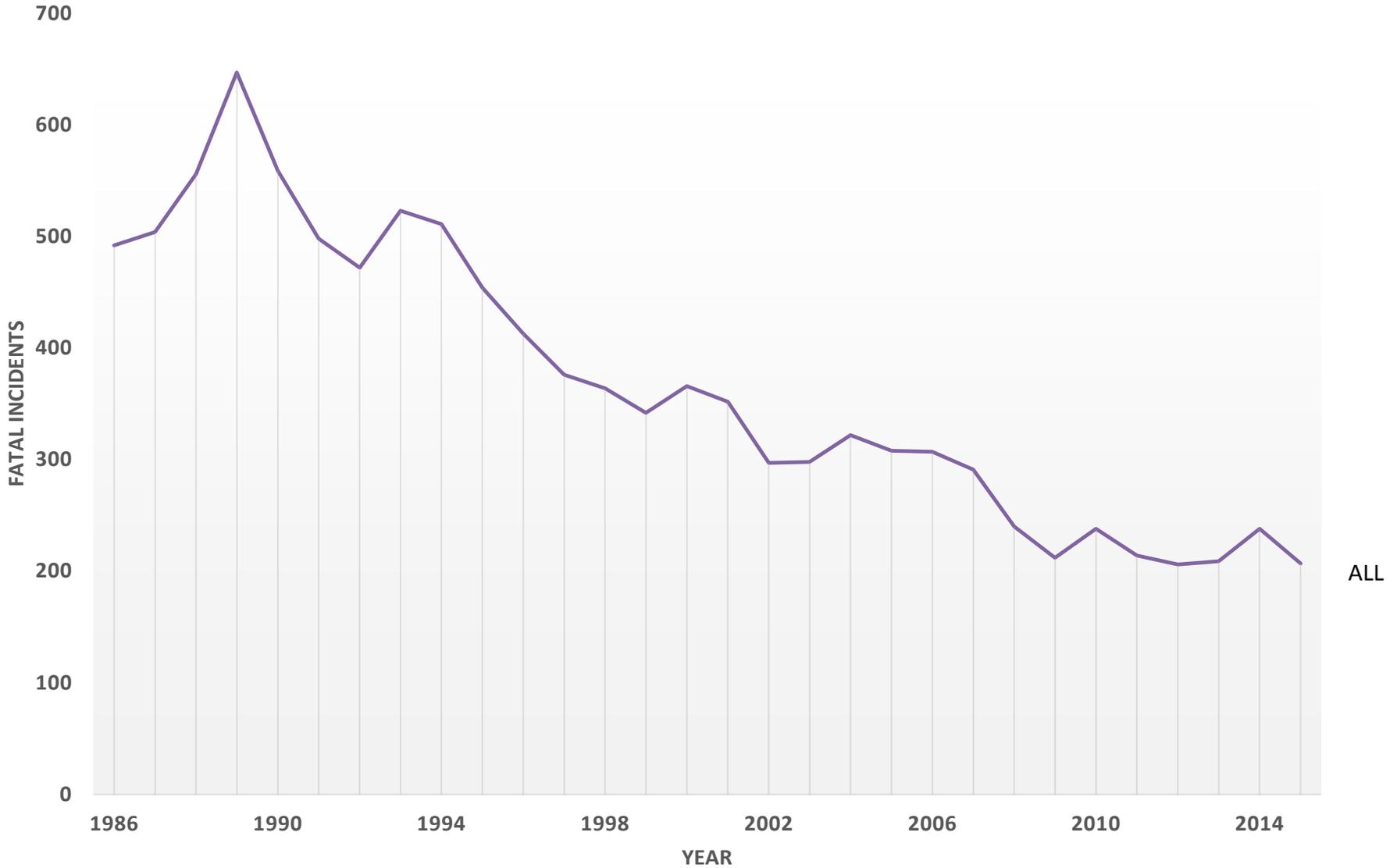




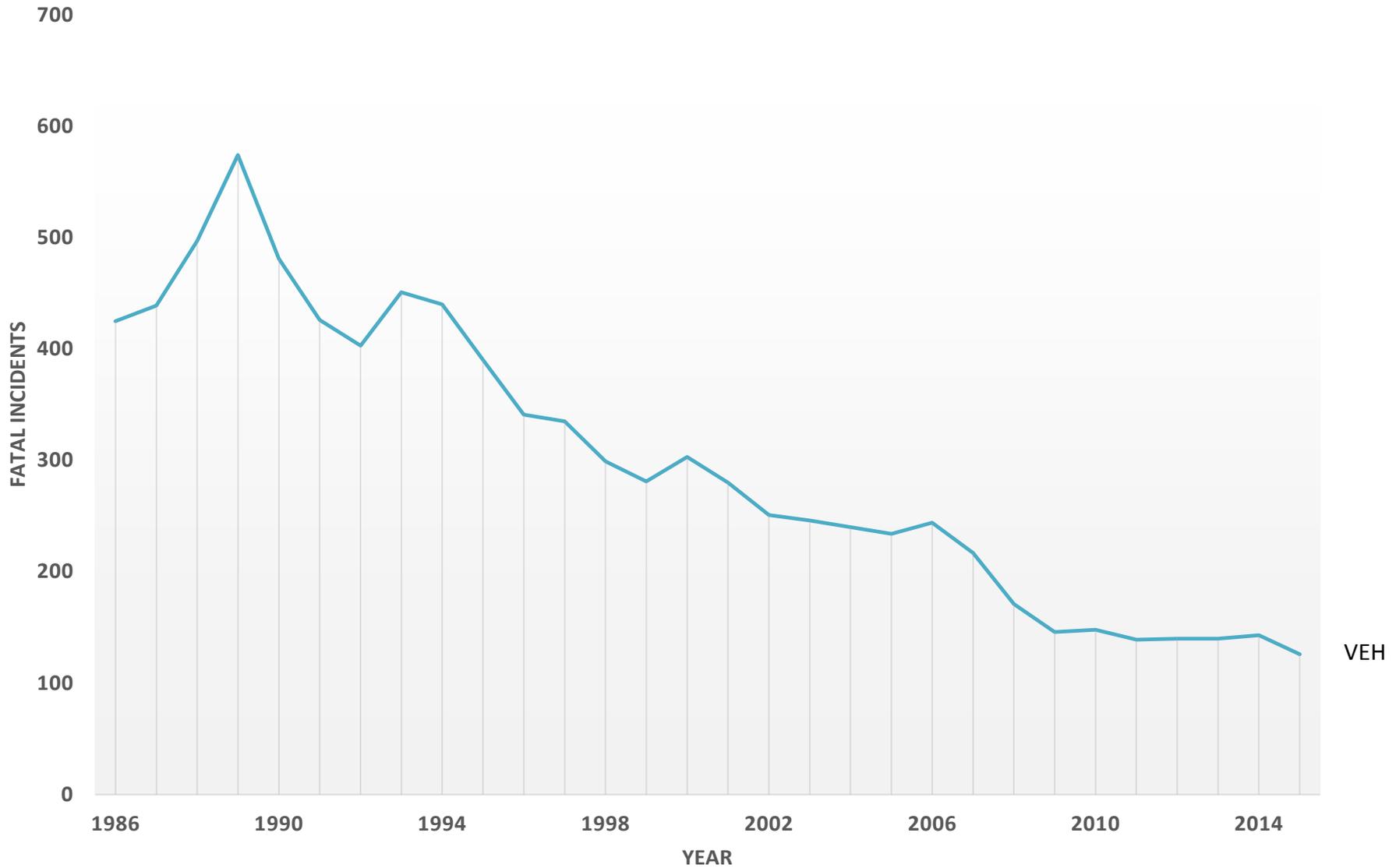
let's start with the data...

