



Strategies for Deterring Trespassing along Railroad Rights-of-Way

19th Annual Southwestern Rail Conference
April 3, 2023
Jeff Warner

What is Rail Trespassing?

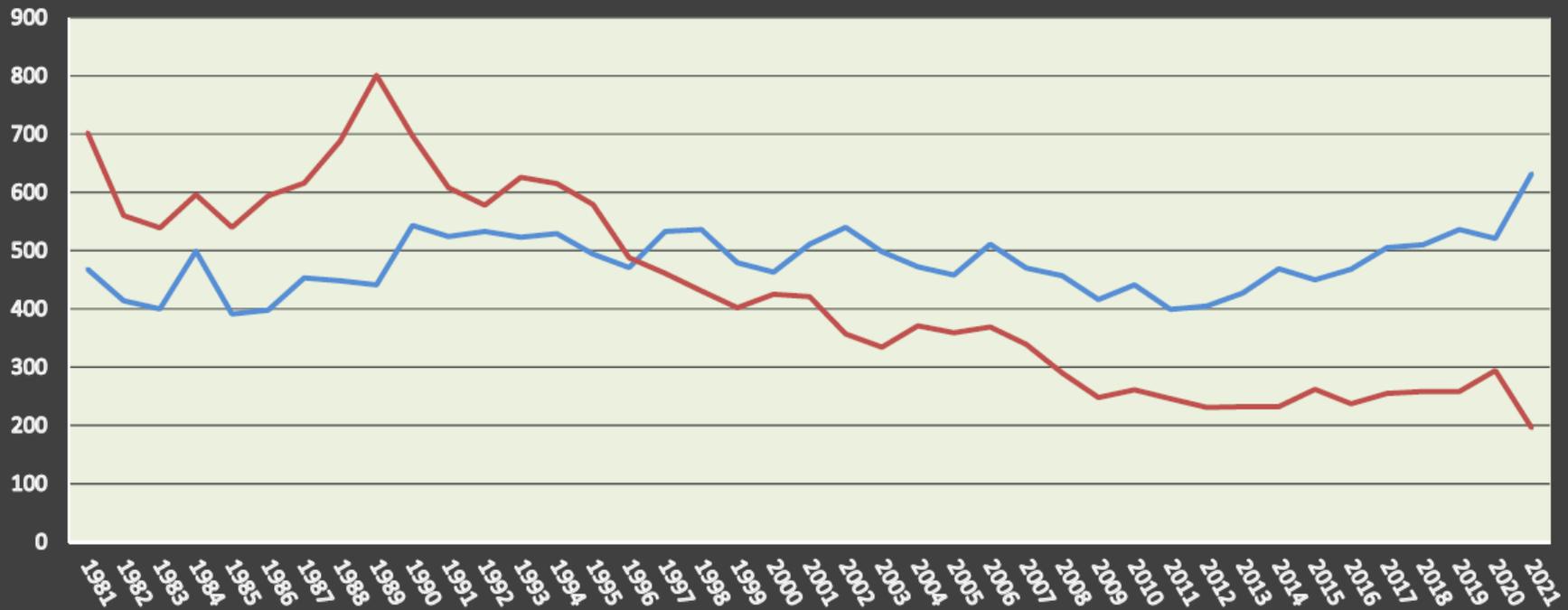
- There's a surprising (or not surprising) number of official definitions
 - FRA – “Trespasser is someone who is on the part of railroad property used in railroad operation and whose presence is prohibited, forbidden, or unlawful.”
 - FTA – “Trespasser is a person in an area of transit property not intended for public use (i.e., an unauthorized area).”
- Trespassing also includes suicide attempts



How Bad is Trespassing?

