

PROTECTING THE PEDESTRIAN OFFICER



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Each year numerous police officers and other first responders are killed or seriously injured in motor vehicle-related incidents on our highways. In the last decade these types of incidents have accounted for approximately 33% of all law enforcement line-of-duty deaths.

Of all the hazardous situations an officer may encounter in the performance of their duties, this program will focus on the category of the **pedestrian officer** and the danger of being struck by a motor vehicle or flying debris while working along the roadway.

It is important for law enforcement leadership to promote roadway safety among officers through awareness training and the issue of improved personal protective equipment.

WHAT IS PERSONAL PROTECTIVE EQUIPMENT?



Personal Protective Equipment, or PPE, is equipment that will protect the user against health or safety risks at work. It can include items such as safety helmets, gloves, eye protection, high-visibility clothing, safety footwear and safety harnesses.

"It's uncomfortable."

"It interferes with how I move."



"It costs too much."

"It's hot."

"It won't protect me if ___ happens."

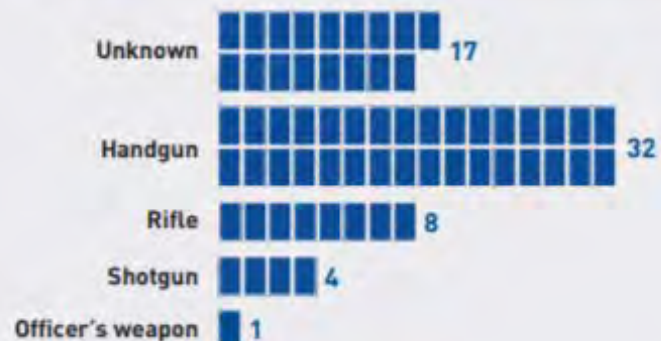
FIREARMS-RELATED FATALITIES

JANUARY 1 THROUGH DECEMBER 31

BY CIRCUMSTANCE



BY FIREARM TYPE



BY MONTH



AVERAGE BY DECADE*

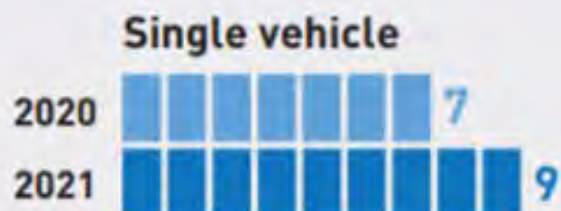


*Average gunfire fatalities per decade

TRAFFIC-RELATED FATALITIES

JANUARY 1 THROUGH DECEMBER 31

BY CIRCUMSTANCE



BY DECADE*



*Average per decade

EMERGENCY RESPONDER STRUCK-BY-VEHICLE FATALITIES

January 2020 through December 2021

LEO



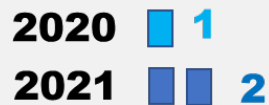
FIRE/EMS



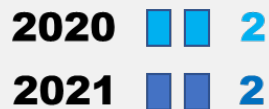
TOWING



ROAD SERVICE TECHNCIAN



DOT/SSP



RESPONDERSAFETY
On The Highway We've Got Your Back

FBI UCR LEOKA STATISTICS

Table 65 - Law Enforcement Officers Accidentally Killed – Type of Accident and Activity of Victim Officer, 2011–2020

| Circumstance | | Total | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 |
|--------------------------------------|---------------------------------------|-----------|------|------|------|------|------|------|------|------|------|------|
| Pedestrian officer struck by vehicle | Total | 92 | 5 | 10 | 9 | 6 | 7 | 12 | 6 | 9 | 16 | 12 |
| | Assisting/investigating vehicle crash | 18 | 1 | 1 | 2 | 1 | 4 | 2 | 2 | 2 | 1 | 2 |
| | Assisting motorist | 10 | 0 | 3 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 0 |
| | Providing/deploying equipment | 4 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 2 |
| | Engaging in foot pursuit ¹ | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| | Overseeing work zone | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| | Patrolling | 2 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Performing traffic control | 18 | 2 | 3 | 5 | 2 | 1 | 3 | 0 | 0 | 2 | 0 |
| | Performing traffic stop | 22 | 2 | 2 | 0 | 1 | 1 | 4 | 0 | 2 | 5 | 5 |
| | Other | 16 | 0 | 1 | 1 | 0 | 0 | 2 | 2 | 3 | 4 | 3 |

Table 66 - Law Enforcement Officers Accidentally Killed – Type of Accident by Type of Assignment, 2020

| Circumstance | Total | Two-officer patrol | One-officer patrol | | Investigative/detective | | Tactical assignment (uniformed) | | Plainclothes assignment | | Special assignment | | Undercover | | Court/prisoner security | | Other ¹ | | Off duty | | |
|--------------------------------------|---|--------------------|--------------------|----------|-------------------------|----------|---------------------------------|----------|-------------------------|----------|--------------------|----------|------------|----------|-------------------------|----------|--------------------|----------|----------|----------|---|
| | | | Alone | Assisted | Alone | Assisted | Alone | Assisted | Alone | Assisted | Alone | Assisted | Alone | Assisted | Alone | Assisted | Alone | Assisted | Alone | Assisted | |
| Pedestrian officer struck by vehicle | Total | 12 | 2 | 4 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | |
| | Wearing high-visibility clothing | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Not wearing high-visibility clothing ³ | 5 | 0 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | |
| | High-visibility clothing not reported | 6 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | |

ECONOMIC IMPACTS OF A WORK INJURY

Work Injury Costs - 2019

COST

-  total in 2019 ---- **\$171.0 billion**
-  per worker ----- **\$1,100**
-  per death ----- **\$1,220,000**
-  per medically consulted injury ----- **\$42,000**



The true cost to the nation, employers, and individuals of work-related deaths and injuries is much greater than the cost of workers' compensation insurance alone. The figures above show National Safety Council estimates of the total economic costs of work-related deaths and injuries.

Time Lost Due to Work-related Injuries - 2019

DAYS LOST

-  total in 2019 ----- **105,000,000**
-  due to injuries in 2019 ----- **70,000,000**
-  due to injuries in prior years ----- **35,000,000**
-  in future years from 2019 injuries --- **55,000,000**



Days lost estimates do not include time lost by people with nondisabling injuries or other people directly or indirectly involved in the incidents.

