

PREVENTING INTENTIONAL DEATH BY RAIL

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- Executive Director of the National Center for Intermodal Transportation and as a Board member for the Denver Transportation Institute at the University of Denver since 2002.
- Consulted extensively with Fortune 500 transportation companies throughout the US and Canada in the areas of safety, hours of service, safety culture assessment, suicide prevention, intermodal workforce development in transportation, and leadership training.
- Conducted research related to the hours of service and fatigue management plans for Transport Canada.
- Testified before the House Transportation Subcommittee as it was drafting the Rail Safety improvement Act.
- Special consultant to American Public Transit Association (APTA) in the development of operating rules and policies adopted by the Federal Railroad Administration on the Hours of Service for rail transit operations.
- Consultant for the American Shortline Railroad Association for the development of effective fatigue countermeasures for short-line railroad operations.

ACKNOWLEDGEMENTS

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OVERVIEW

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- **Current Status**

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- **Prevention Measures**

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- **Prevention Measures**
 - Signage & Hotlines
 - Barriers
 - Intrusion Detection Systems
 - Lethality Means Restriction
 - Community Education & Prevention
- **Recommendations**

INTRODUCTION

“The body of research on rail suicide prevention is sparse. Although there is a small and growing international body of literature, cultural differences could affect mitigation strategies adopted from overseas.” - [\(Volpe, 2018\)](#)

HISTORY



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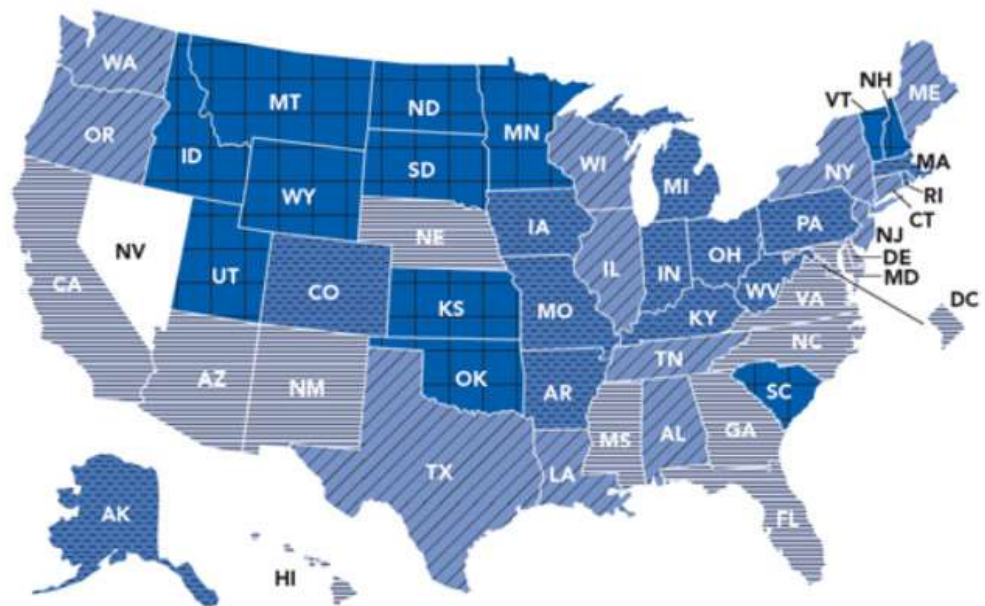


CDC 2018 REPORT INCREASE

Suicide rates rose across the US from 1999 to 2016.