Fatal Incidents at Grade Crossings

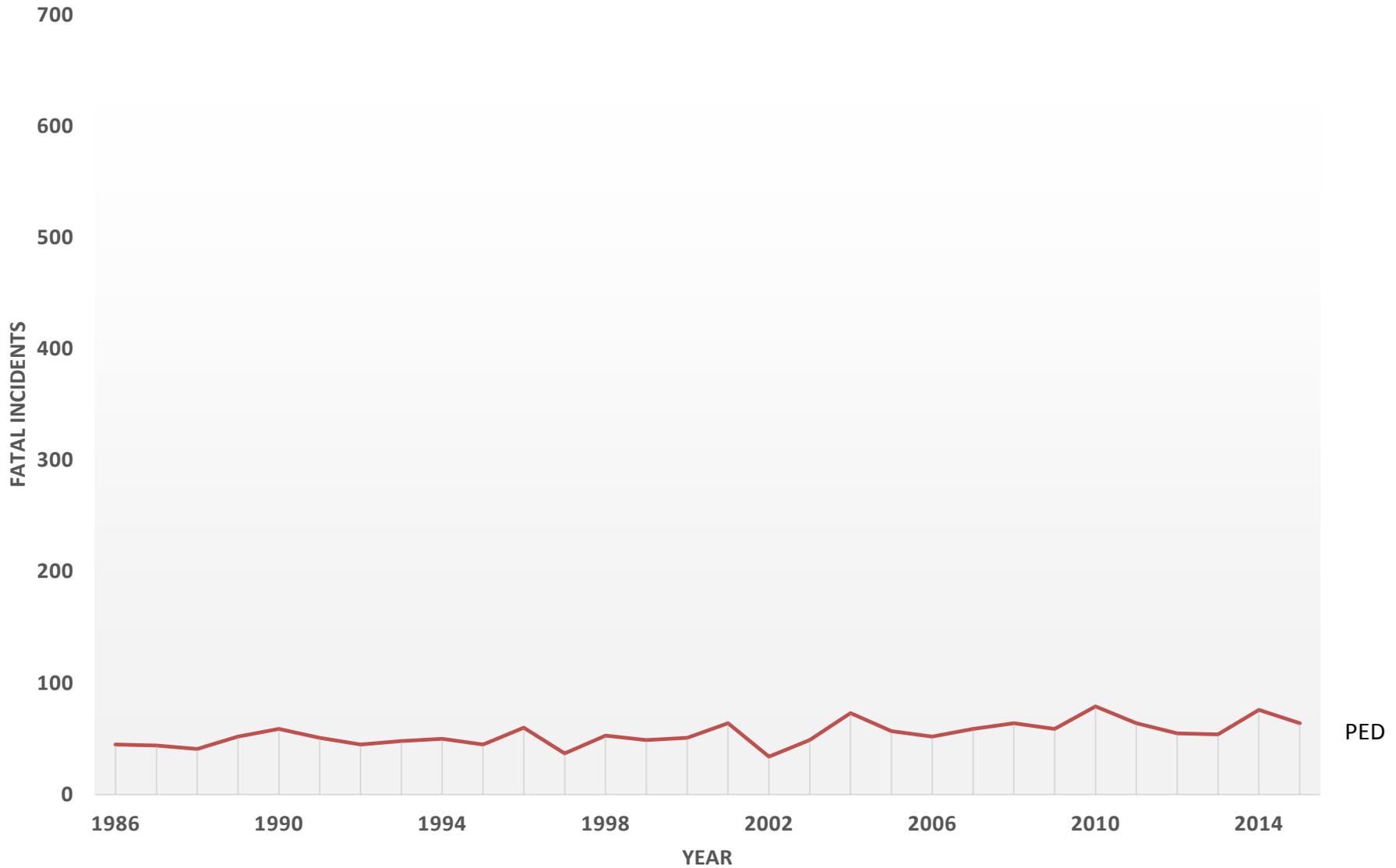


ALL

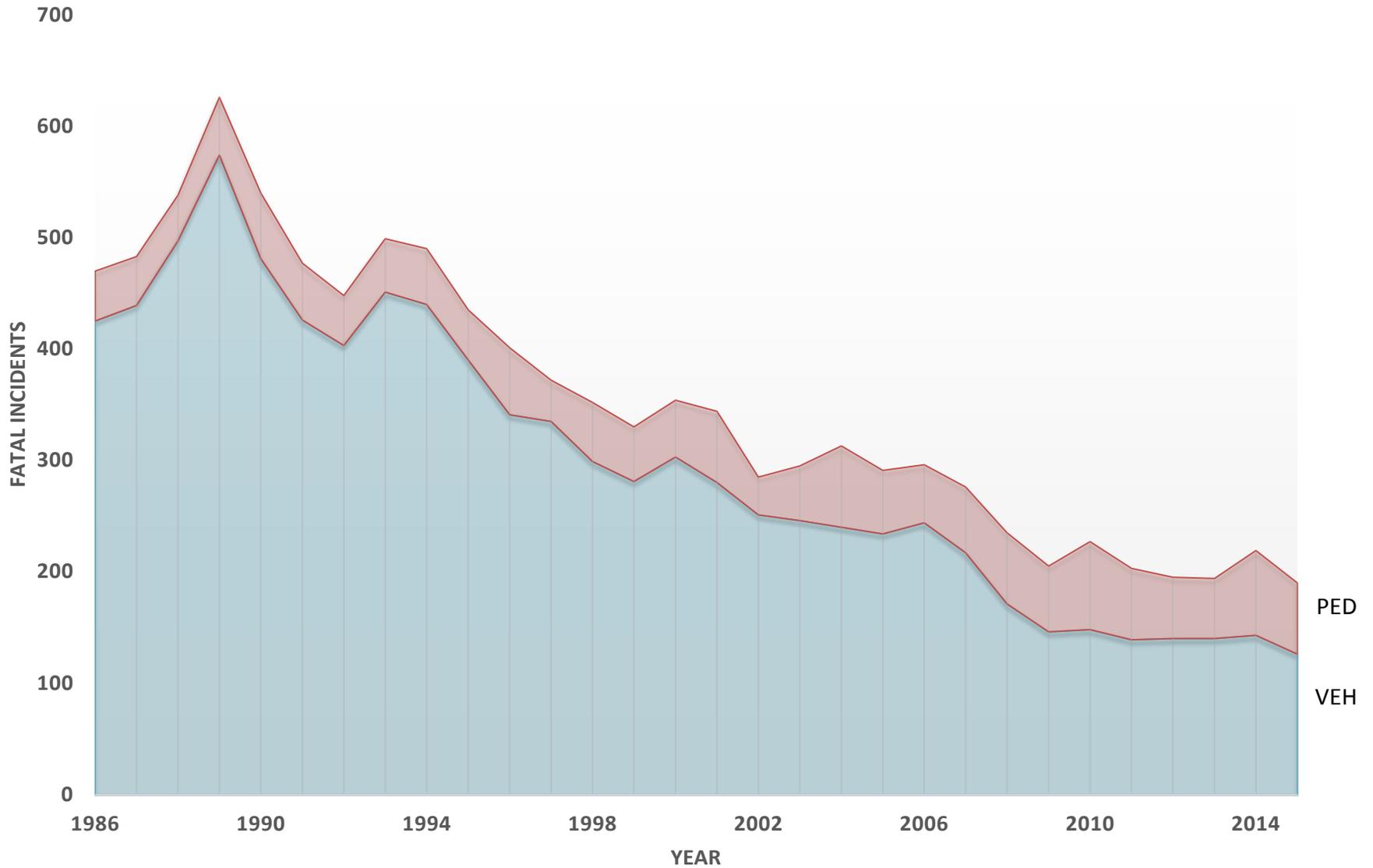
Fatal Incidents at Grade Crossings



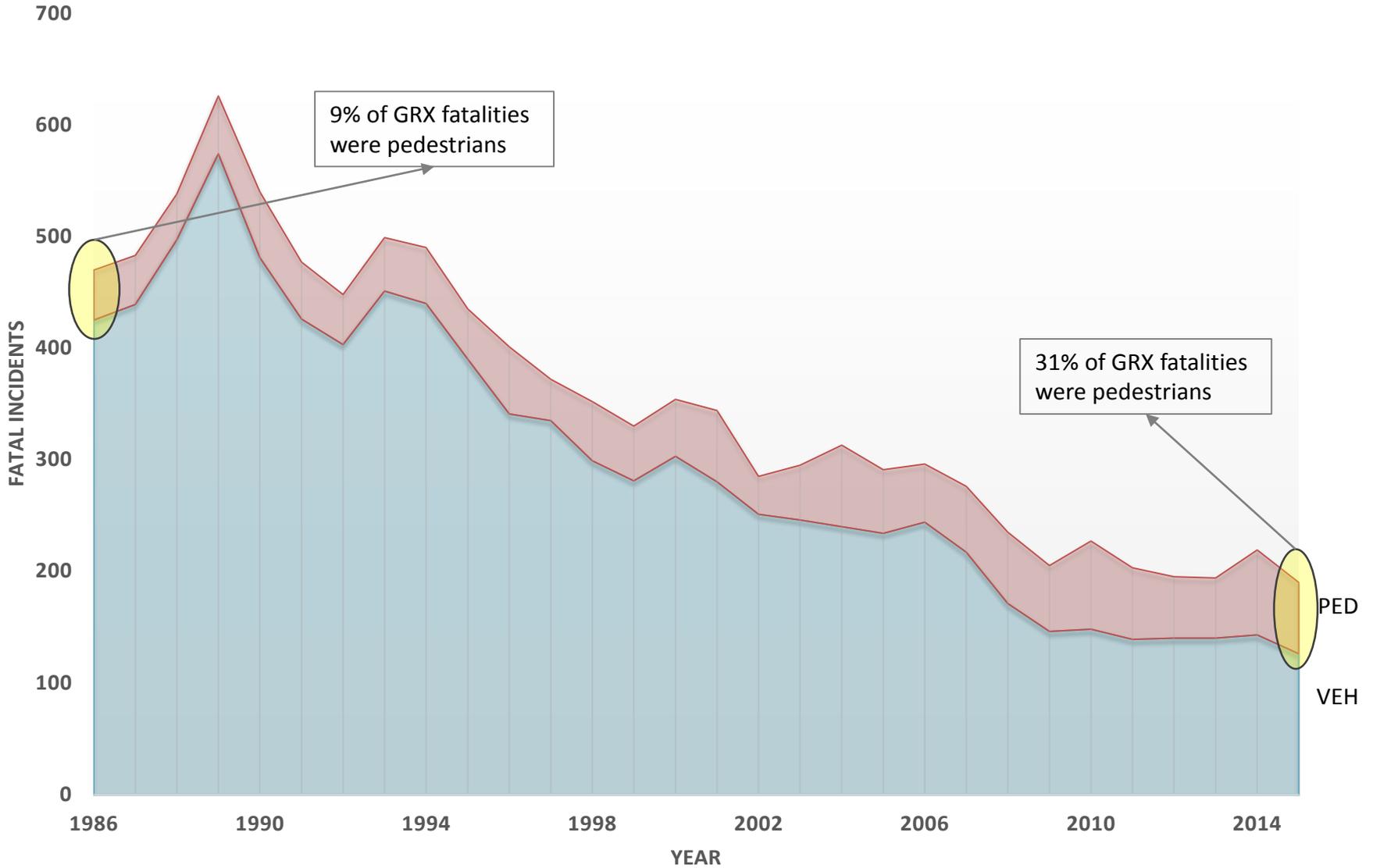
Fatal Incidents at Grade Crossings



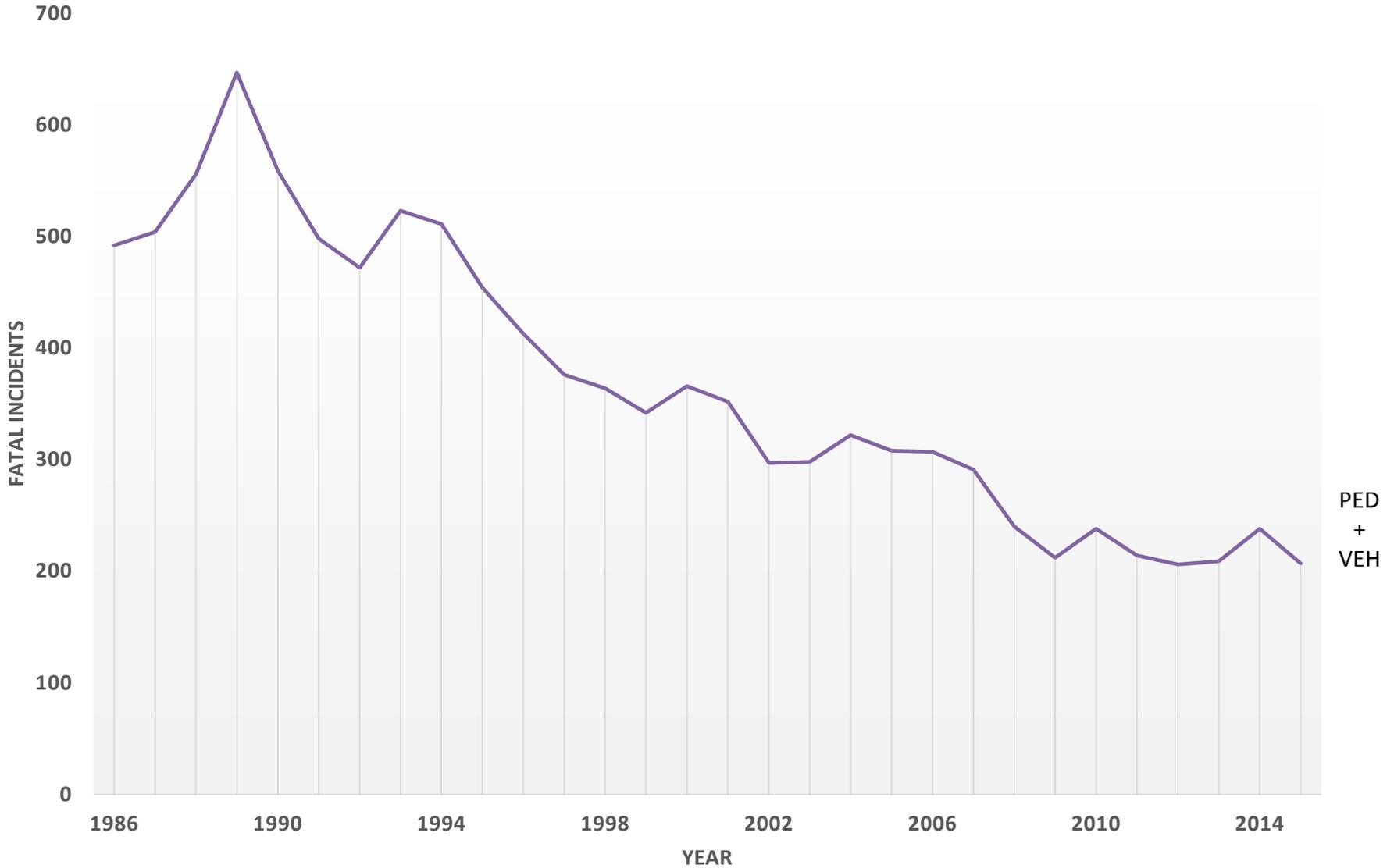
Fatal Incidents at Grade Crossings



Fatal Incidents at Grade Crossings

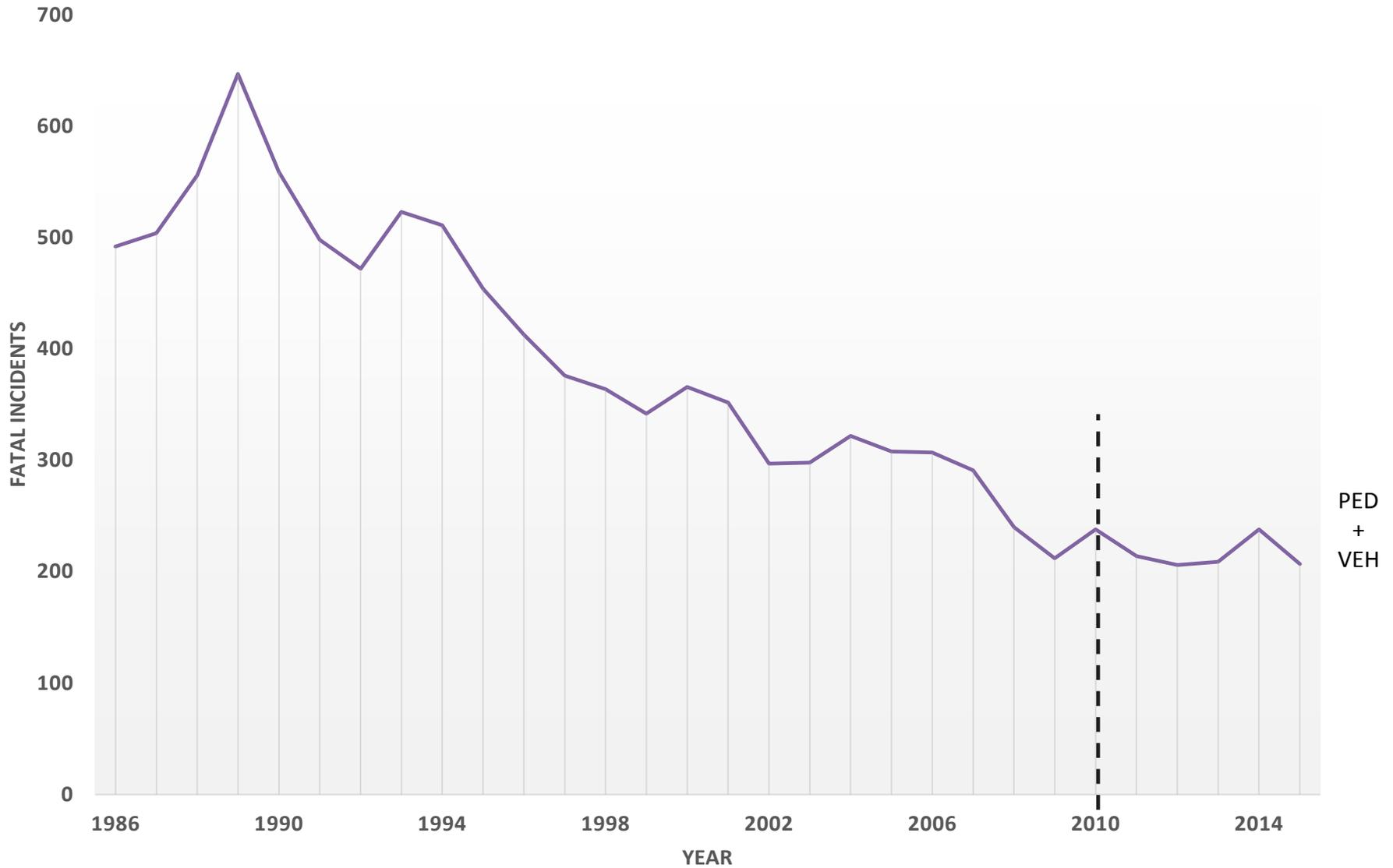


Fatal Incidents at Grade Crossings