IMPACT\$ OF A RESPONDER INJURY

WHAT ARE THE COSTS TO THE COMMUNITY, AGENCY AND INDIVIDUAL?

COMMUNITY

REDUCED AVAILABILITY OF SERVICES

LOSS OF CONFIDENCE IN LEADERSHIP

INCREASED PAYOUTS IN FEDERAL/STATE BENEFIT PROGRAMS

AGENCY

UNINSURED COSTS = time lost by uninjured members who are directly or indirectly involved in administrative/investigative aspects of the injury

OVERTIME COSTS = providing coverage for the injured member while out of work

INDIVIDUAL RESPONDER

LOSS OF PAY = secondary employment overtime, shift differential, leave (vacation, sick, etc.)

INJURY/RECOVERY COSTS = gaps in insurance/WC coverage; needs beyond what's covered; extended stay costs for family (travel, lodging, etc.)

PERSONAL = clothing (weight loss, footwear, etc.); vehicles (car payments, new vehicle, commuting maintenance); hobbies - memberships

FAMILY = childcare expenses; loss of employment for family

DYNAMICS OF VEHICLE – PEDESTRIAN COLLISIONS

FACTORS AFFECTING INJURY

Vehicle Speed & Size

Type of Collision (forward, rearward or side impact)

Pedestrian Age or Height

UP TO THREE + COLLISIONS

Bumper > Lower Limbs

Body & Head > Hood/Windshield/Roof

Body & Head > Ground/Roadway



COMMON INJURIES

Broken Bones

Head & Neck Trauma

Brain Injuries

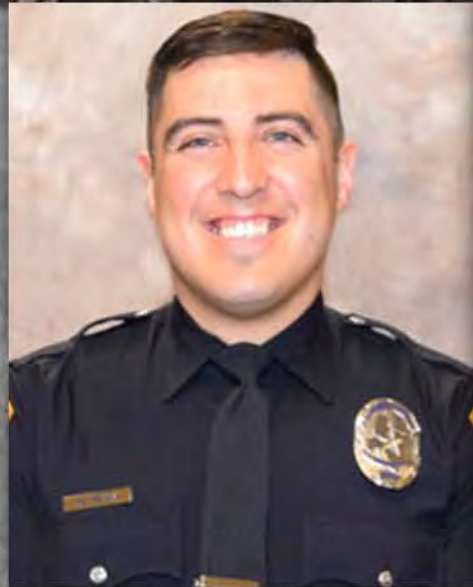
Spinal Cord Trauma

In those cases where injuries were described as *moderate*, the greater percentage of trauma occurred to the lower limbs, including the pelvis. For cases where injuries were cited as *serious*, an overwhelming 80% of trauma occurred to the head.

JANUARY 11, 2020 – LUBBOCK, TEXAS



Officer Nicholas L. Reyna
Lubbock Police Department



Lieutenant Eric Hill
Lubbock Fire Department

State trooper injured badly on I-81 is identified as Sgt. Robert Bemis

Trooper Badly Hurt While Helping Driver in Schuylkill County

PSP trooper Sgt. Robert E. Bemis airlifted after being struck

3/27/2015



A Pennsylvania state trooper was severely injured Friday afternoon when he was hit by a vehicle while helping a stranded motorist in Frackville, Schuylkill County, authorities said.

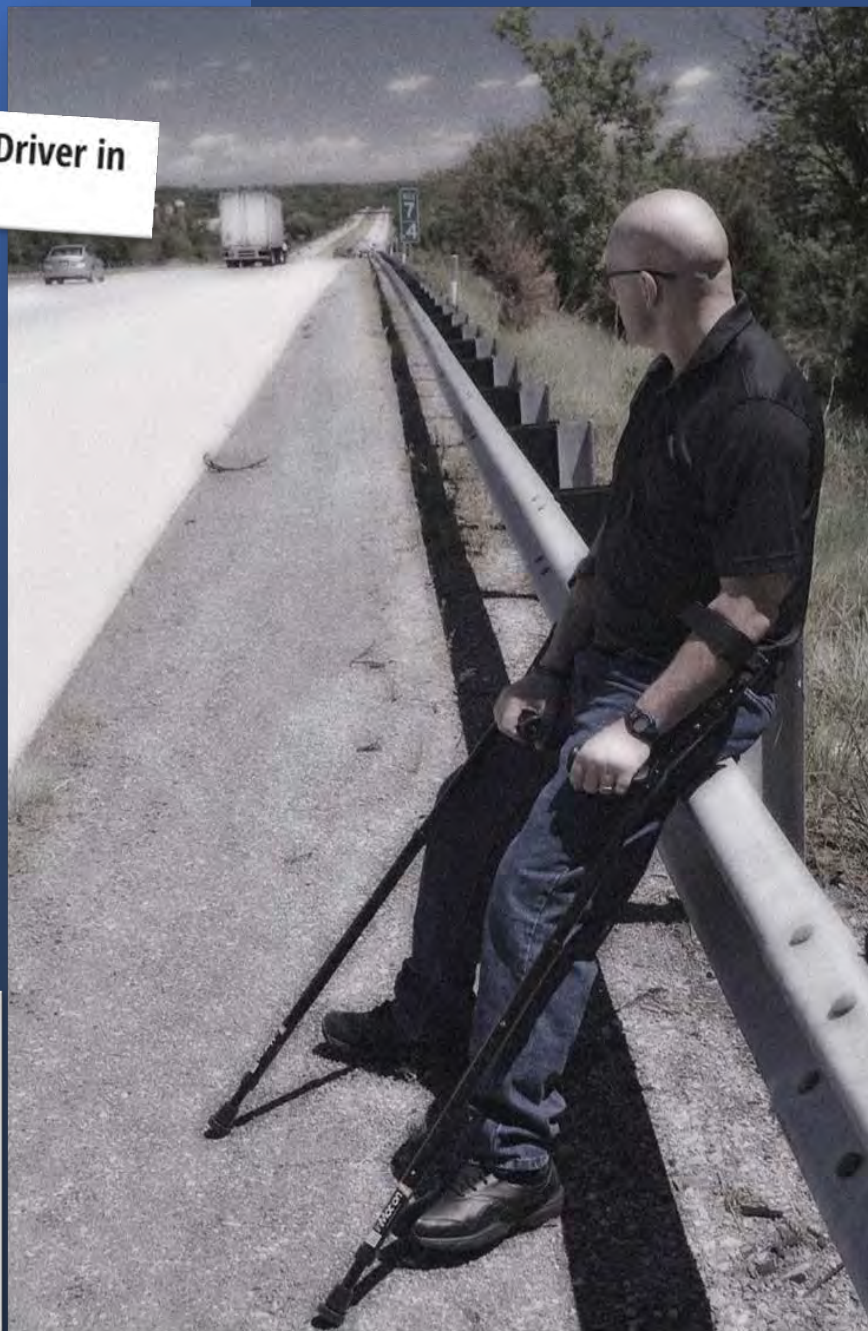
The trooper was identified Friday night as Sgt. Robert E. Bemis, 47, of the state police Bureau of Training and Education in Hershey.