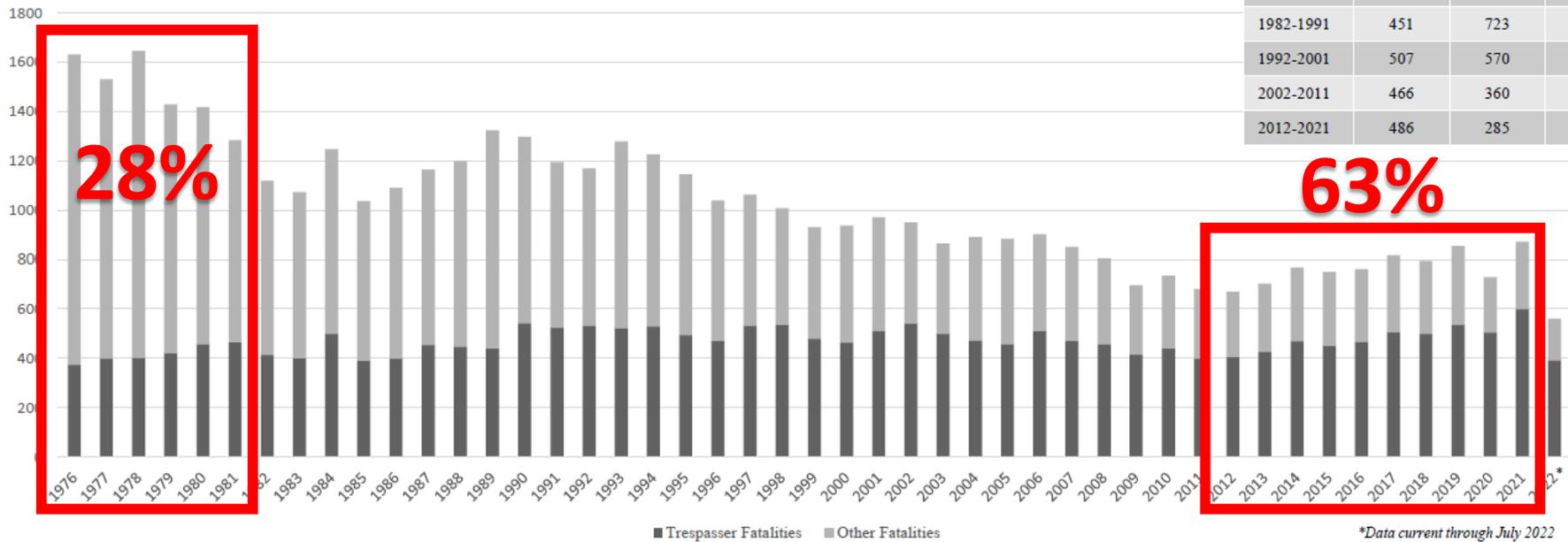
Grade Crossing Fatalities V. Trespass Fatalities

Trespass Fatalities FRA 2.07 GX Fatalities FRA 2.08



How Bad is Trespassing?

Figure 1. Reported U.S. Rail Incident Fatalities over Time (FRA 1976-2022)