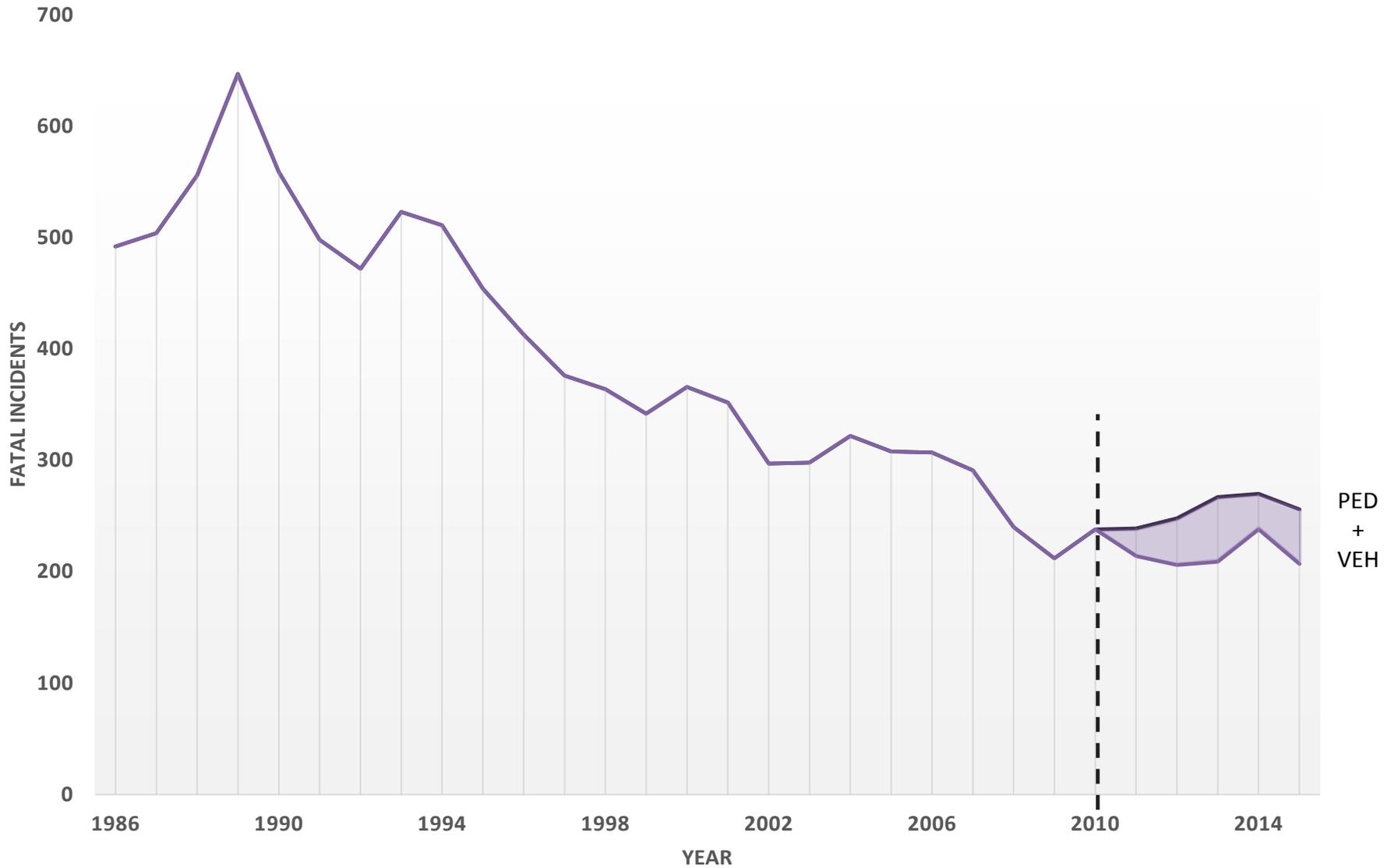


PED
+
VEH

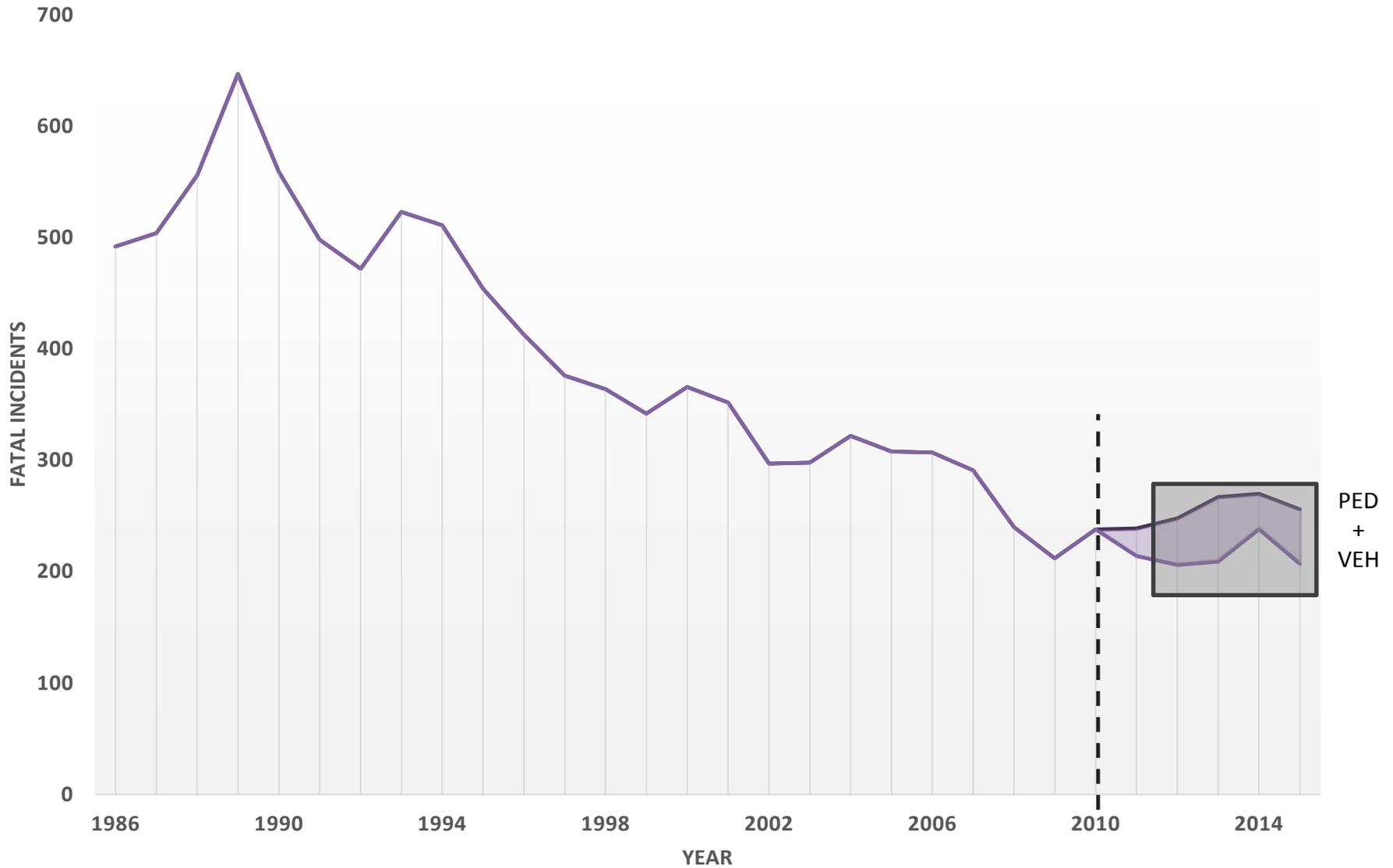
Fatal Incidents at Grade Crossings



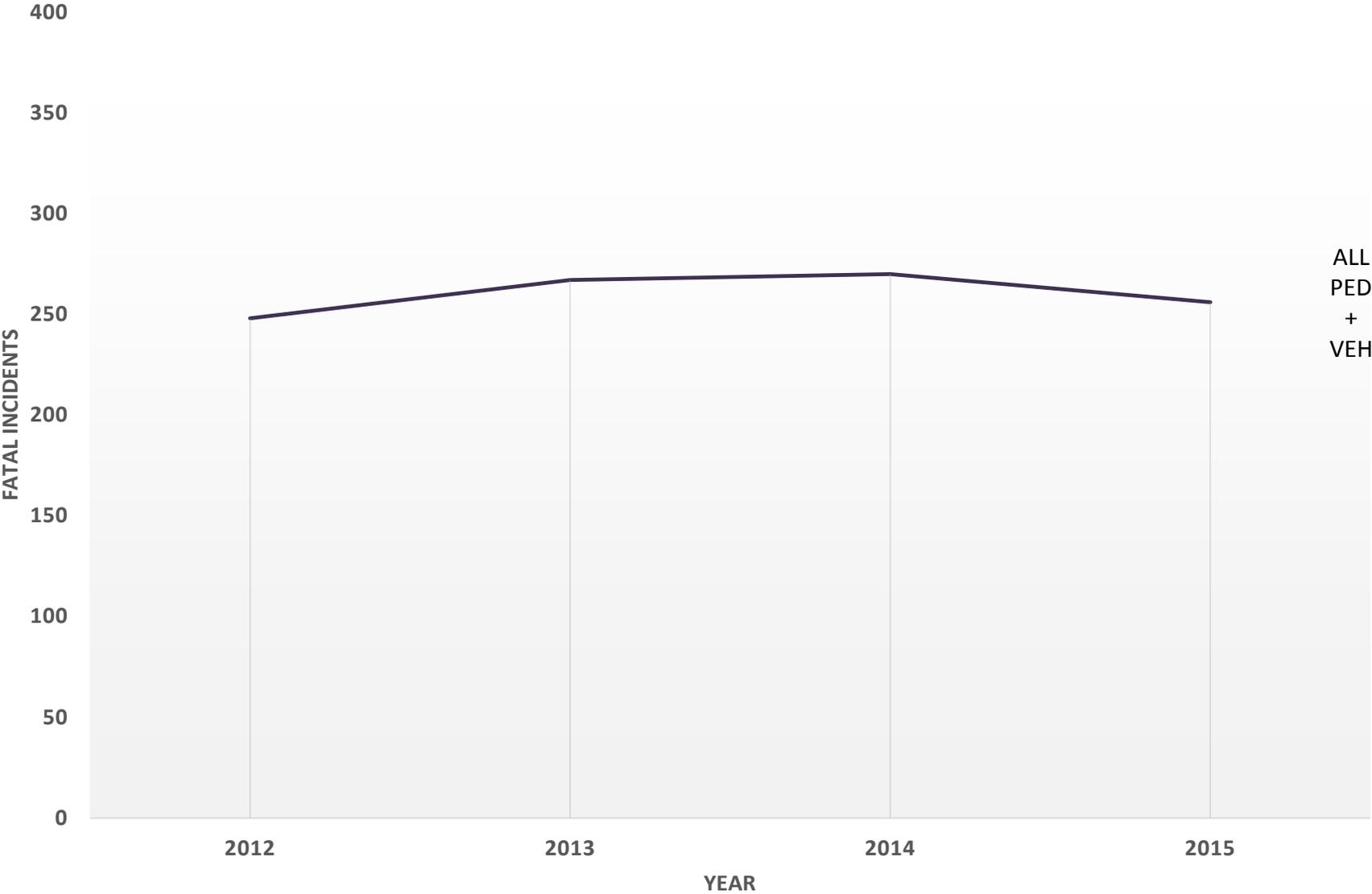
Fatal Incidents at Grade Crossings



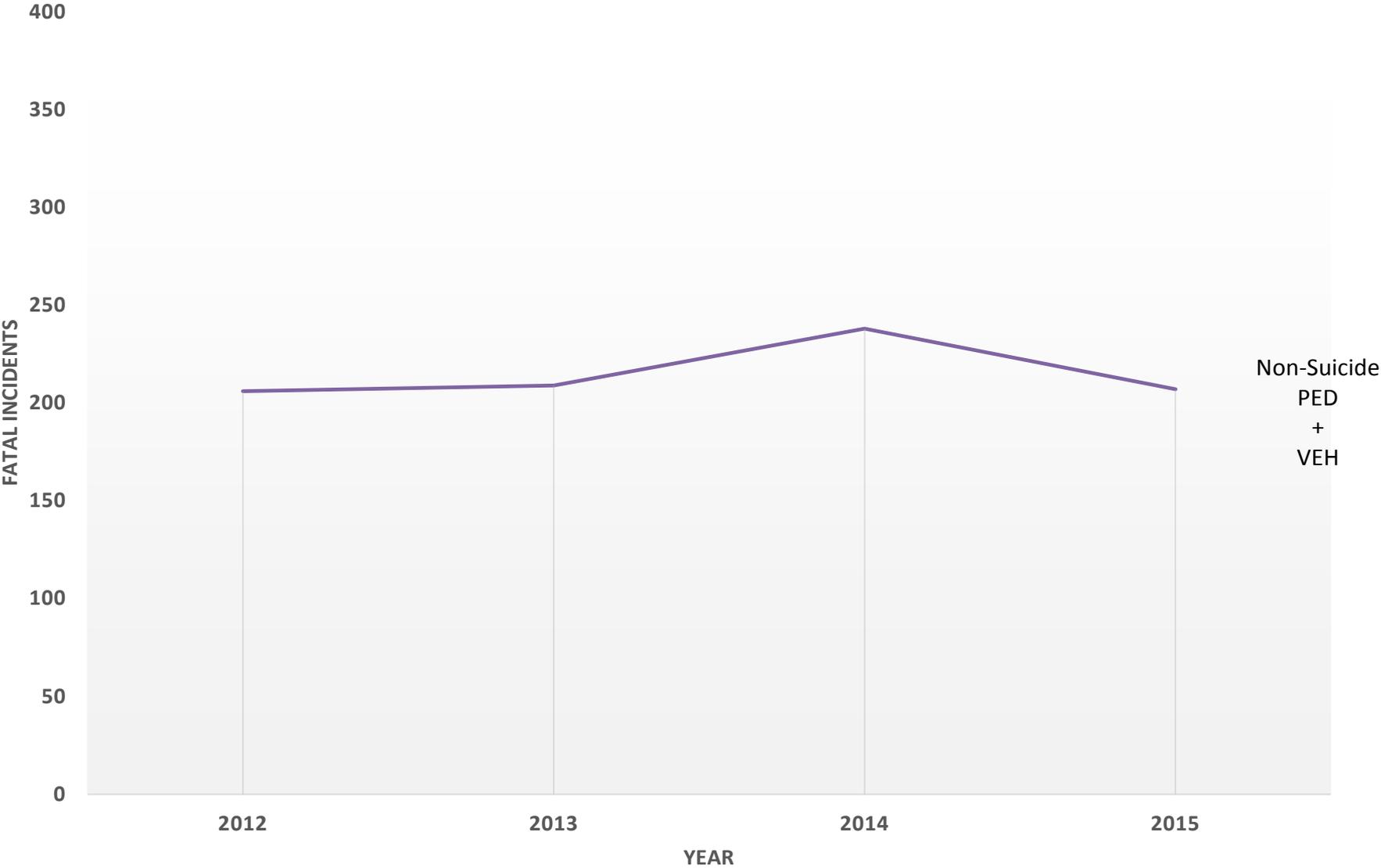
Fatal Incidents at Grade Crossings



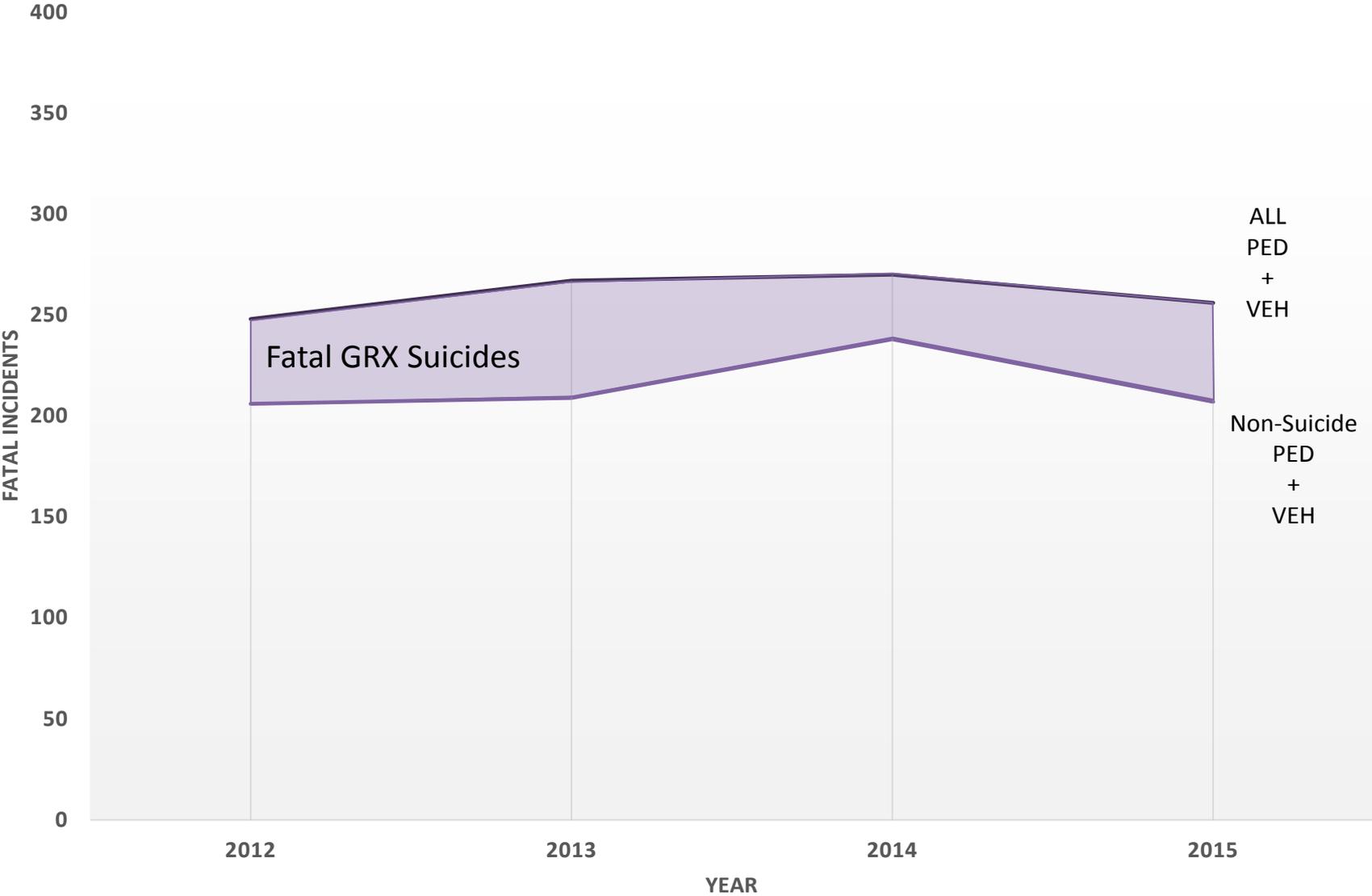
Fatal Incidents at Grade Crossings



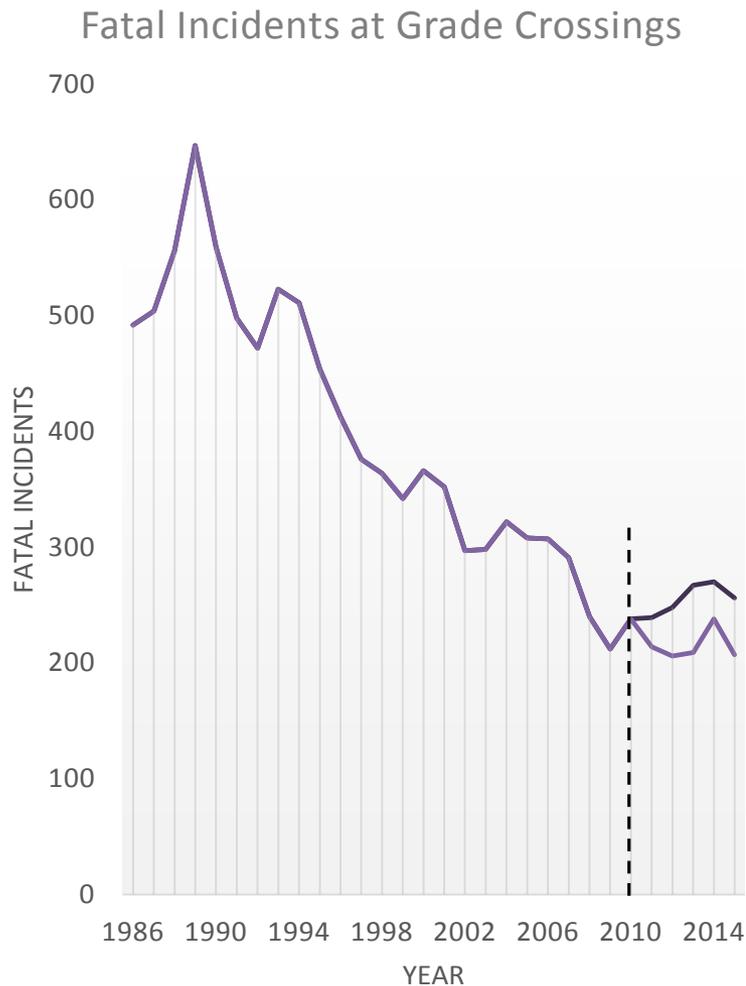
Fatal Incidents at Grade Crossings