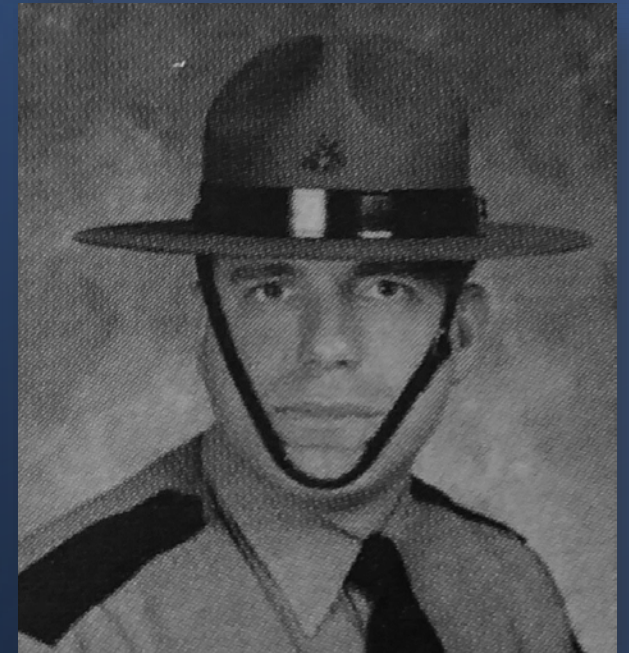
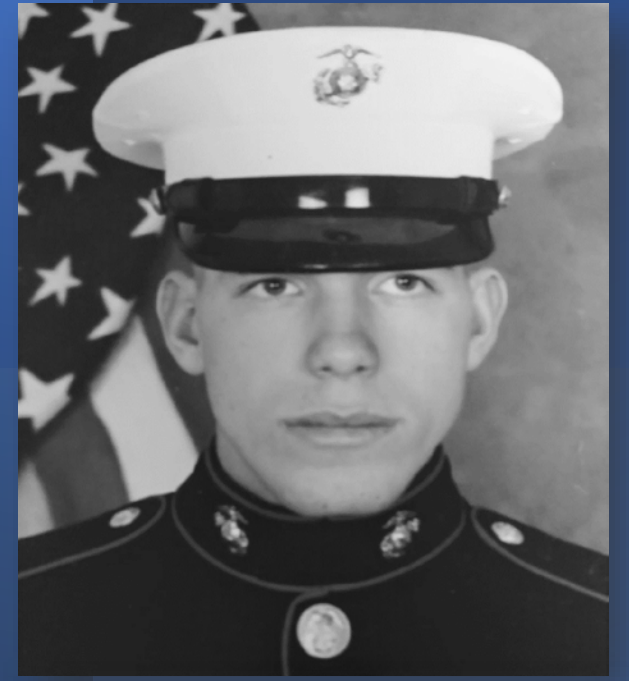
The accident happened 2:52 p.m. in the southbound lanes of Interstate 81, between the Frackville and Highridge Park Road exits.

The trooper was airlifted to Geisinger Medical Center in Danville, according to state police spokeswoman Maria Finn.

I-81's southbound lanes were closed while the trooper was moved and the accident scene was cleaned up.

<http://www.mcall.com/news/breaking/mc-t-state-trooper-injured-in-i-81-20150327-story.html>



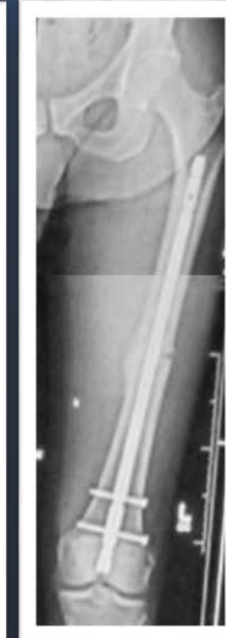
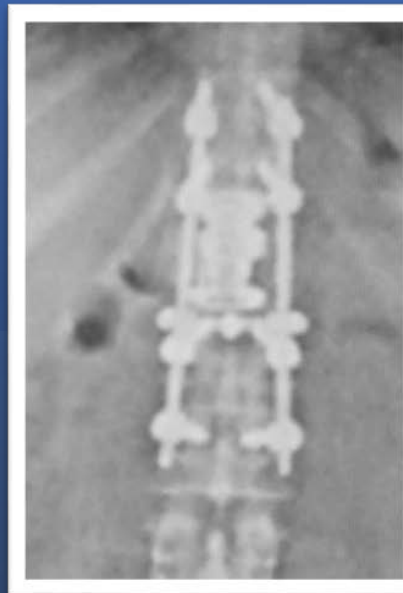


















FORGED IN
**SCARS
& STRIPES**

a Trooper's victory over critical injury

**Sergeant (Ret.) Robert E. Bemis
with Michael J. Asken, Ph.D**



“Forged in Scars”



A gathering place for police officers, firefighters and others in public safety who are recovering from serious injury or illness.



THE WOUNDED BLUE

NEVER FORGOTTEN. NEVER ALONE.

www.thewoundedblue.org

www.forgedinscars.com

THE WORLD AIN'T
ALL SUNSHINE AND
RAINBOWS IT'S A VERY
MEAN AND NASTY PLACE
AND I DON'T CARE HOW
TOUGH YOU ARE, IT WILL
BEAT YOU TO YOUR
KNEES AND KEEP YOU
THERE PERMANENTLY IF
YOU LET IT YOU, ME
OR NOBODY IS
GONNA HIT AS HARD
AS LIFE BUT IT AIN'T
ABOUT HOW HARD YOU
HIT, IT'S ABOUT HOW
HARD YOU CAN GET HIT
AND KEEP MOVING
FORWARD HOW MUCH
YOU CAN TAKE AND KEEP
MOVING FORWARD THAT'S
HOW WINNING IS DONE!