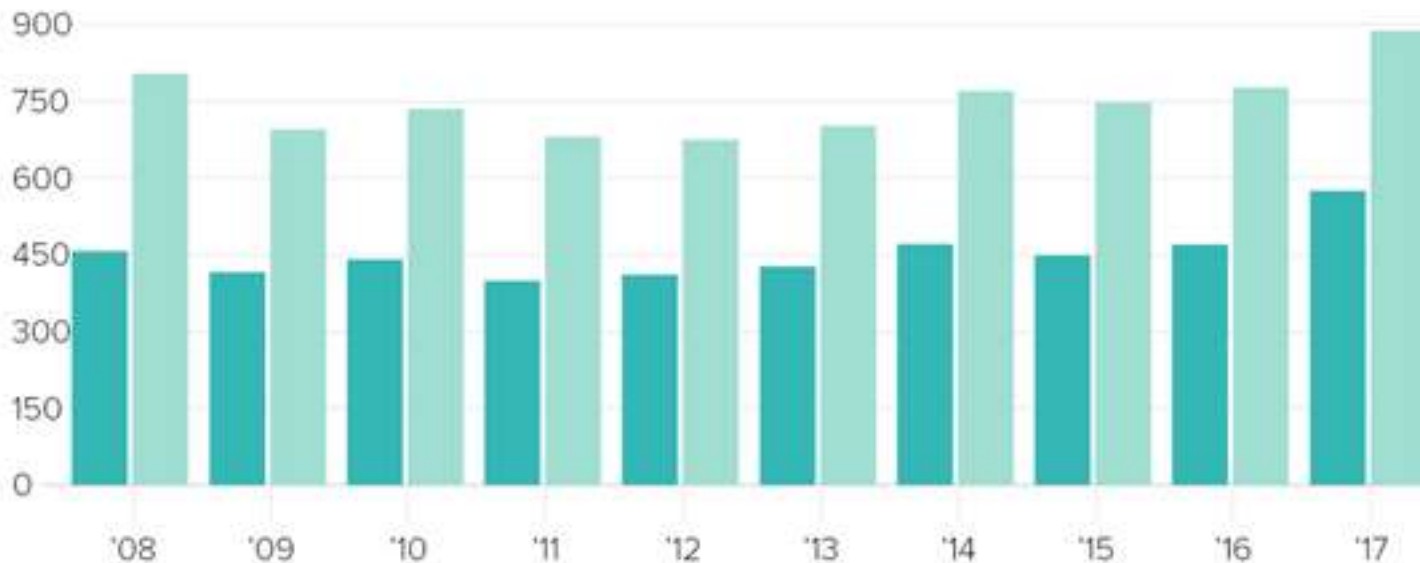
SOURCE: CDC's National Vital Statistics System;
CDC Vital Signs, June 2018.



TRESPASSER FATALITIES

Train fatalities in the United States are at a 10 year high

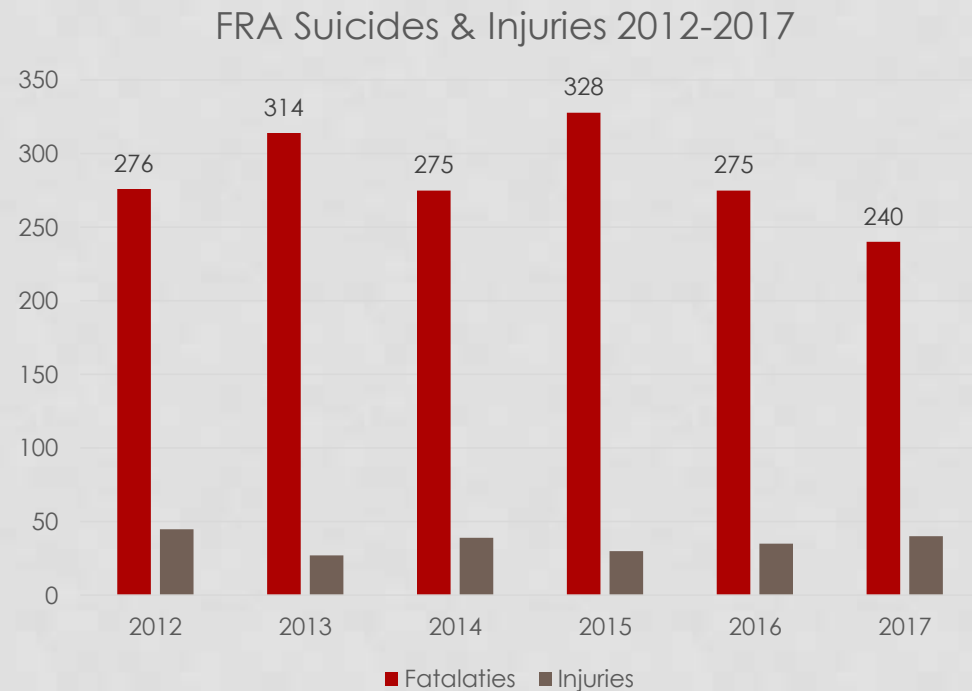
■ Trespasser fatalities ■ Total fatalities