Fatal Incidents at Grade Crossings



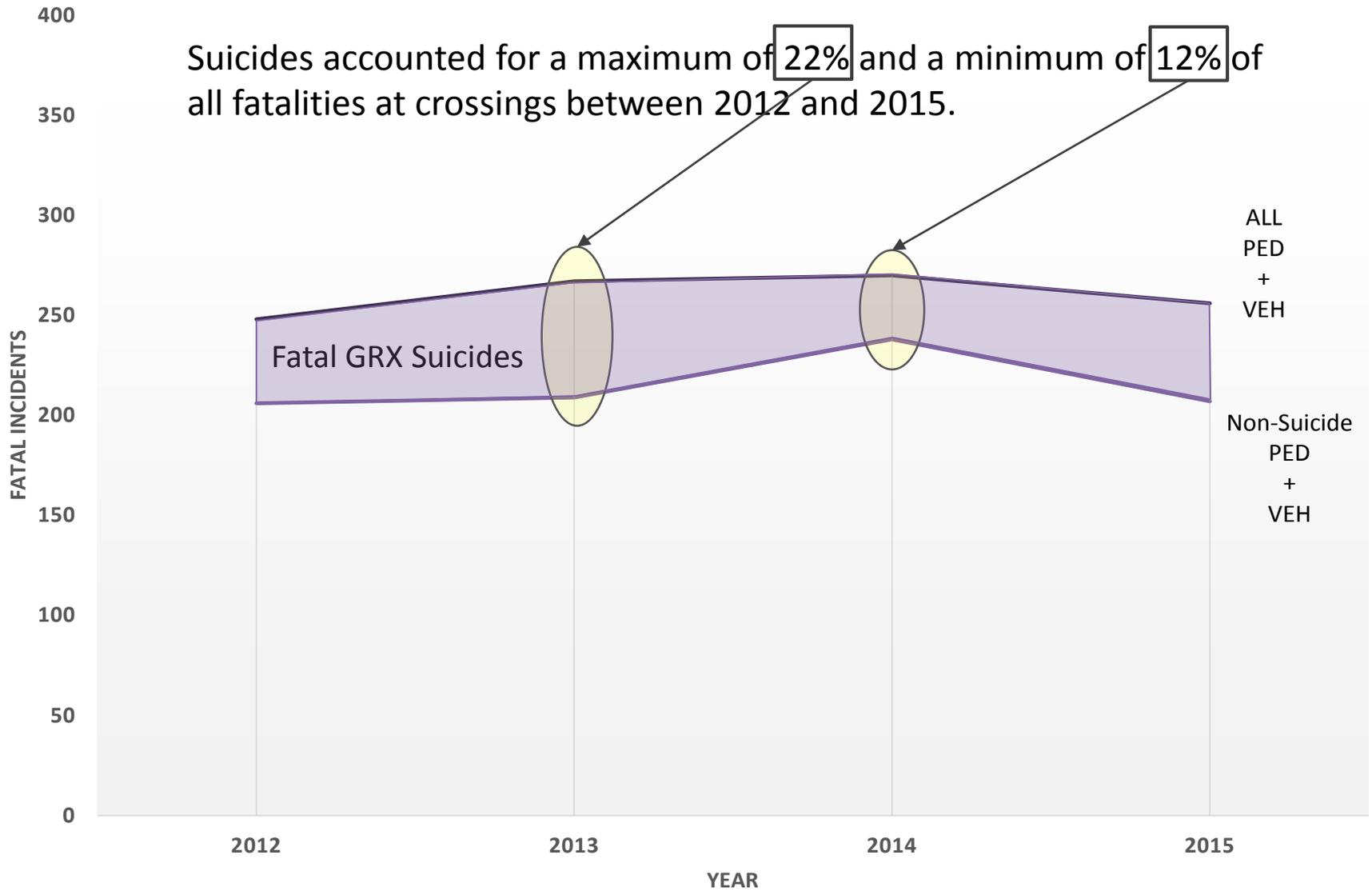
Suicides at Crossings



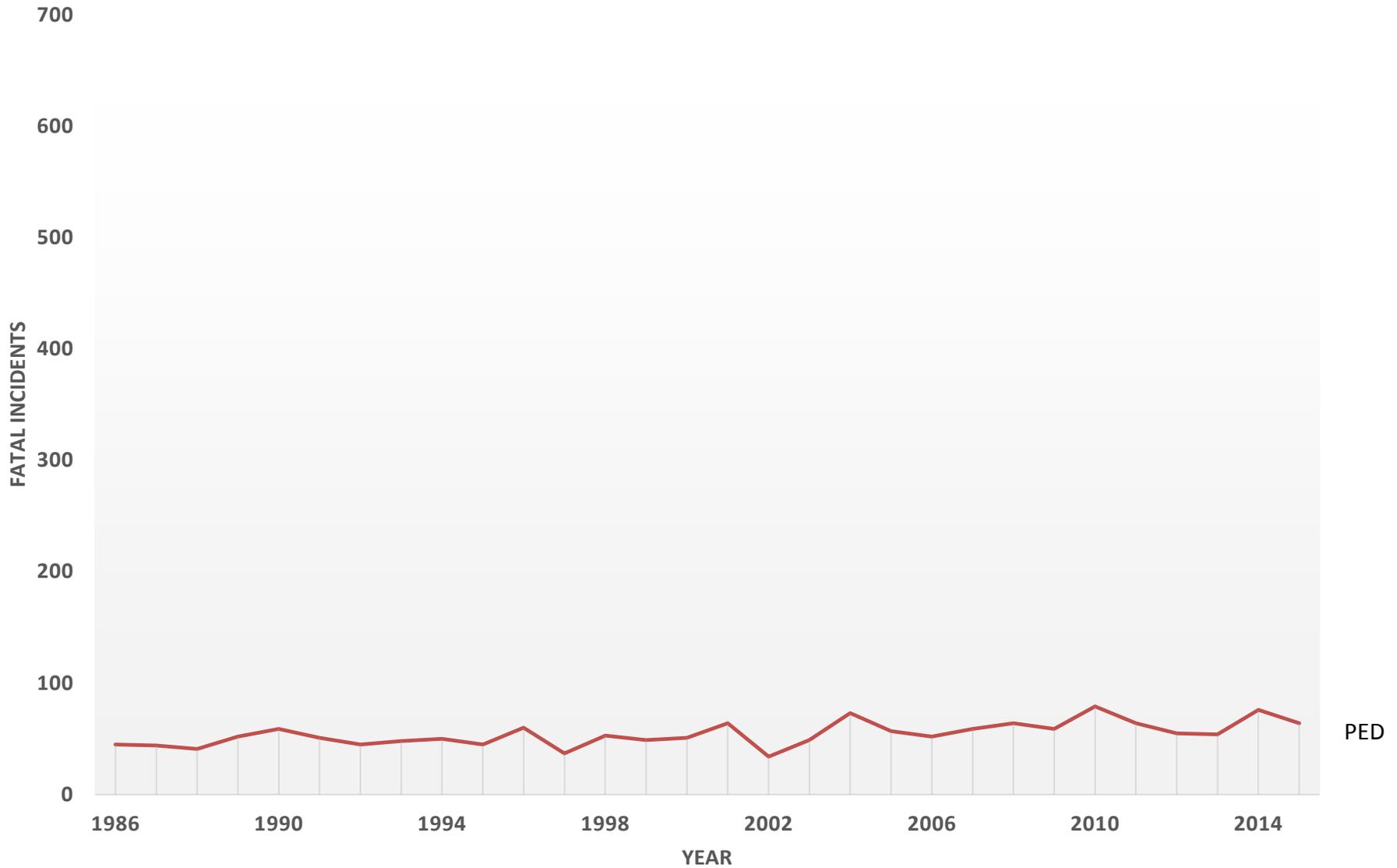
□ Why only from 2012 onward?

- FRA rule change went into effect in June 2011 – mandating that suicides be reported in monthly incident reports
- Data are available for June through December of 2011, but because these are only partial year they may misrepresent annual rates when presented alongside other complete year data