~ Rocky Balboa



It starts with
an idea....



Lessons Learned from Professional Sports



 **NASCAR**



Havoline

CENTURY

GATERPILLAR
22



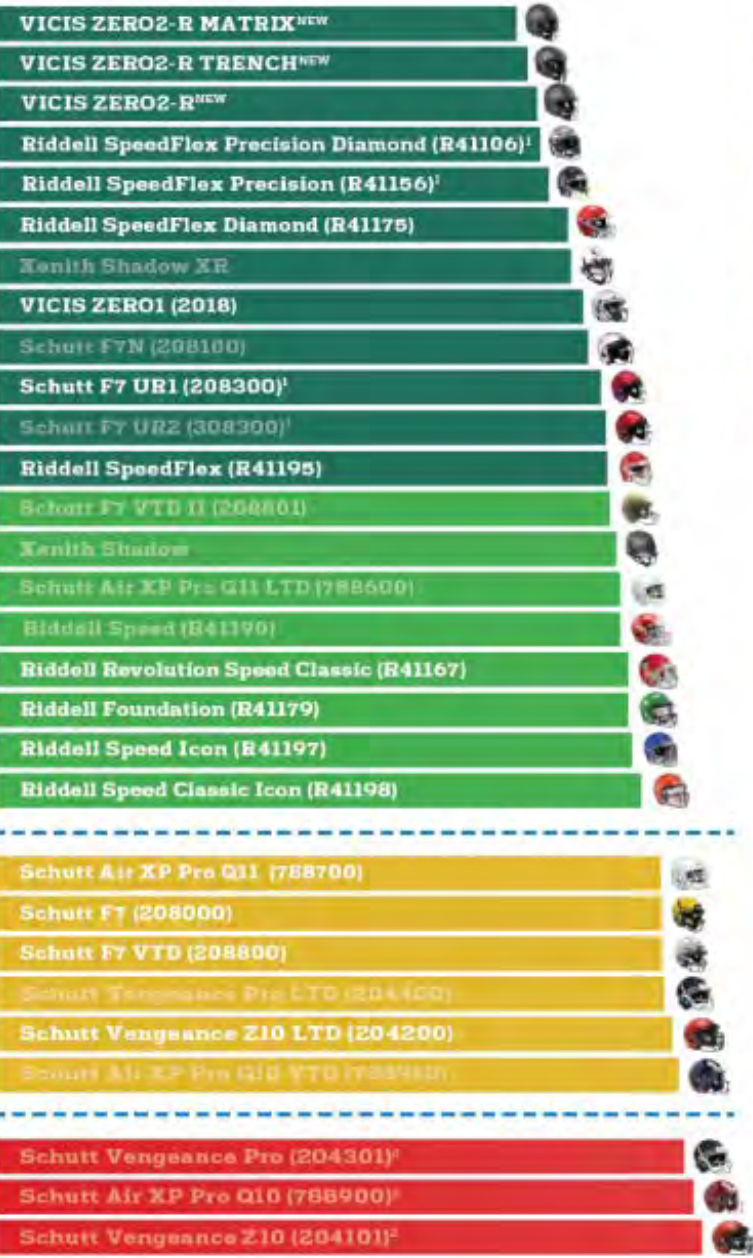




BETTER LABORATORY PERFORMANCE

NOT RECOMMENDED

NEWLY PROHIBITED

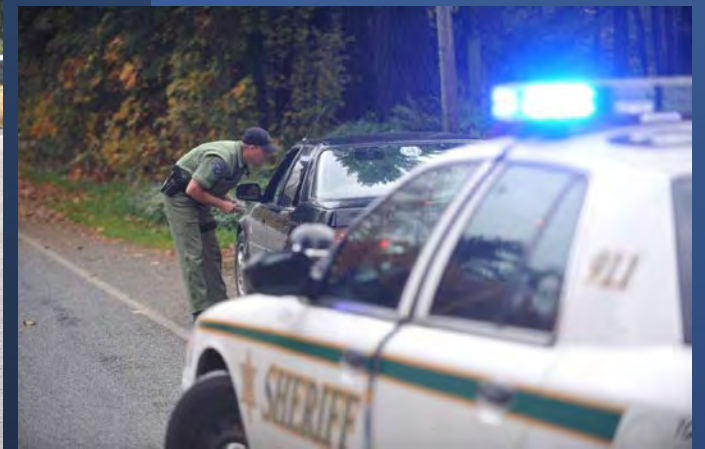


2021 HELMET LABORATORY TESTING PERFORMANCE RESULTS



A Change in
Culture is Needed





NATIONAL SURVEY ON OFFICER SAFETY TRAINING

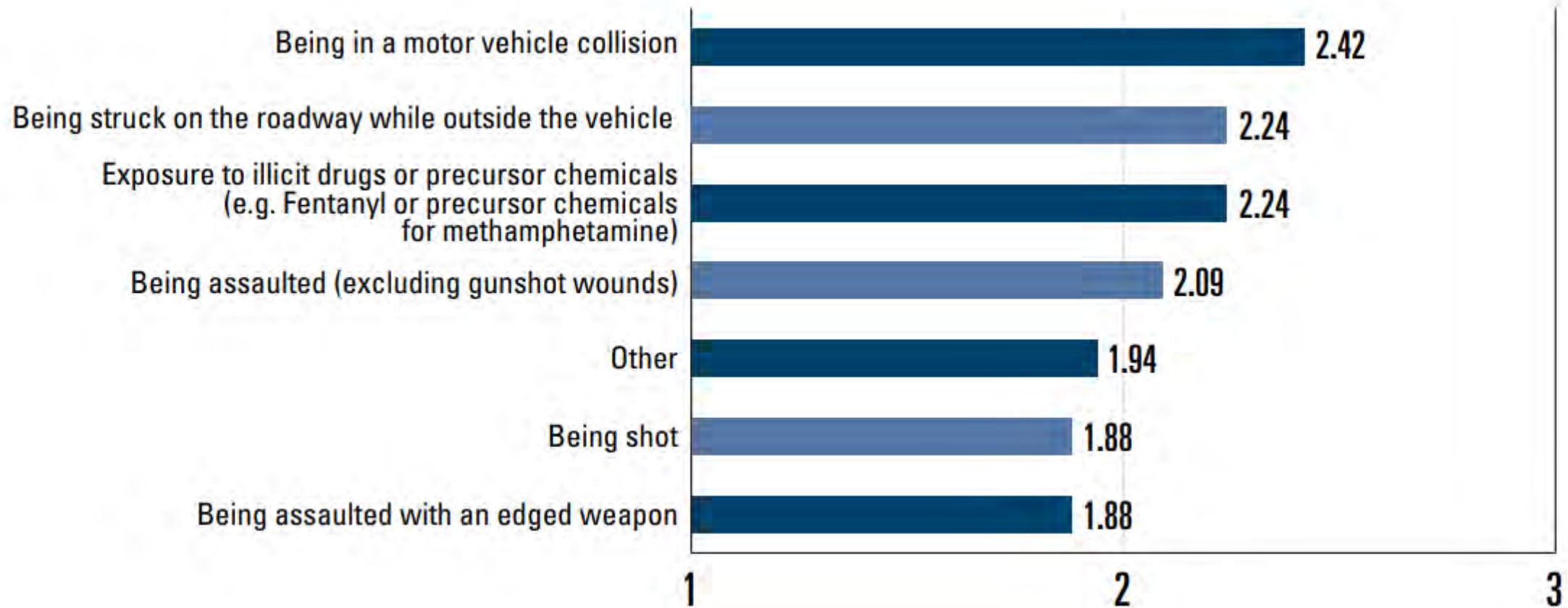