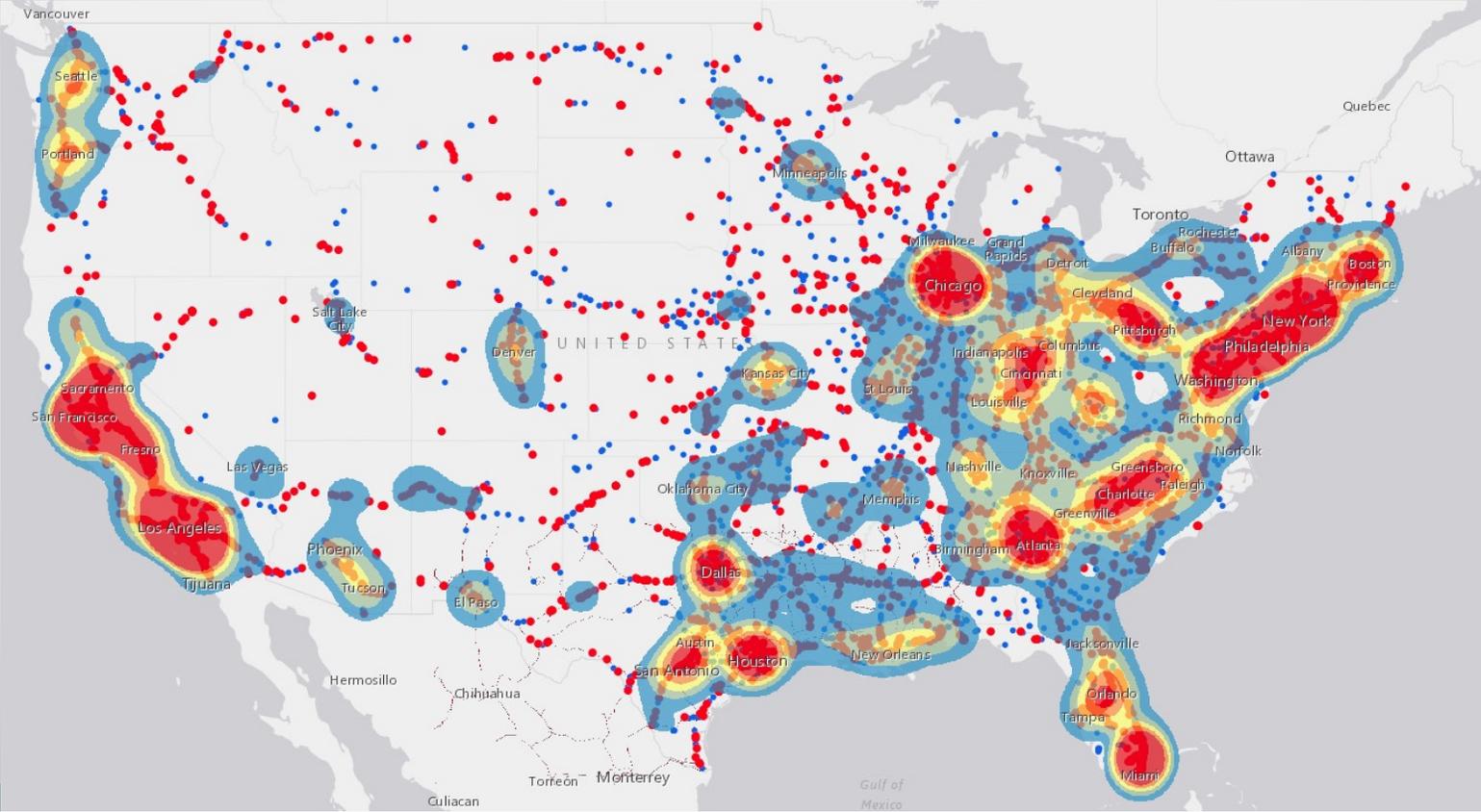


Annual Average Occurrence per Time Period

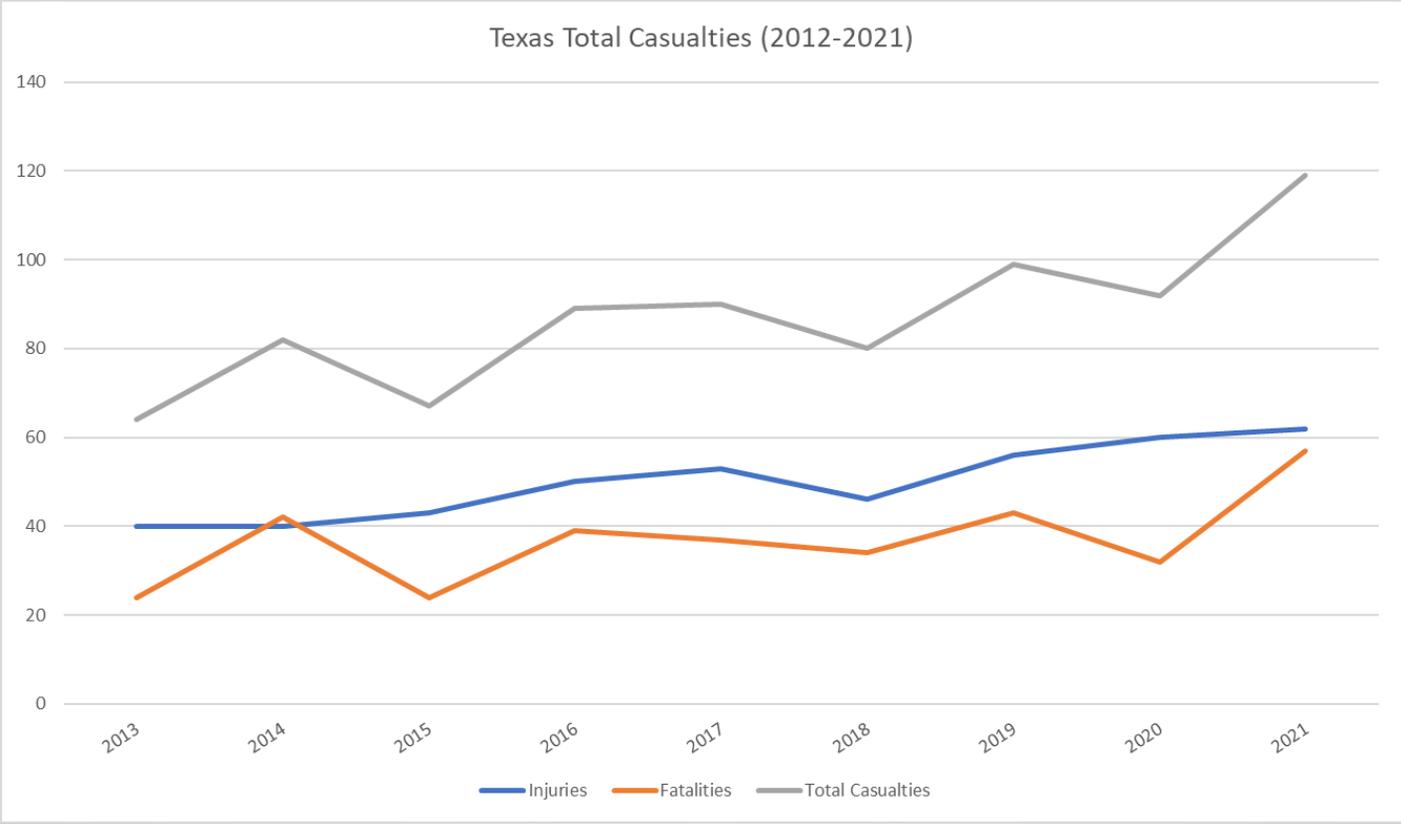
Time Period	Trespass Fatalities	Other Fatalities	Total Fatalities
1976-1981	419	1,069	1,489
1982-1991	451	723	1,174
1992-2001	507	570	1,077
2002-2011	466	360	826
2012-2021	486	285	771

*Data current through July 2022

How Bad is Trespassing?