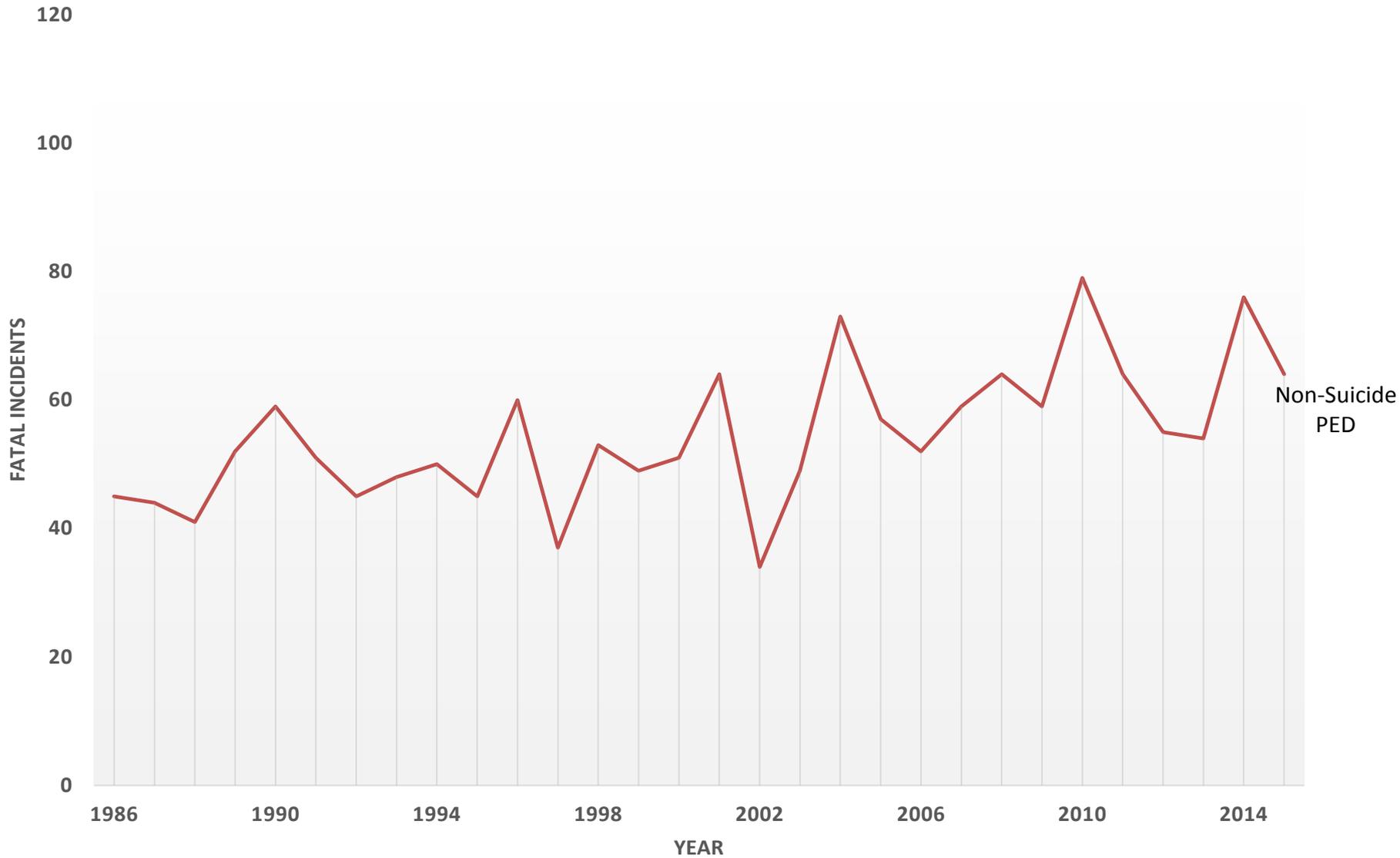
Fatal Incidents at Grade Crossings



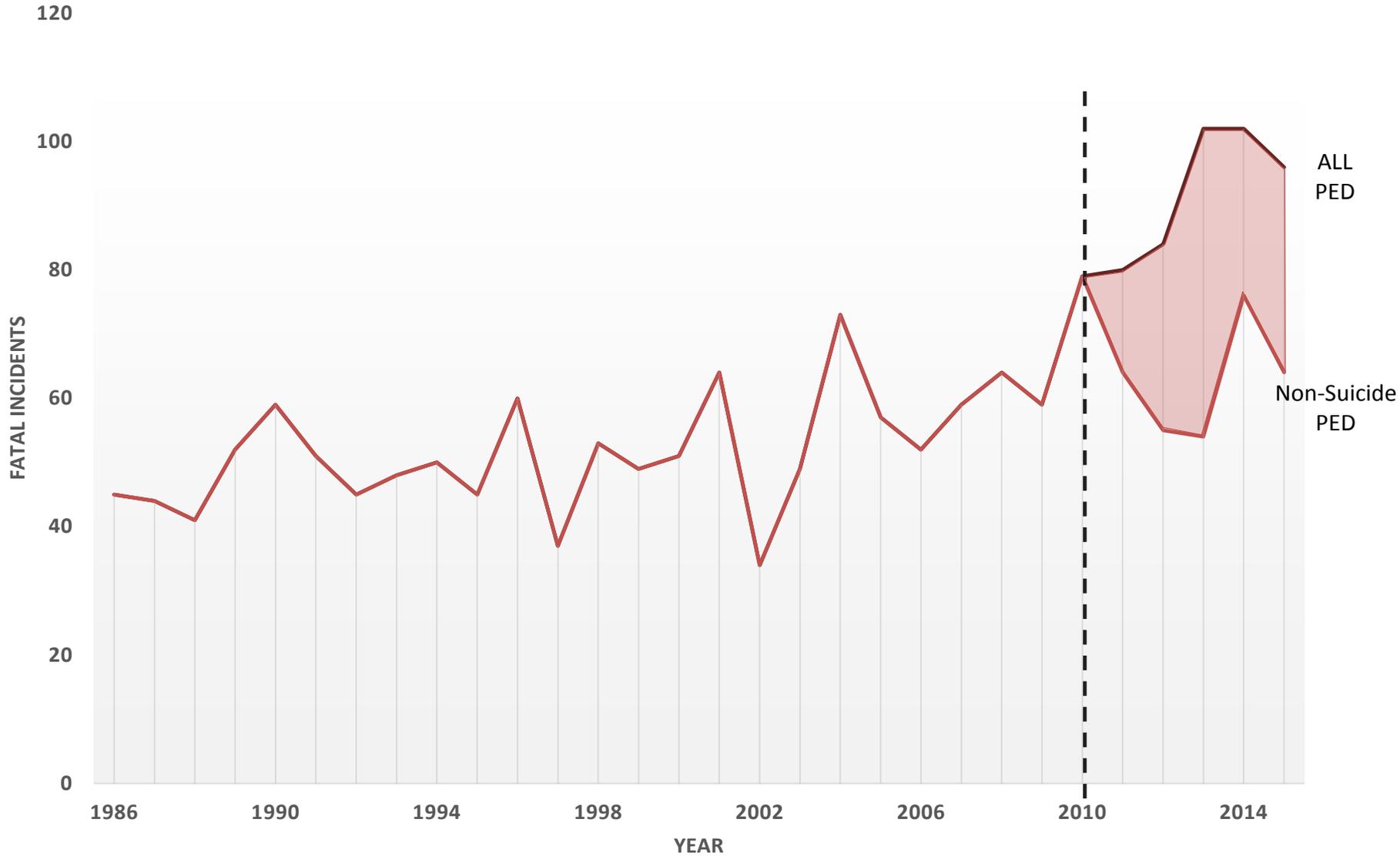
Fatal Incidents at Grade Crossings



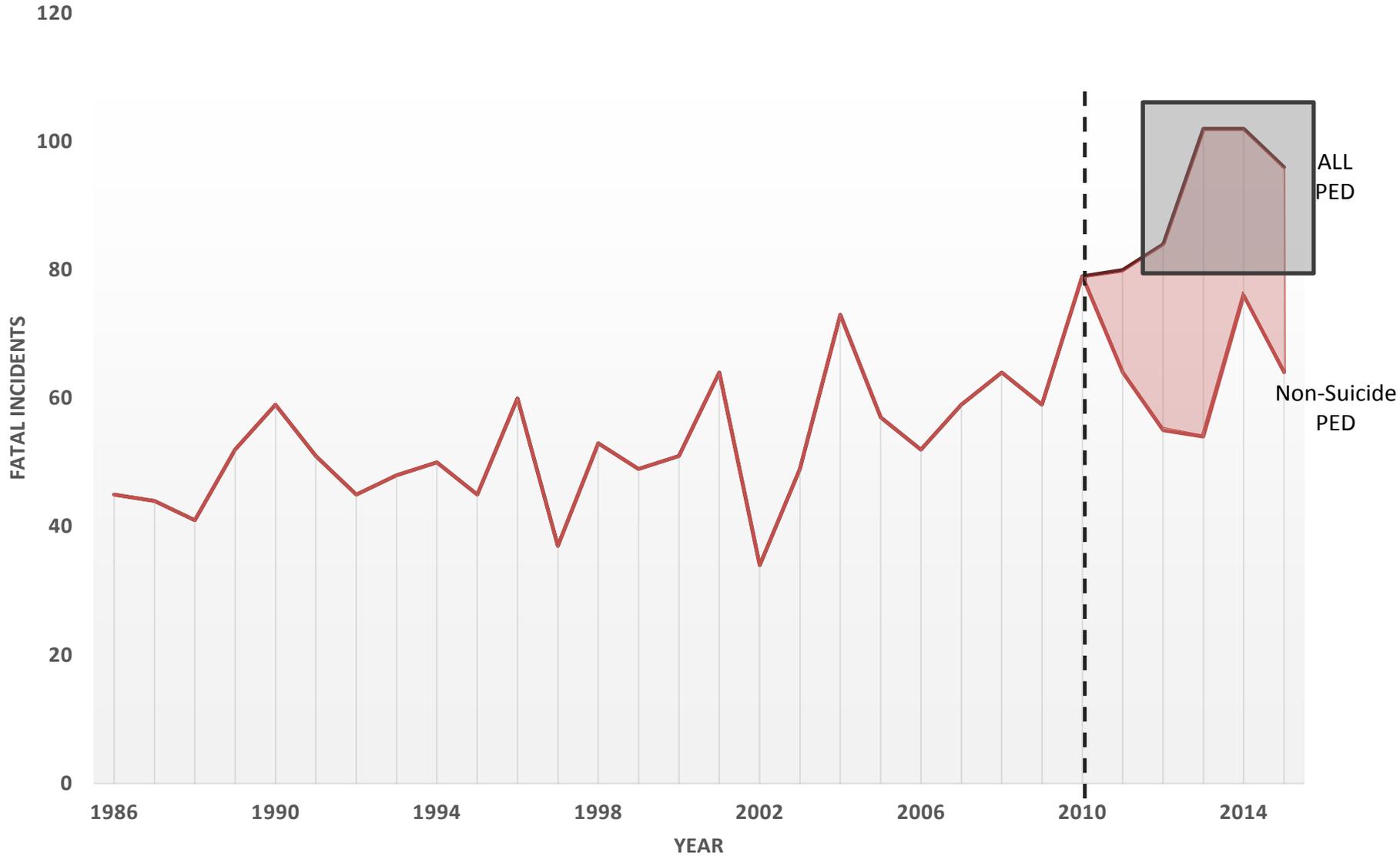
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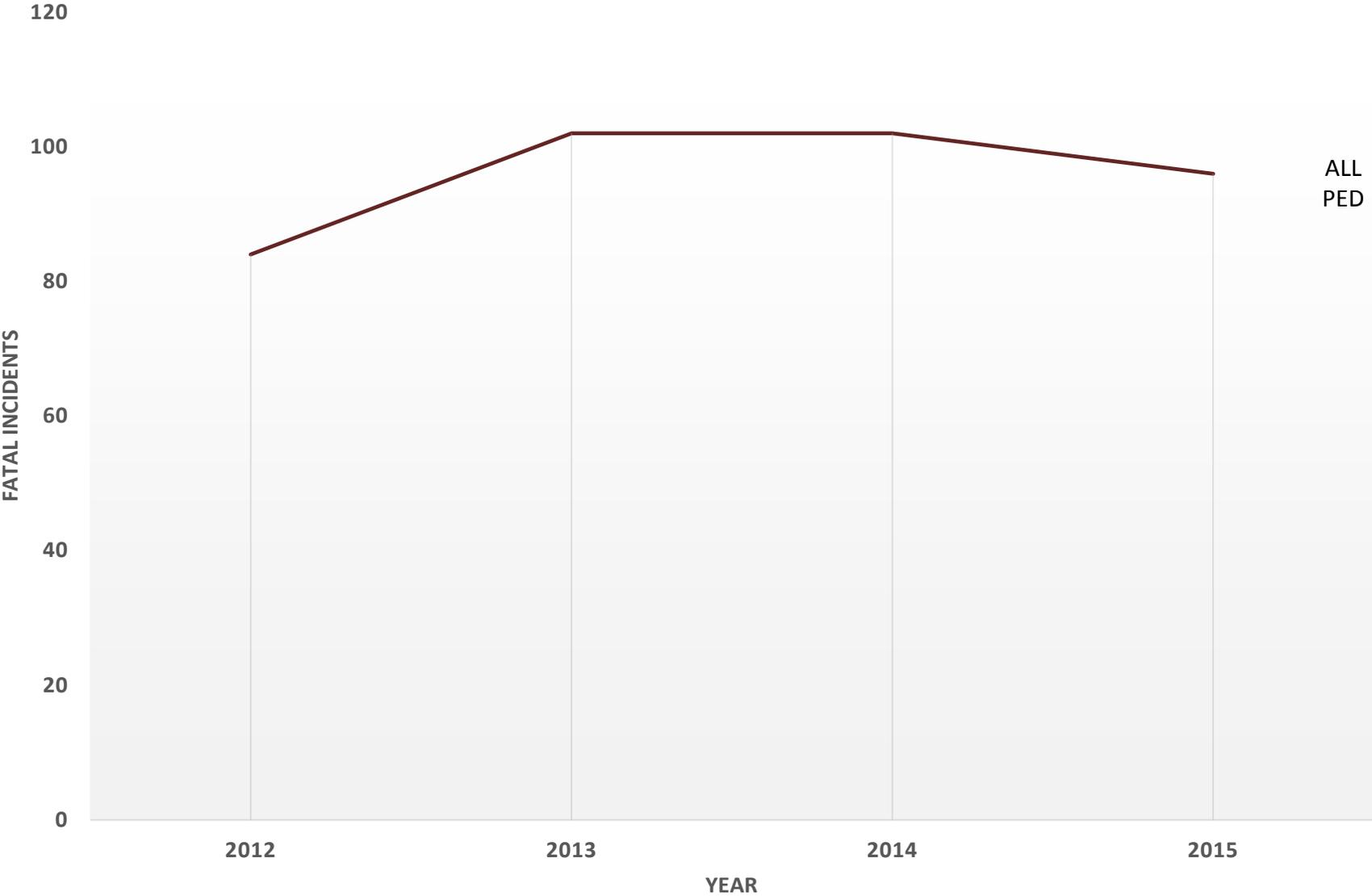