Findings and Implications



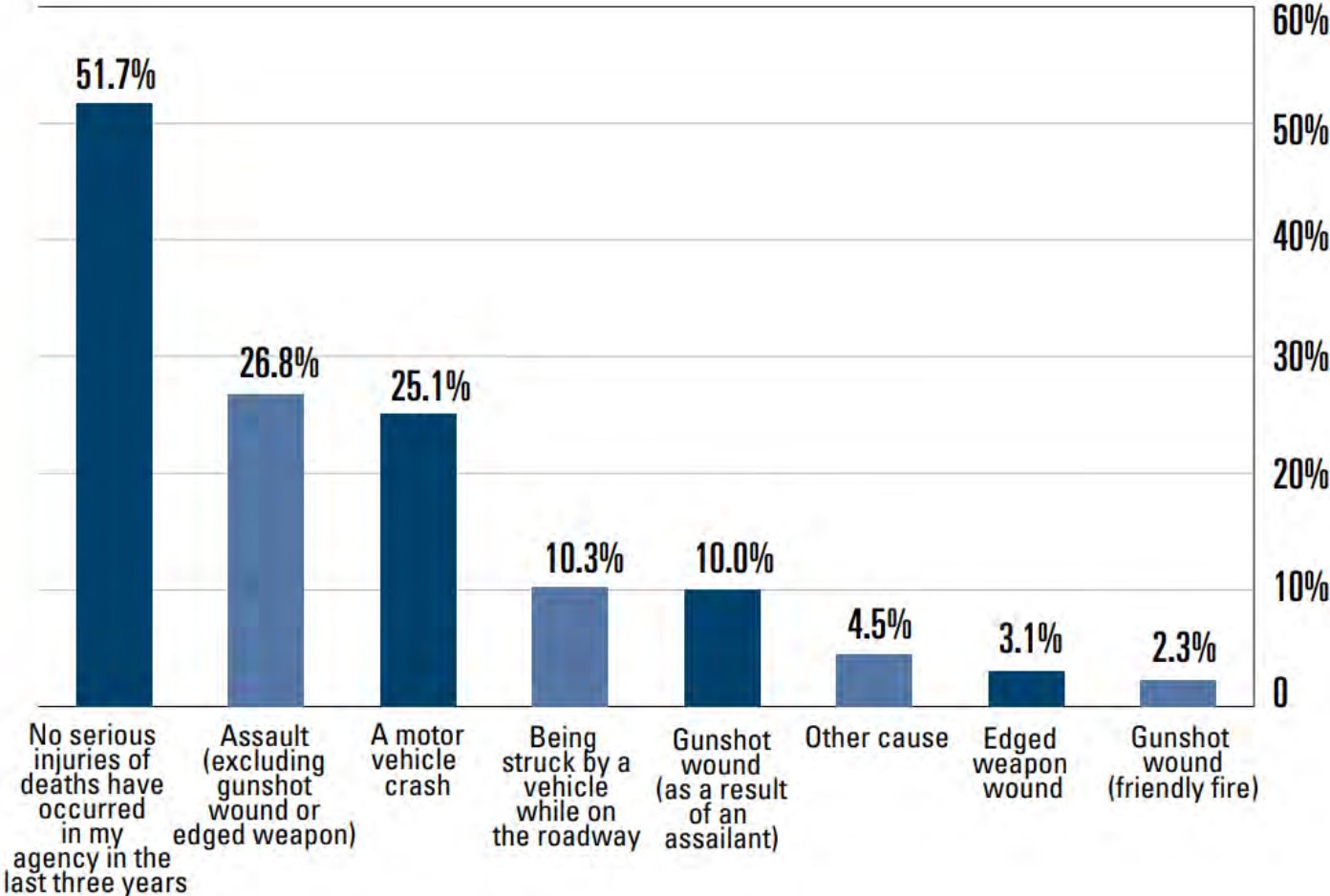
In 2017, the National Police Foundation was tasked by the Bureau of Justice Assistance (BJA), under the BJA VALOR Officer Safety and Wellness Initiative with conducting a comprehensive survey of law enforcement executive perception of threats and training challenges experienced by police agencies throughout the United States. The survey asked four questions:

