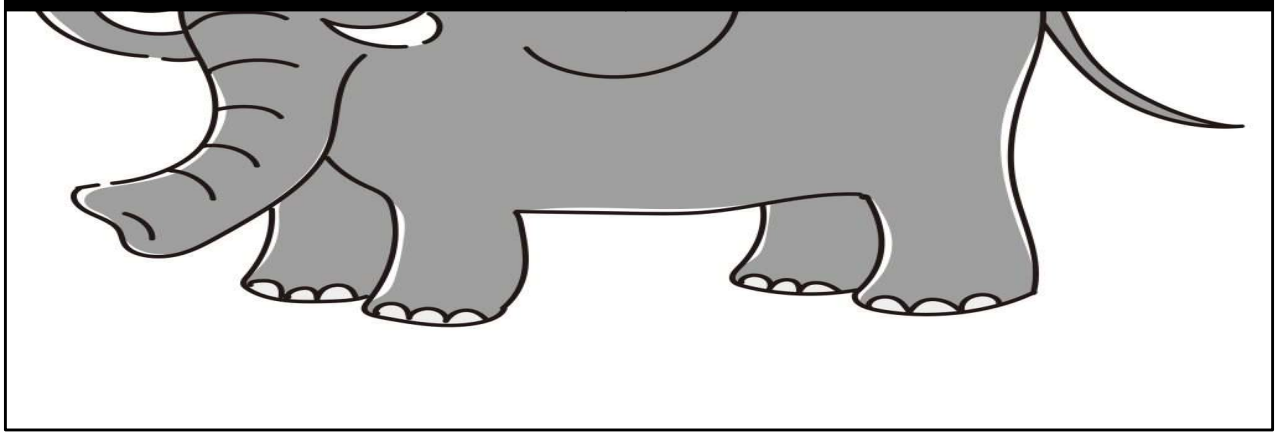


Every state has some type of zero deaths statement in their SHSP with a date as a goal to reach it. The question has always been, "Is it really possible?" I would say yes. However, it's like eating an elephant. Just take one bite at a time whether that's a roadway, or an area, or whatever.

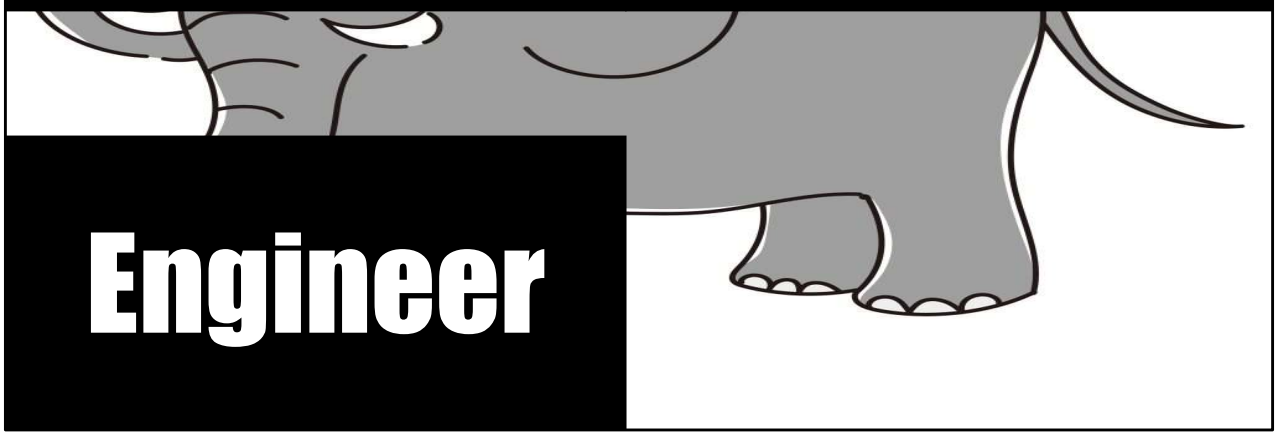
Educate



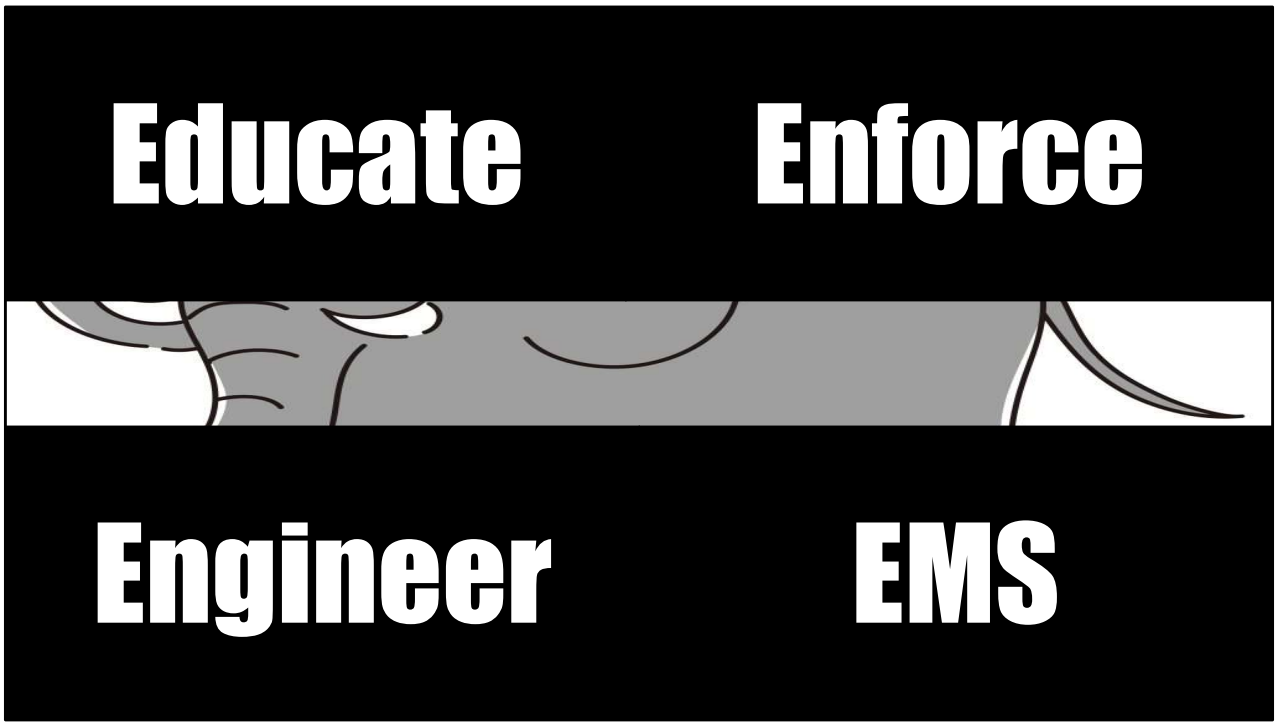
Educate Enforce



Educate Enforce



Engineer


Educate
Enforce
Engineer
EMS

Educate Enforce

Maintain

Engineer EMS

Move On

Sgt. Tom Morehouse

Baltimore County, MD Police Dept.

tmorehouse@baltimorecountymd.gov