NBC NEWS

DEATH BY SUICIDE ON US RAILWAYS

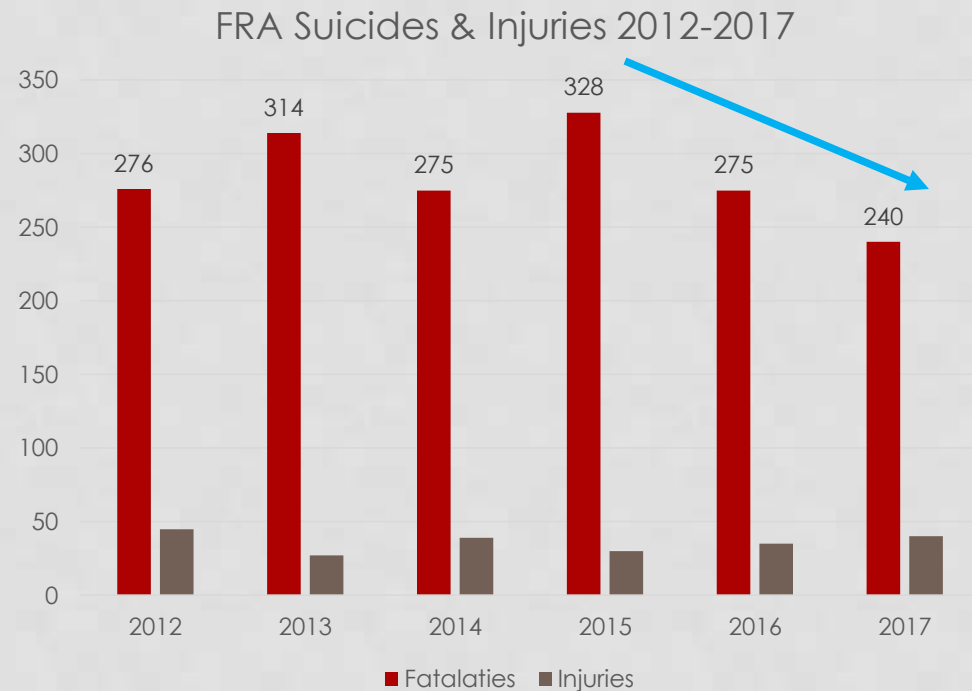
- FRA –
- from 2012 to 2017,
- more than 250 people have died by suicide each year.



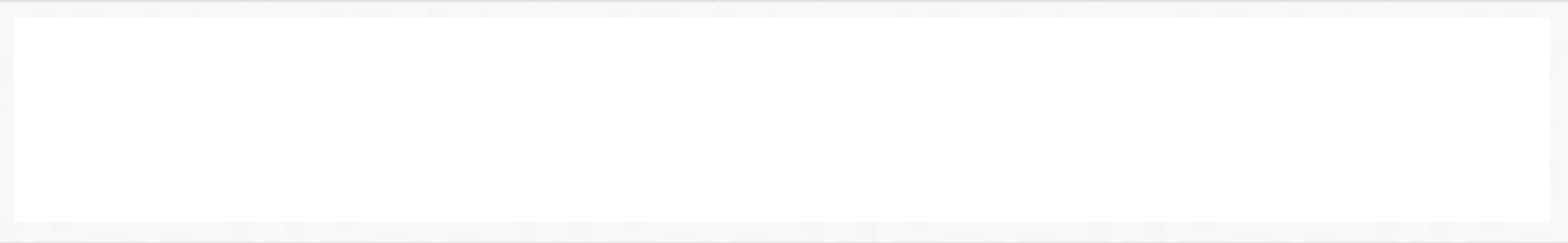
From FRA 2018 (web site)

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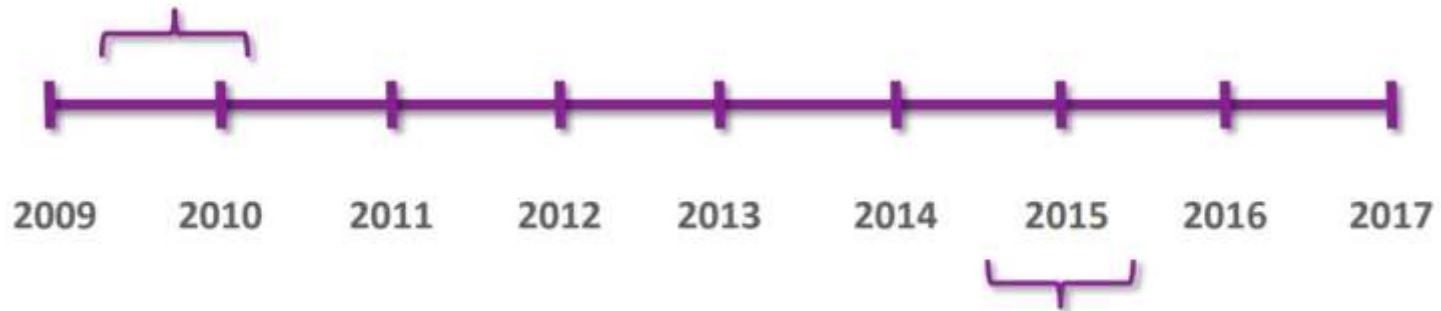
From FRA 2018 (web site)