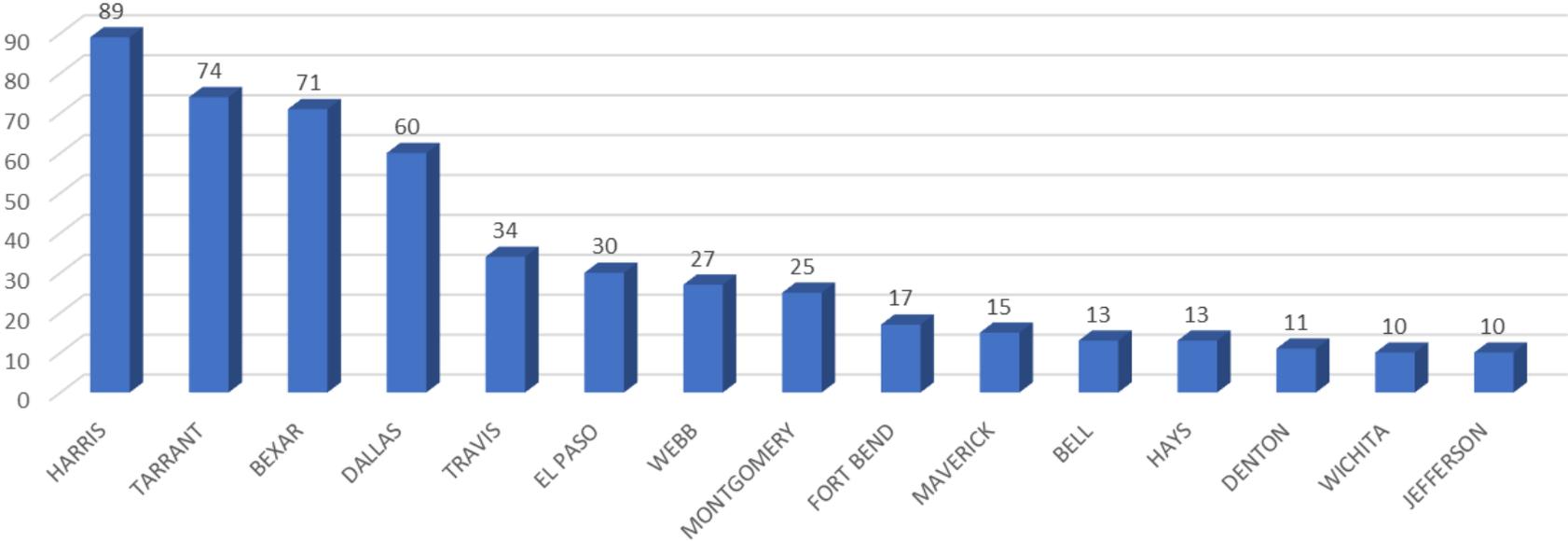


How Bad is Trespassing in Texas?



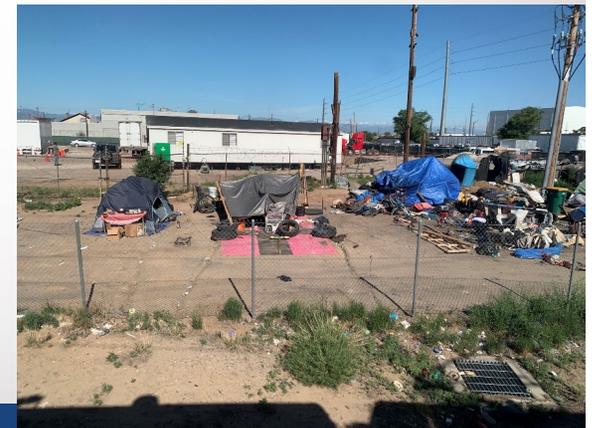
How Bad is Trespassing in Texas?

Texas Top 15 Counties (Casualties 2012-2021)



Why Are People Trespassing?

- Living/loitering in the rail right-of-way (homeless encampments)
- Shortcut/route convenience
- Criminal behavior
- Dropped/lost items
- Recreational activities, such as hiking or fishing
- Intoxication
- Distraction
- Self-harm intent
- Photography and selfies

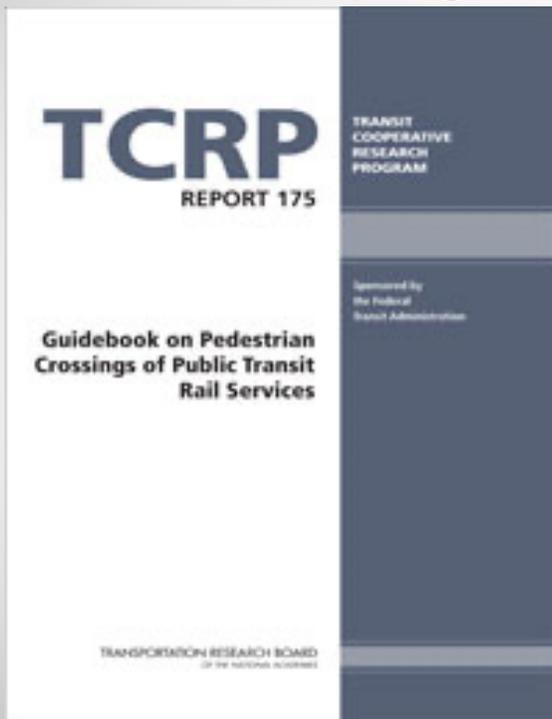


Where Are They Trespassing?