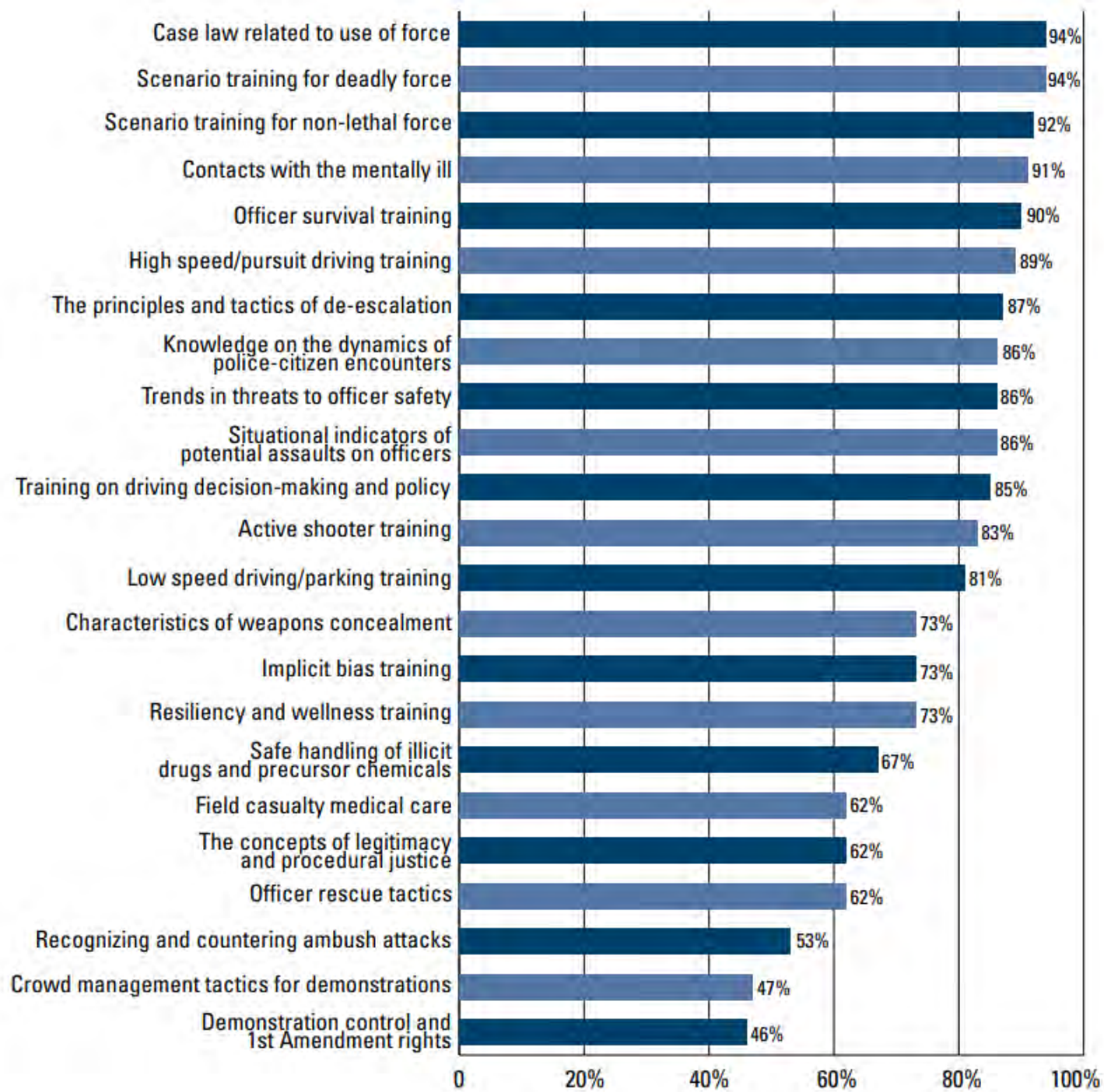
- What are the relative impacts of different officer safety threats facing officers?
- What types of officer safety and related training are agencies providing officers?
- What types of officer safety and related training do agencies view as a critical need in the near future?
- What do agencies currently view as constraints to providing officer safety and related training to their officers?

Perceived risk of officers being seriously injured or killed (1=low, 2=moderate, 3=high)



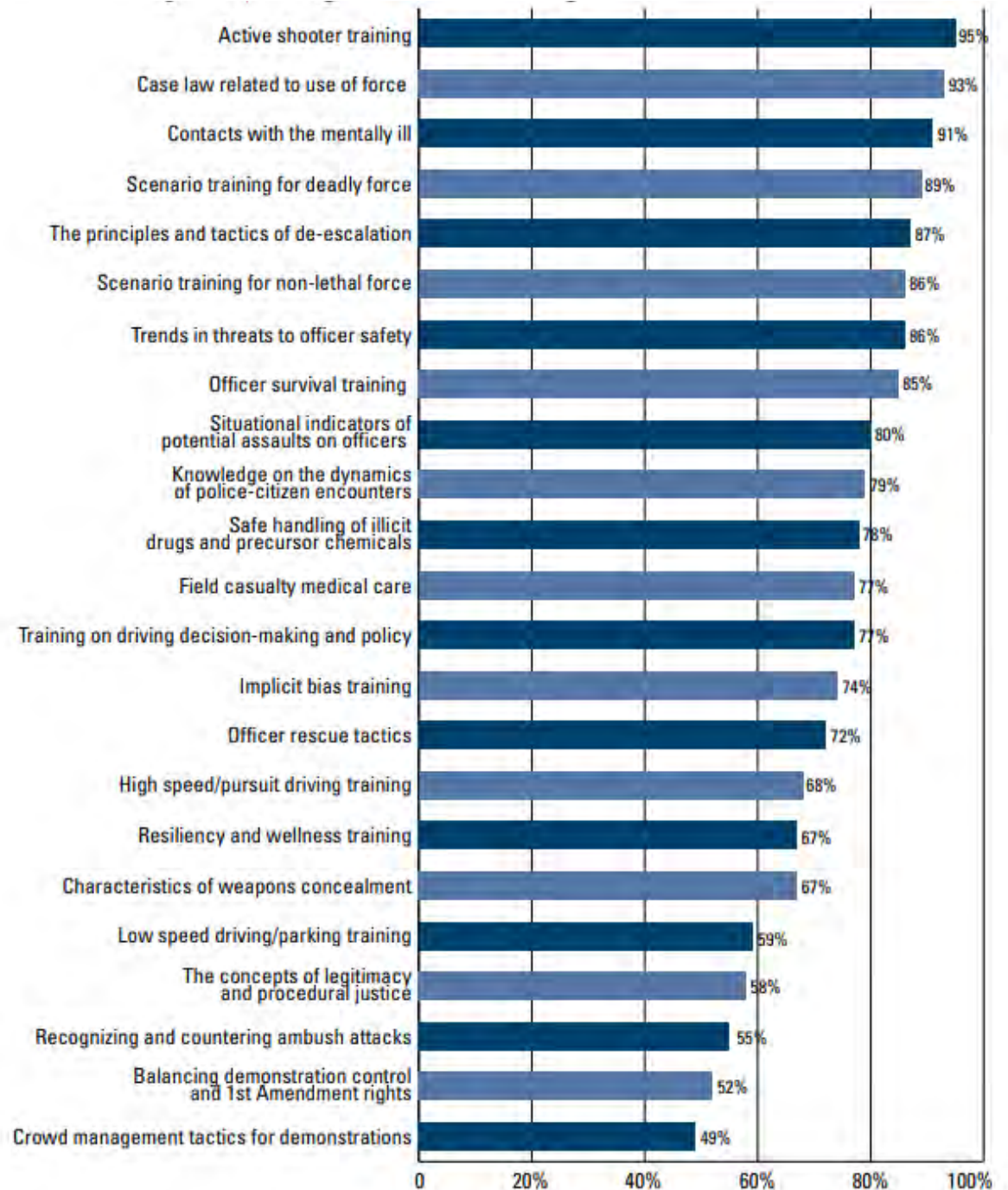
Percent of law enforcement executives reporting a serious injury or fatality to one or more officer in their agency in the past three years