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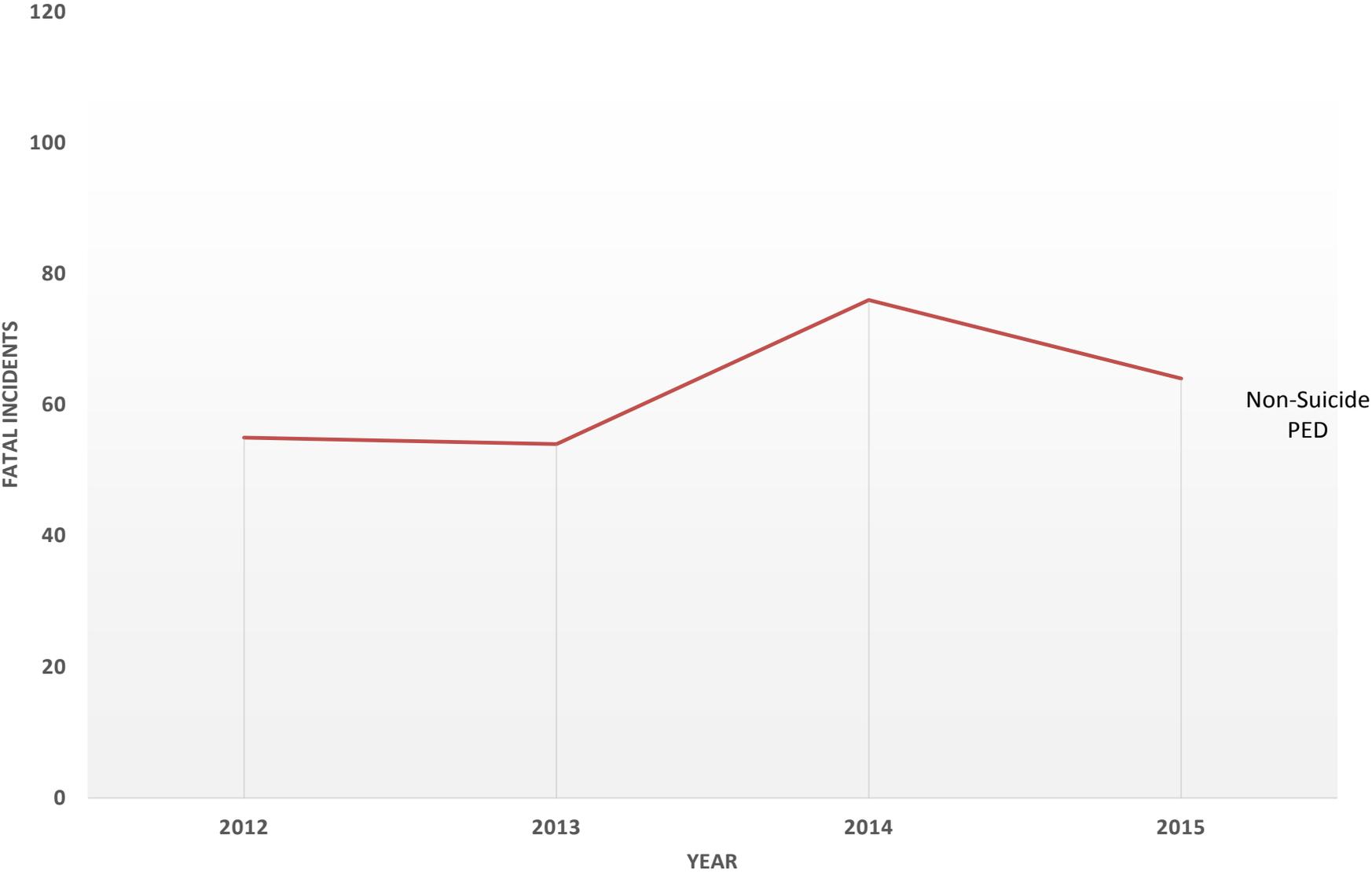
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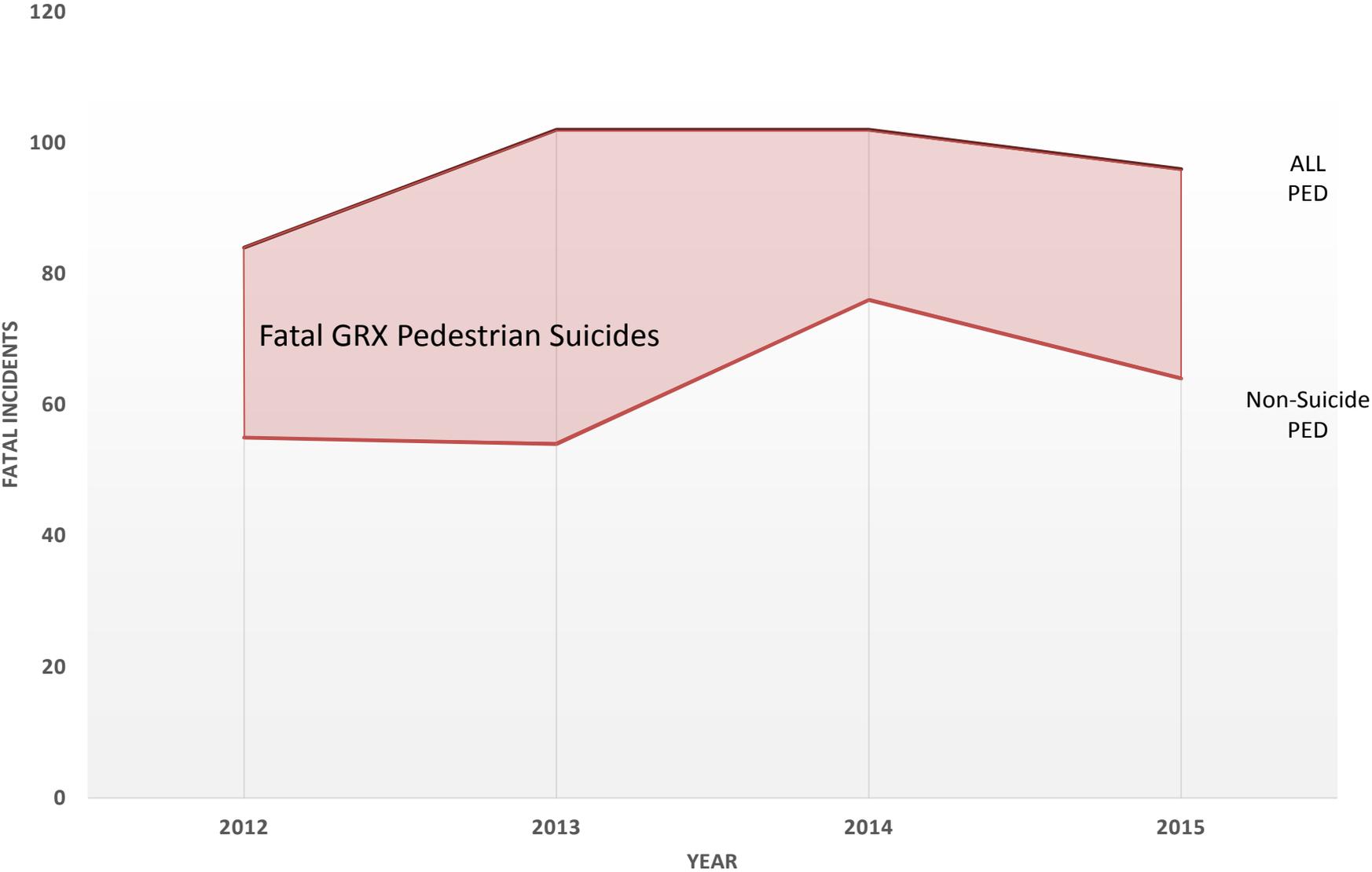
Fatal Incidents at Grade Crossings