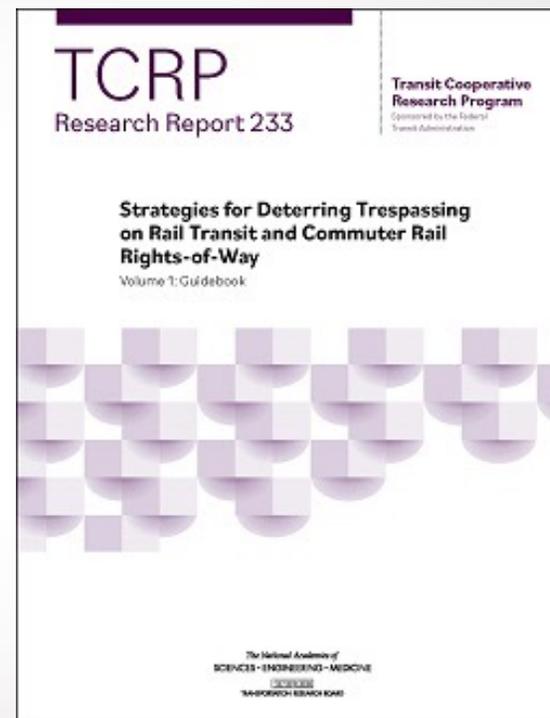
- Grade crossings
- Stations and platforms
- Along rights-of-way
- Equipment and maintenance yards
- Bridges



What Can Be Done to Mitigate Trespassing?



<https://www.trb.org/Main/Blurbs/172320.aspx>



<https://www.trb.org/main/blurbs/182672.aspx>

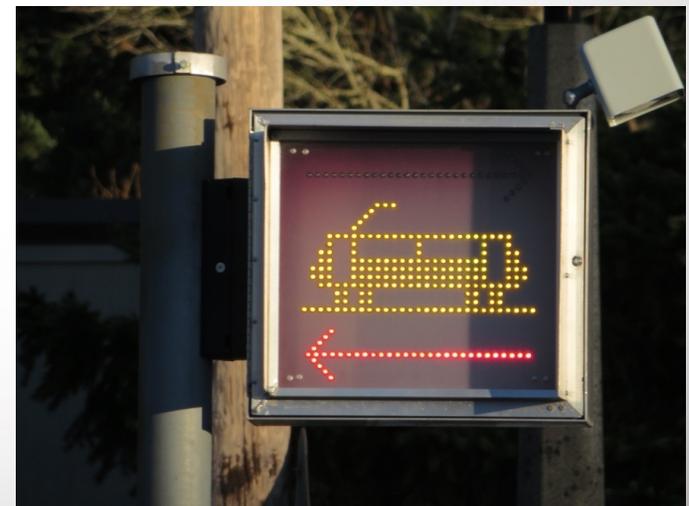
TCRP 175 - Treatments

Category	Treatment
	Channelization
Barriers	General
	Offset pedestrian crossing
	Maze fencing
	Pedestrian fencing
	Between-car barriers
Design	Temporary
	Clearly defined pedestrian crossing
	Smooth and level surface
	Sight distance improvements
	Stops and terminal design
	Illumination
	Flangeway filler
	Pedestrian refuge
	Sidewalk relocation
	On-road bollards



TCRP 175 - Treatments

Category	Treatment
Signs	Passive
	Unique warning messages
	Enforcement
Signals	Blank-out warning
	Timing considerations near railroad crossings
	Flashing light signal assembly
Pavement Markings	In-pavement flashing lights
	Pedestrian stop lines
	Detectable warning
	Word or symbol
Infrastructure	Dynamic envelope marking
	Audible crossing warning devices
	Pedestrian automatic gates
	Pedestrian automatic gates w/ horizontal hanging bar
Operations	Pedestrian swing gates
	Required stop
	Reduced train speed
	Rail safety ambassador

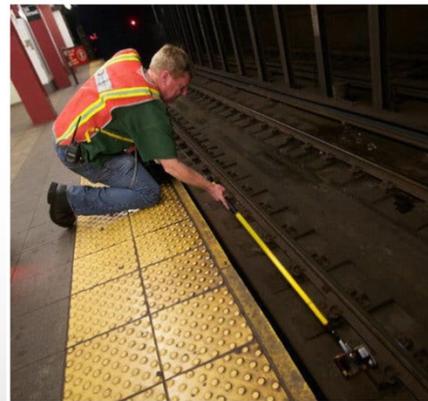


TCRP 233 - Countermeasure Strategies

14 Countermeasure Strategies Grouped into Three Categories:

1. Engineering and Physical Measures

- Fencing, channelization, and barriers
- Landscaping
- Anti-trespassing guard panels
- Platform screen doors
- Surveillance and detection
- Lighting
- Approaching train alerts
- Track retrieval device