Percent of agencies reporting their officers receive training on listed topics in the Academy

Percent of agencies providing listed in-service training



Key Finding:

Despite the identification of motor vehicle collisions as the greatest officer safety risk, executives were less likely to report providing in-service driving-related training or view future need for this training when compared to training related to force interactions with citizens and assault-based threats.

Traffic-related officer injuries and deaths are prominent, and departments must train officers in safe driving (a perishable skill set) and officer safety **on the road**.

Mitigation

Mitigation Steps

- Find a stopgap solution
- Unions and police leadership should work with national police organizations and helmet manufacturers to design an approved helmet that meets an established safety standard
- Encourage the use of PPE in ALL situations where a pedestrian responder is on the roadway, and during other activities where it can afford additional protection
- Establish policy that supports training and PPE use
- TIM Training and regular updates
- Work to gain community support and understanding of SDMO

Gaining Acceptance for PPE a.k.a. – “Buy-in”



A helmet isn't going help when you're center punched by a 5000 lb car traveling anything over 20mph when it hits a 200 lb man...

It's called physics....

Like Reply 5d Edited

31

↳ 1 Reply

I don't think helmets are the answer. Far too many officers won't wear reflective vests. It's hard to convince younger officers that just because they can see the cars does not mean the drivers can see them. We probably need to park cruisers better for a better safety zone.

Like Reply 5d Edited

12

↳ 4 Replies

Try getting out of the way of the vehicle's. Contrary to their belief, they're not God. Poor training.

Like Reply 5d

1

Helmets did not work for Los Angeles in the 1970s and they wont work now.

Like Reply 5d

1

This article is completely wrong, it's not about wearing helmets but these inflatable vest. They can easily go over their equipment when doing traffic stops and inflate the millisecond they detect an impact and added protection can be added to protect neck and head injuries.



Like Reply 5d Edited

I cant believe someone thought so hard and typed so much on an idea this stupid. Make sure when you finish muster to load your gear, ppe bag, patrol rifle, beanbag gun, aed, intoximeter, digital camera, fingerprint kit, breaching gear, and now your fkn roadside helmet....soon we will have a trailer behind the car to haul more equipment from the idea fairy.



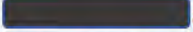
Like Reply 4d



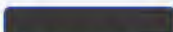
No...helmets won't do anything...the trauma from a motor vehicle strike to the body is enough to end a life...helmets would be just another step for admin to try to wipe their hands clean...how many admin officers wore helmets? Were not firemen...the problem isn't the equipment we wear...its those in society who have no regard for anyone else but themselves...just my 2 cents as a 13 year cop

Like Reply 5d

 16

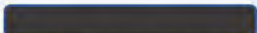
 
 a helmet has nothing to do with being a fireman. It has to do with protecting your head. Are some hits unsurvivable, yes. But many times, protection of your head may place you in a position of survival as opposed to a position of significant permanent disability or death. I never wore a ski helmet, now I don't work without one. I don't mountain bike without one either. Traditional style fire helmets are obsolete and dangerous. Newer styles are much more effective and likely protective for officers on scenes as well and are likely easily modified from fire service use. A cavalier attitude is dangerous to your health.

Like Reply 2d

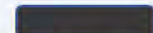

Author needs to remain retired and enjoy it. No chance a helmet makes being hit in traffic more survivable than it already isn't.

Like Reply 5d

 8



Too many clinging to professional involvement by taking up issues like this. This will create as many problems and is unlikely to be of any significant benefit. After fighting for the obvious need for outer carriers, helmet and visors for respond officers this is a non starter for most communities.

Like Reply 5d


Helmets? Let me guess, someone told you that to progress on your career track you need to get a professional article published...and this is what you came up with??

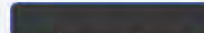
Like Reply 4d



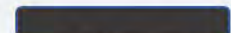

Why stop there, let's do full body bubble boy suits

Like Reply 5d

  2

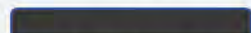

Only under 35 mph.

Like Reply 5d


Been there, done that. Motor Officers always wear helmets and they still die from foolish drivers.

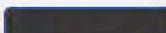
Like Reply 5d

  5


No, helmets would help as much as a helmet might help a skydiver in the event of a parachute failure.

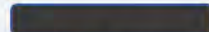
Like Reply 5d

 2


So you can get a write up when a car crushes your legs but you didn't have your helmet on