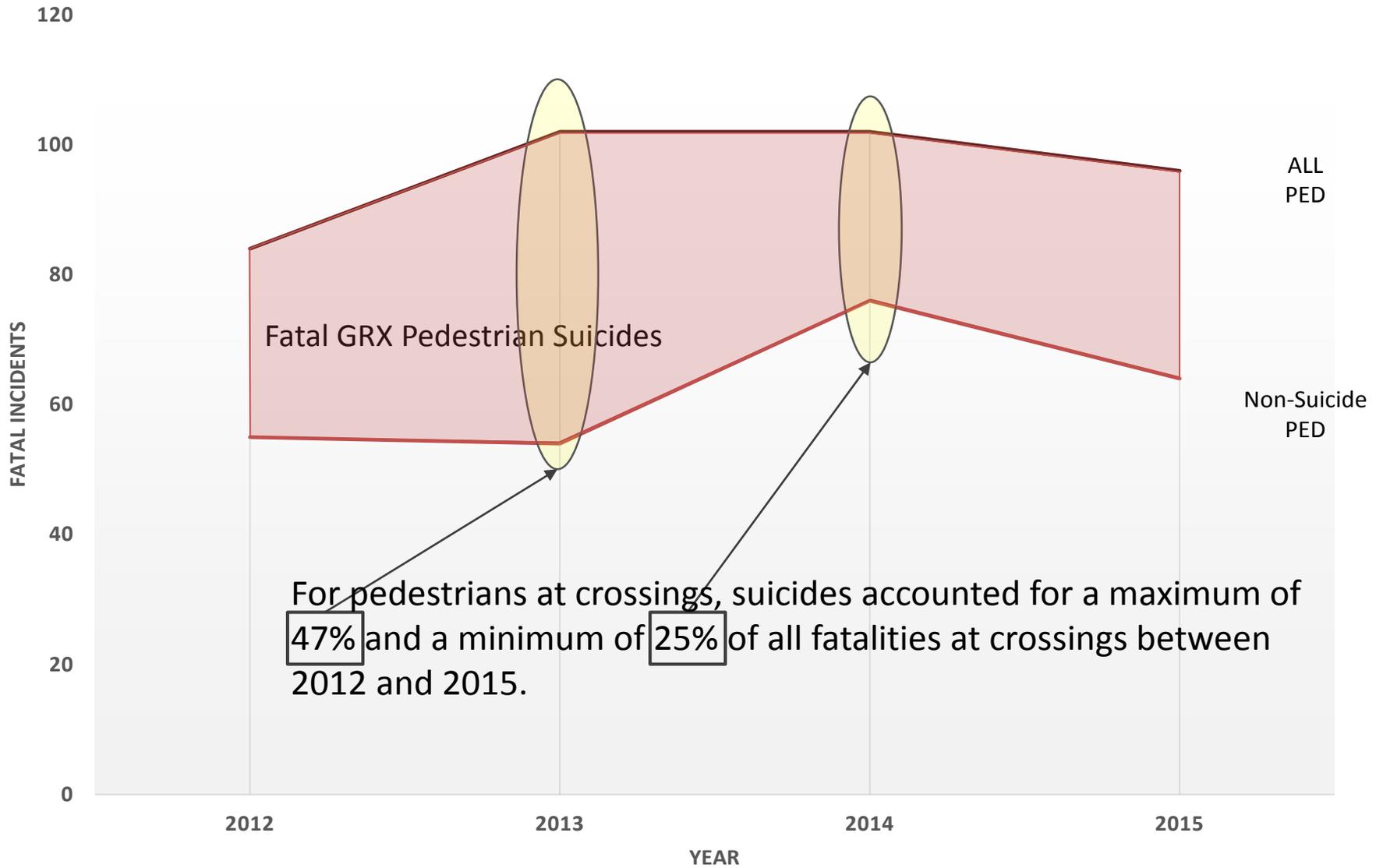
Fatal Incidents at Grade Crossings



Fatal Incidents at Grade Crossings



Fatal Incidents at Grade Crossings



For pedestrians at crossings, suicides accounted for a maximum of 47% and a minimum of 25% of all fatalities at crossings between 2012 and 2015.

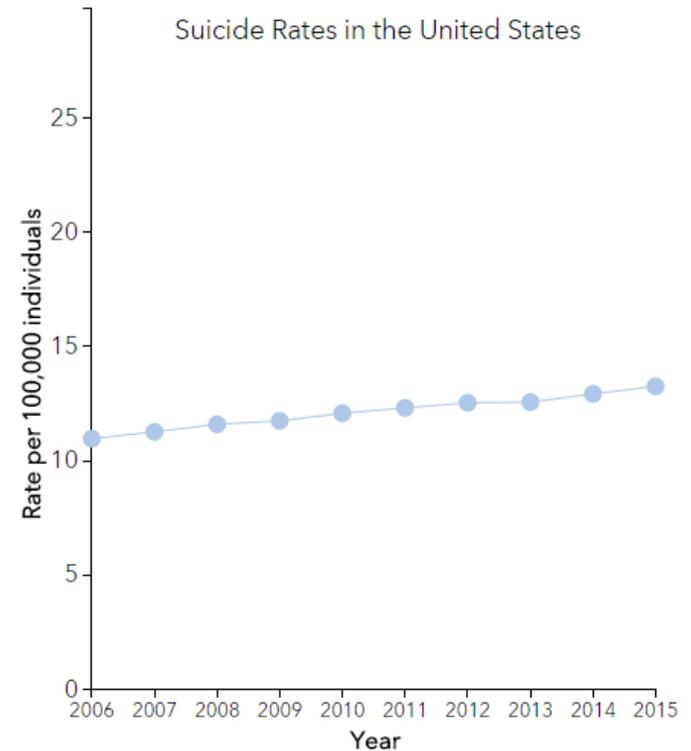
what does this mean?



- ❑ suicides make up a substantial proportion of the problem, at least when considering fatal events
 - as many as a quarter of road users killed at crossings acted intentionally
- ❑ that proportion is even larger when you focus on the road users that have been most resistant to improvements, pedestrians
 - as many as half of pedestrians killed at crossings acted intentionally

what does this mean?

- ❑ the problem is not going away
 - over 44k Americans took their life in 2015
- ❑ shift since 1999 away from firearms
 - while the raw number of firearm suicide deaths is still rising, the rate of use (compared to other methods) has decreased
- ❑ active crossings provide not only warnings to encourage safe behaviors, but also help inform unsafe actions



www.afsp.org

what to do about it

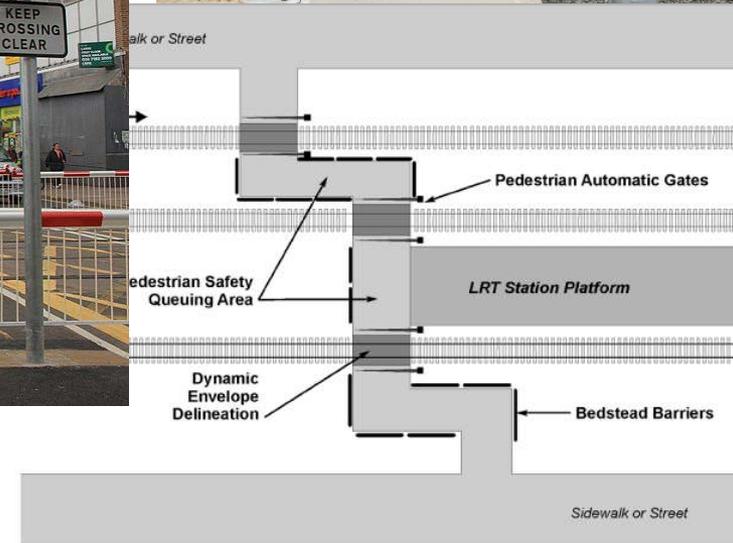
- ❑ prevention efforts focus on:
 - Engineering
 - Education
 - Enforcement

- ❑ most crossing safety enhancements are based on assumptions that humans will perform logically or, at least, in an expected way -- for example,
 - bells/lights/gates tell you to stop and wait for a train
 - education of the law will help you avoid violating it

- ❑ what about actions that are less logical or individuals whose intent subverts these intended safety mechanisms?



pedestrian safety at crossings



❑ not short on ideas

❑ worth investing time/resources on analyses to help inform the effectiveness of these strategies in various settings

pedestrian safety at crossings

- ❑ are there cost neutral solutions that could be common practice for improving pedestrian safety at crossings?
- ❑ do we know how effective the current pedestrian safety enhancements at crossings are?
 - for example, are pedestrian gates as effective on pedestrians as vehicle gates are on vehicles?
- ❑ what crossing characteristics may make a crossing more susceptible to increased pedestrian risk?

FRA/Volpe rail suicide prevention program

www.volpe.dot.gov/rail-suicide-prevention

The screenshot shows the Volpe Center website interface. At the top, the Volpe logo is followed by "The National Transportation Systems Center". To the right are social media icons for email, LinkedIn, Twitter, and YouTube, along with a search bar labeled "Search Volpe site" and radio buttons for "Website" and "Staff Directory". The navigation menu includes "About Us", "Our Work", "Work With Us", "Library", and "News & Events". The breadcrumb trail reads: "Home > Our Work > Safety Management and Human Factors > Surface Transportation Human Factors".

Rail Suicide Prevention Resource Page

The two leading causes of rail-related death in the U.S. have nothing to do with operating or riding in a train. Instead, hundreds of people lose their lives every year on train tracks due to trespassing or suicide.

The [Federal Railroad Administration \(FRA\)](#) has long focused on safety improvements to reduce [grade crossing](#) and [trespass](#) deaths, but suicide was not historically considered alongside those efforts. However, in 2011, FRA began collecting suicide data and actively participating in suicide prevention efforts and studies.

Over the past decade, research from rail suicide prevention experts in Europe, Canada, and Australia has illuminated strategies that can reduce rail suicides.

U.S. DOT's Volpe Center and FRA built on this global research to develop a program with [six focus areas](#) to identify ways to reduce rail suicide.

If you are a researcher or rail representative who wants to get involved or get more information, please contact [Scott Gabree, PhD](#), or [Stephanie Chase, PhD](#).

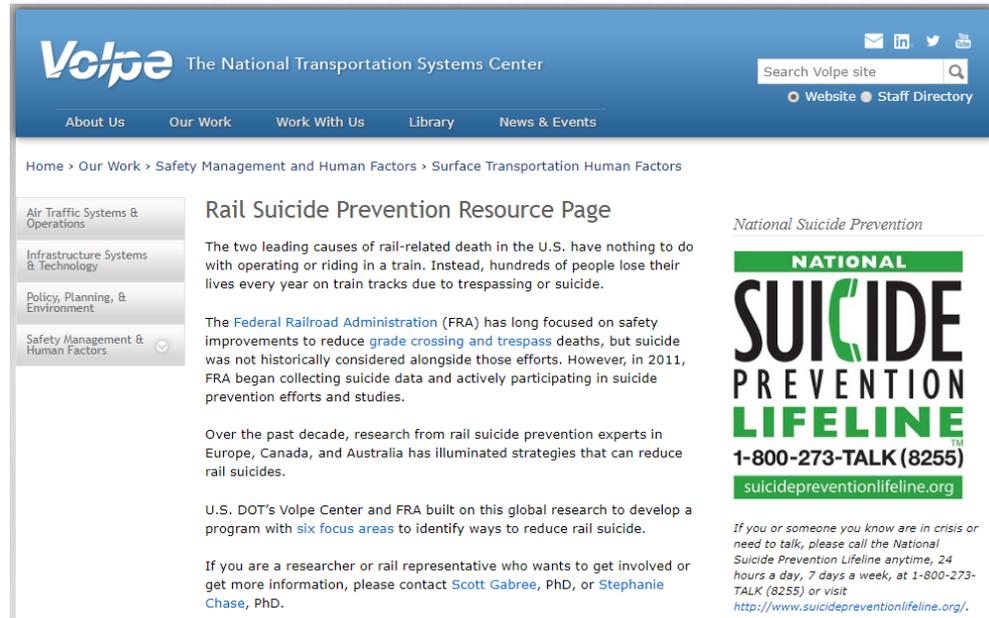
National Suicide Prevention

NATIONAL SUICIDE PREVENTION LIFELINE
1-800-273-TALK (8255)
suicidepreventionlifeline.org

If you or someone you know are in crisis or need to talk, please call the National Suicide Prevention Lifeline anytime, 24 hours a day, 7 days a week, at 1-800-273-TALK (8255) or visit <http://www.suicidepreventionlifeline.org/>.

core program

- ❑ GRASP
- ❑ Media Reporting
- ❑ Countermeasure Pilot Testing
- ❑ Intent Determination
- ❑ Prevalence/Demographics
- ❑ GIS Mapping



The screenshot shows the Volpe Center website, "The National Transportation Systems Center". The page is titled "Rail Suicide Prevention Resource Page". The main content discusses the two leading causes of rail-related death in the U.S. (operating or riding in a train) and mentions that hundreds of people lose their lives every year on train tracks due to trespassing or suicide. It notes that the Federal Railroad Administration (FRA) has long focused on safety improvements to reduce grade crossing and trespass deaths, but suicide was not historically considered alongside those efforts. However, in 2011, FRA began collecting suicide data and actively participating in suicide prevention efforts and studies. The text also mentions that research from rail suicide prevention experts in Europe, Canada, and Australia has illuminated strategies that can reduce rail suicides. Finally, it states that U.S. DOT's Volpe Center and FRA built on this global research to develop a program with six focus areas to identify ways to reduce rail suicide. A sidebar on the left lists navigation options: Air Traffic Systems & Operations, Infrastructure Systems & Technology, Policy, Planning, & Environment, and Safety Management & Human Factors (which is selected). A sidebar on the right features the National Suicide Prevention Lifeline logo and contact information: 1-800-273-TALK (8255) and suicidepreventionlifeline.org. A small text block at the bottom of the sidebar provides crisis support information.