TCRP 233 - Countermeasure Strategies

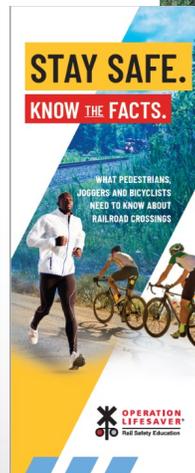
14 Countermeasure Strategies Grouped into Three Categories:

2. Education and Engagement

- Signage
- Community-based collaboration
- Public and industry events/campaigns
- Employee intervention training
- Hope poles

3. Enforcement

- Law enforcement and patrol



THERE IS HELP.
THERE IS HOPE.

We can get through
this together.

Contact the Suicide Prevention Lifeline now:

800-273-8255

Text 741741

Utah
Suicide
Prevention
Lifeline
1-800-273-TALK

Anti-trespassing Guard Panels



Photo credit: LB Foster



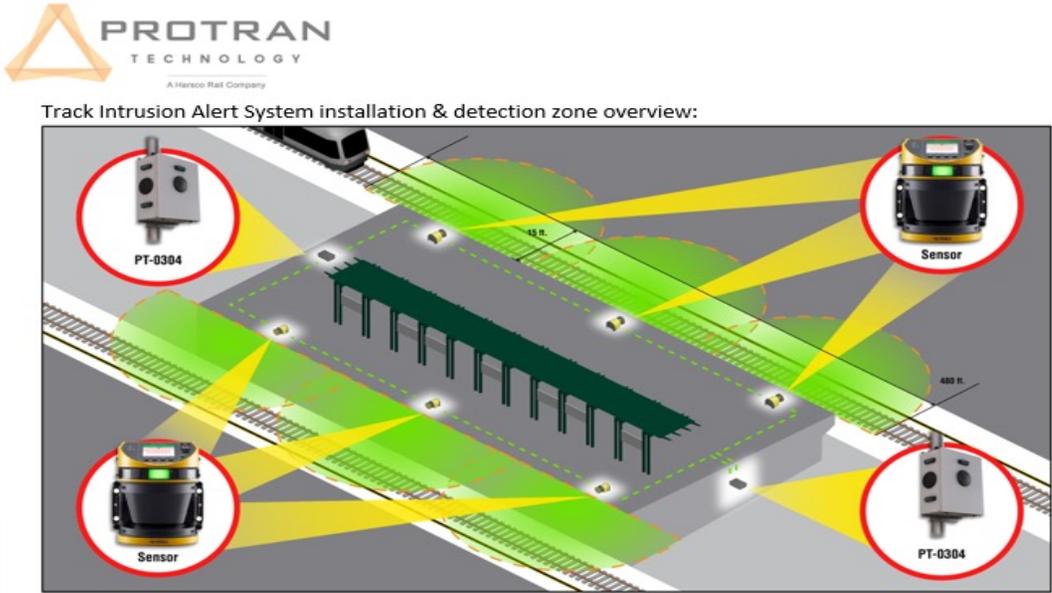
Photo credit: LB Foster



Photo credit: Carolyn Cook, FRA

Surveillance and Detection

- Baltimore: Trespasser Detection



Surveillance and Detection

- DART: Asset Management

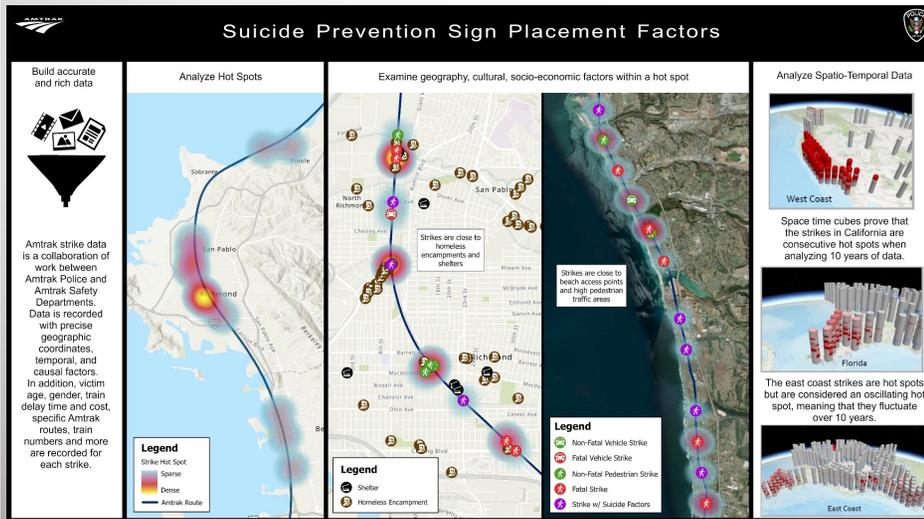


Signage

- Amtrak: Data Analytics



- Utah: Hope poles



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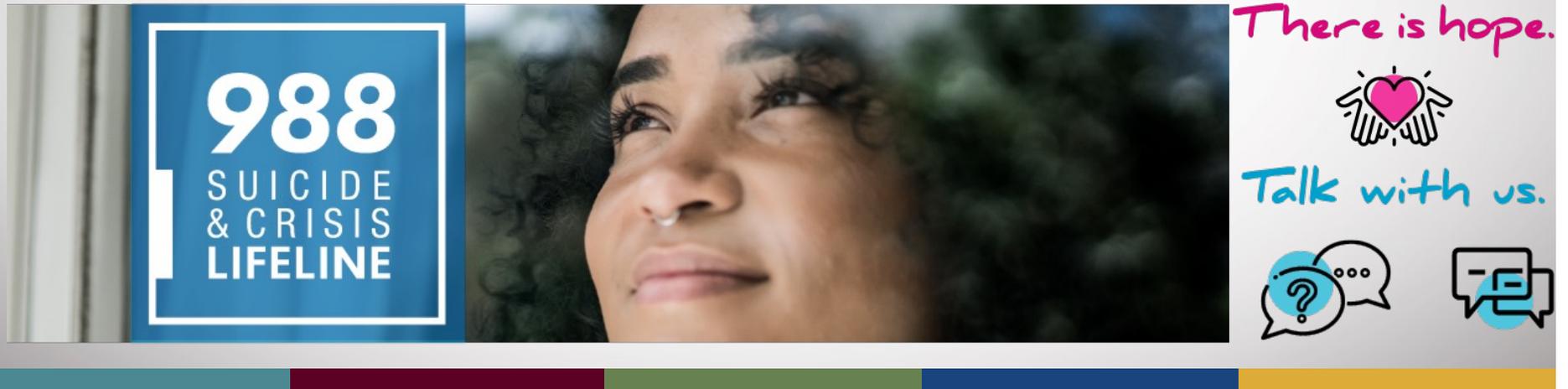