Like Reply 5d Edited

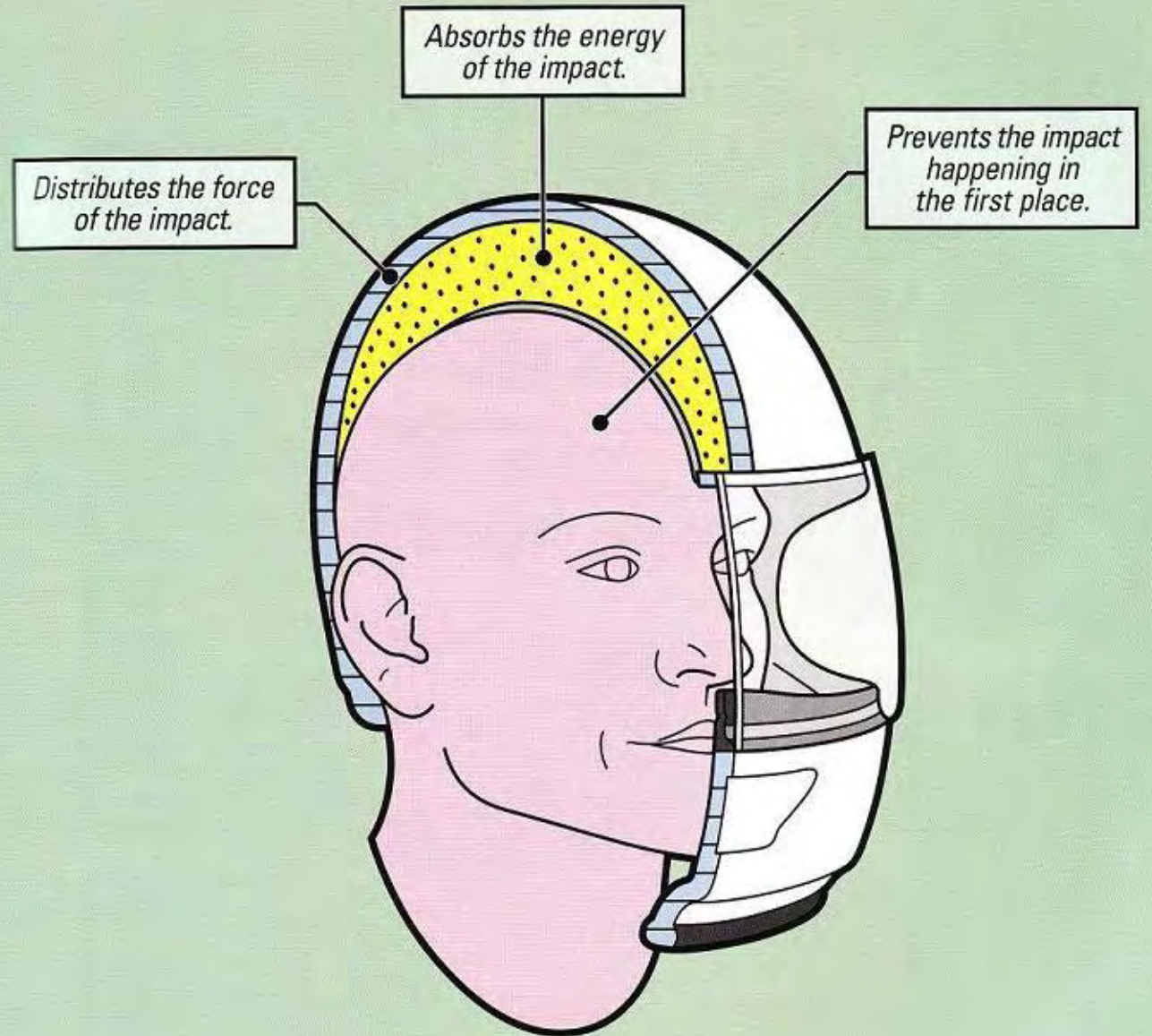
 3


Struck by vehicles at high speed helmets will do nothing

Like Reply 5d

PARTS OF A HELMET

- SHELL
- IMPACT ABSORBING LINER (EPS)
- COMFORT LINER
- RETENTION SYSTEM
- FACE SHIELD (OPTIONAL)



Helmet Selection Criteria

- Impact protection. Impact protection to the sides of the head may be most important. Select a helmet that has an impact liner made of a material such as Expanded Polystyrene (EPS) foam instead of a webbing suspension system. Does the helmet have technologies to help address rotational forces?
- Positional stability. Will the helmet stay on the head? Does it have a 4-point chin strap?
- Chin strap strength. Ensure the helmet is not designed with a break away chinstrap.
- Area of the head covered by the helmet.
- Penetration protection. Will the helmet protect from flying debris and strikes against sharp objects?
- Projections/protrusions. Objects that project out from the exterior of the shell or into the interior of the shell. These should be limited and/or readily break away on impact.
- Helmet Standard. What helmet standard is this helmet certified to? Many helmet standards address the above criteria.
- Communication ability.
- Hearing for situational awareness.
- Enable the wearing of eye protection or features integrated eye protection.
- Field of view. Is the field of view sufficient both horizontally and vertically?

Helmet Selection Criteria – cont.

- Ventilation for adequate cooling in hot environments
- Comfort is important. How heavy is the helmet? An uncomfortable helmet is not as likely to be worn.
- Fit adjustability. Is the helmet one size fits all or does the helmet have to be fitted to each person?
- User feedback. What is the feedback from frontline personnel on the helmets that have been identified as possible candidates?
- Performance of duties. Can all duties/tasks be performed without removing the helmet?
- Visibility for low-light conditions. Reflective and/or florescent trim to improve visibility.
- Removal. Removability is important in the event medical care needs to be administered to the emergency responder.
- Chemical resistance. How resistant is the helmet material to chemicals? Bodily fluids? Motor vehicle fuels and fluids?
- Cleaning. Can the helmet be easily decontaminated? Does it have removeable inner liner that can be cleaned?
- Cost. What would be the initial cost of the helmet and any associated accessories such as eye protection?
- Service life. How long can the helmet be in service before it needs to be replaced?

Consider Adding Safety Glasses to your PPE

- Why do we wear safety glasses during weapons qualification?
- Why does the manufacturing industry require use of safety glasses?
 - OSHA Standard 1910.133
- Why don't we encourage use when leaving the station?
- What are the benefits?



You don't prepare for what will happen as much as you do for what could happen.

Promote Training that Mitigates Risk

- National Traffic Incident Management (TIM) Responder Training and devise plan for Periodic Refresher Training
- Continue with Promoting Passenger Side Approach on Violation Stops
- Evaluate Vehicle Stop and Removal Tactics to reduce “Dragging” incidents

PERSONAL PROTECTIVE EQUIPMENT?



Final Thoughts

Short of encasing all responders at emergency scenes in a protective bubble, there is likely not one single item of equipment that will provide absolute protection from being struck by a motor vehicle or flying debris.

What is required is a multi-pronged approach that includes better awareness training, multi-disciplinary cooperation/communication, and the adoption of personal protective equipment that can greatly enhance a pedestrian officer's chances of survival when working on the highways. That equipment should include high-visibility garments, body armor, ballistic eye-protection and lastly, a reliable **SAFETY HELMET.**

STAY SAFE.

STAY STRONG.



Contact:

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