Volpe The National Transportation Systems Center

Search Volpe site

Website ● Staff Directory

About Us Our Work Work With Us Library News & Events

Home > Our Work > Safety Management and Human Factors > Surface Transportation Human Factors

Air Traffic Systems & Operations

Infrastructure Systems & Technology

Policy, Planning, & Environment

Safety Management & Human Factors

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GRASP

- ❑ Global Railway Alliance for Suicide Prevention
- ❑ international working group to expand collaboration and knowledge about rail suicide prevention



media reporting

- ❑ media may encourage *contagious* suicide activity
- ❑ responsible discussion of suicide incidents may improve suicide rates
- ❑ evidence, in some cases, that describing a specific crossing may increase odds of a future incident at that crossing



countermeasure pilot testing

- ❑ Countermeasure Pilot Testing
- ❑ only current pilot is on a signage campaign to advertise the Samaritans helpline in the Boston area
- ❑ however, other crossing based countermeasures are in place elsewhere



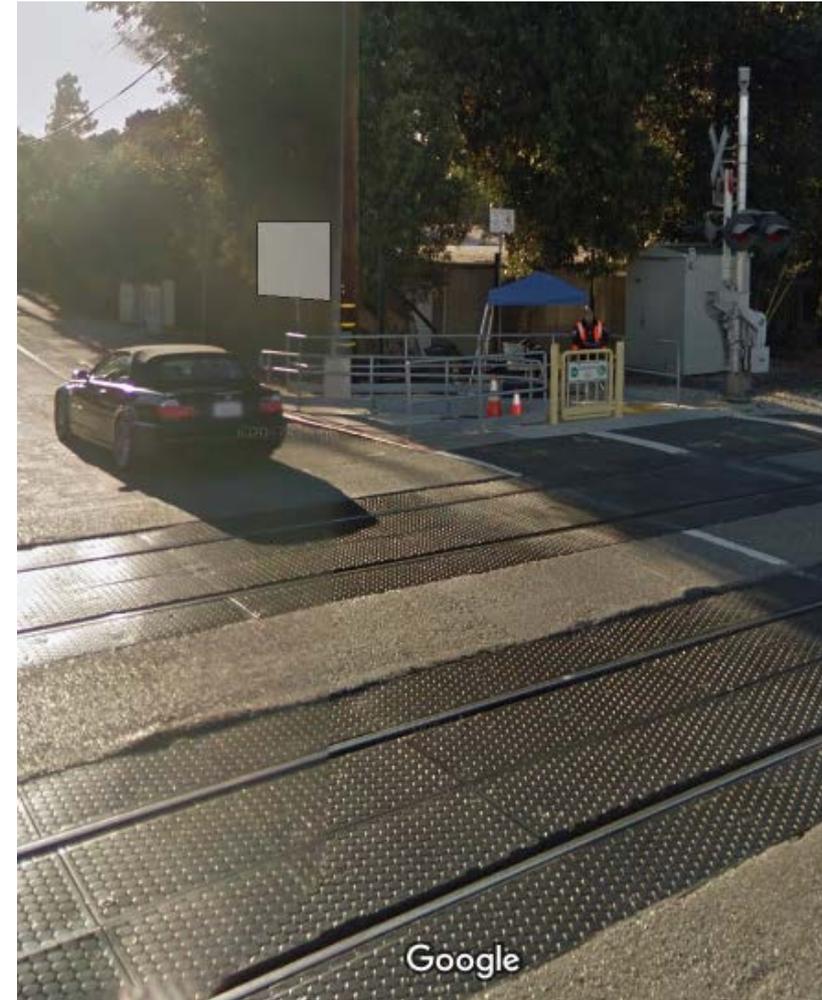
other US effort

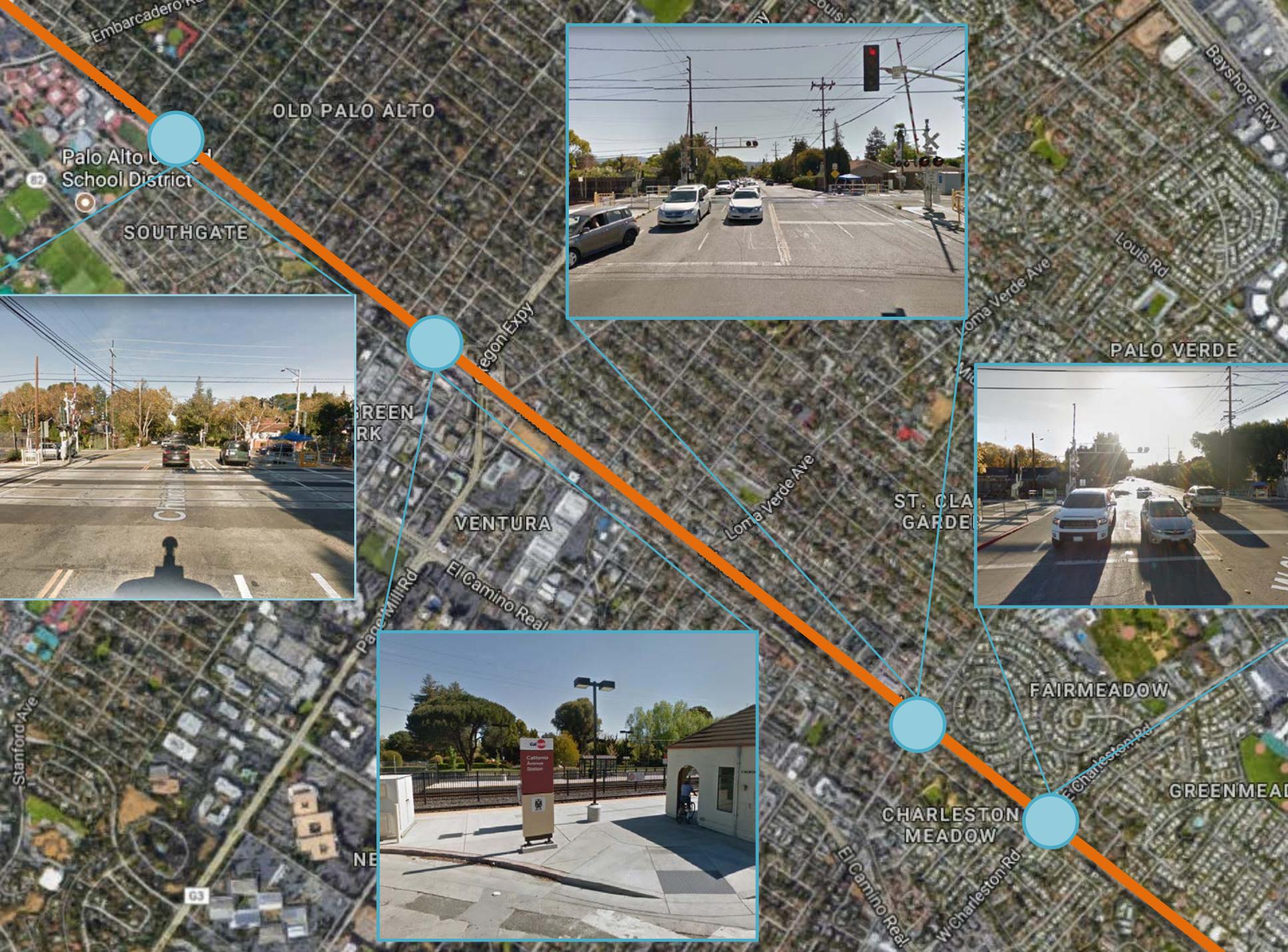
- ❑ Project Safety Net (Palo Alto, CA)
 - Palo Alto experienced two recent suicide clusters in 2009 and 2015
 - this has prompted the city to form a coalition to address this issue
 - includes upstream efforts focused on mental health and school stress, but also rail-specific measures



other US effort

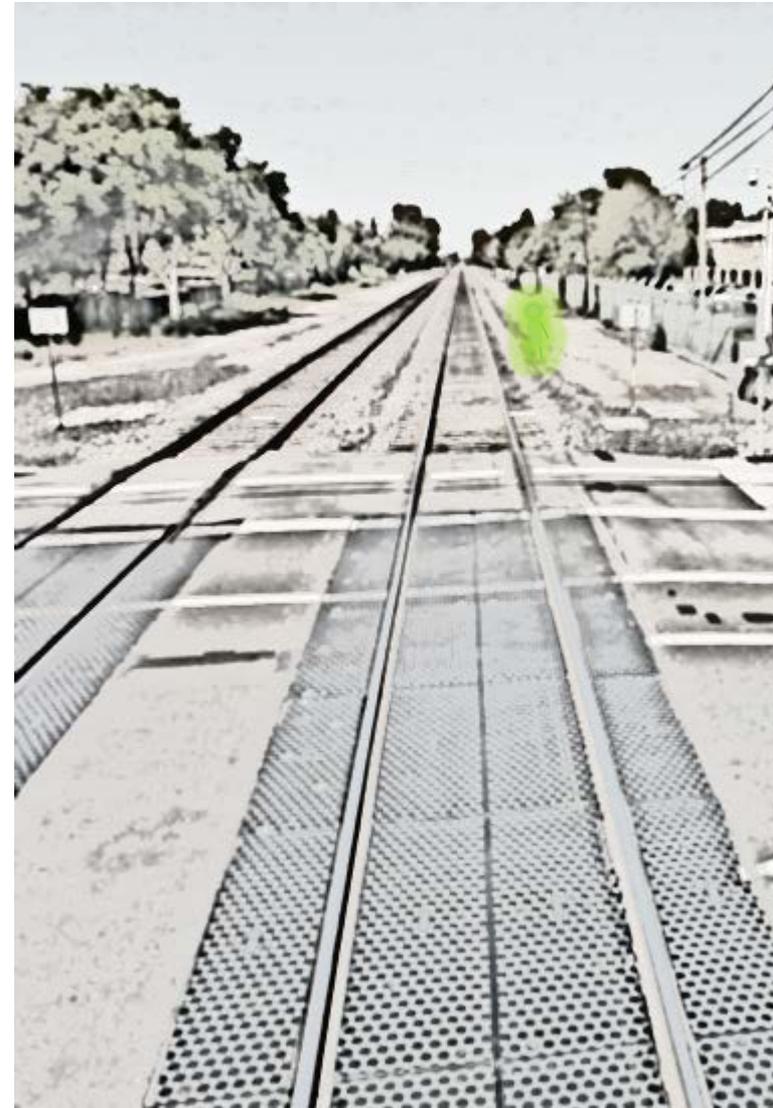
- ❑ Project Safety Net (Palo Alto, CA)
 - **Track Watch** – Palo Alto hired individuals to serve as Track Watch monitors
 - initially all volunteer, but shifted to paid security detail in 2009
 - initially only 2 locations and only evening hour watches – now expanded to 4 locations and 24 hrs/day
 - monitor the track, providing a presence, and contacting local police, as necessary





other US effort

- ❑ Project Safety Net (Palo Alto, CA)
 - **Intrusion Detection System (IDS)** – automating the surveillance of the track near particular hotspots
 - use infrared technology to detect individuals who are on restricted areas of track
 - capable of covering 1000ft in either direction from a crossing and distinguish between humans and other objects



*mock-up image – detailed images of real system currently unavailable

where to go from here...

- ❑ maintain the already effective strategies that have helped achieve current successes, BUT
 - don't forget about pedestrians and suicides – these issues are not going away and data show they're only getting worse
- ❑ in areas where pedestrian and suicide incidents are common, consider motivations of these groups in mitigation development
- ❑ partner with others who may know the issues of the community or specific population subsets
- ❑ monitor and evaluate impact – share findings

thank you!

Scott H. Gabree, Ph.D.

Volpe National Transportation Systems Center
Surface Transportation Human Factors Division

Scott.Gabree@dot.gov

617-494-2530

www.volpe.dot.gov/rail-suicide-prevention