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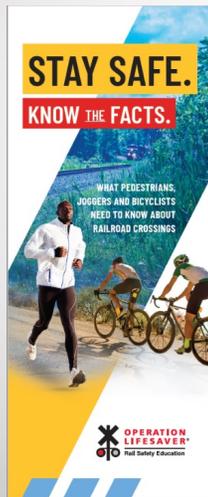
National 988 Suicide & Crisis Lifeline

- Suicide & Crisis Lifeline Website – <https://988lifeline.org/>
- Substance Abuse and Mental Health Services Administration (SAMHSA) 988 Partner Toolkit – <https://www.samhsa.gov/find-help/988>



Education – Texas Operation Lifesaver

- Texas Operation Lifesaver
 - Jessica Devorsky, Executive Director



Other Resources

- FRA Trespass Prevention Houston Workshop, May 9-10, 2023 (<https://www.fra.dot.gov/conference/2022/GXTP/Index.aspx>)
- FRA Grant Programs (<https://railroads.dot.gov/grants-loans/competitive-discretionary-grant-programs/competitive-discretionary-grant-programs>)
- FRA Trespass & Suicide Dashboard (<https://railroads.dot.gov/divisions/highway-rail-crossing-and-trespasser-programs/see-data-new-way-interact-trespassing-and>)
- FRA Trespass & Suicide Prevention Toolkit (<https://trespasstoolkit.fra.dot.gov/>)



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