SUICIDE CLUSTERS

May 2009 through January 2010

- Five known suicides
- Incoming, current, alumni
- One high school



October 2014 through March 2015

- Four known suicides
- Current or alumni
- Two high schools, same district

PALO ALTO AND GUNN HS

- The 10-year suicide rate for the two high schools is between four and five times the national average.
- over a nine month period, three Gunn students, one incoming freshman, and one recent graduate put themselves in front of an oncoming Caltrain.
- Another recent graduate had hung himself.
- 12% of Palo Alto high-school students in 2013–14 reported having seriously contemplated suicide in the past 12 months.
 - From the *Atlantic*

Predicted youth suicide rate in Palo Alto not significantly different than Morgan Hill

	Predicted Crude Suicide Rate per 100,000	95% Confidence Interval	
San Jose	4.6	3.8	5.5
Morgan Hill	12.7	7.3	21.8
Palo Alto	14.1	9.0	22.2
Sunnyvale	6.4	4.0	10.3
Santa Clara	5.1	3.0	8.5

Data Source: Vital statistics, combined years 2003-2015

Case Definition: (1) County of residence listed as Santa Clara County, (2) Death occurred in state of California, (3) Decedent 10 to 24 years of age, (4) Manner of death listed as suicide.

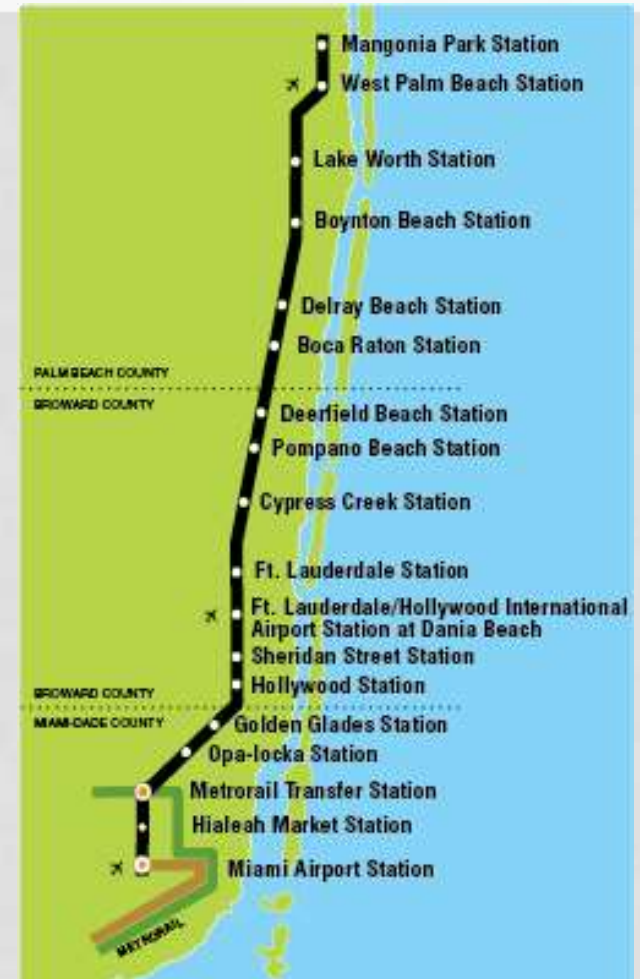
CDC REPORT

- Media coverage of suicide deaths in the Santa Clara County area, from 2008–2015 was found, overall, to deviate from accepted safe suicide reporting guidelines. – CDC report 2017
- Most common violations included descriptions of methods and locations
- Even after improvement, in 2015 only 40% of articles about suicide included at least one suicide prevention hotline number.

FLORIDA

FLORIDA

- Two people were killed by Brightline trains last year and seven so far this year.
- Police have determined that six of those nine deaths were suicides and autopsies revealed seven of those people had drugs or alcohol in their systems, according to medical examiners in Broward and Palm Beach counties.
- Tri-Rail trains killed 17 people last year and five so far this year. Police investigated a dozen of those deaths as suicides, according to the South Florida Regional Transportation Authority.



- In 2017, Florida ranked second only to California for the most fatalities involving freight and passenger trains, according to the FRA.



- Ralph Rapa is a locomotive engineer for Tri-Rail who oversees operating practices, including rules on safety. He cites the opioid crisis in the region as contributing to the deaths.
- “We’ve had individuals come directly from rehabilitation centers and used our trains to commit suicide,” Rapa said.
- Often in cases of suicide, people have under-treated or untreated mental-health conditions, such as depression, said Dr. Steven Ronik, chief executive officer for Henderson Behavioral Health, a health care provider. And “train suicides are a very rare, dramatic way to hurt yourself,” Ronik said.

- In some cases, homeless people who camp alongside the tracks have stumbled onto the tracks, Rapa said.
- Each time conductors and engineers are involved in a deadly crash, it can be traumatic, Rapa said. “It takes a tremendous toll on our railroaders,” he said.

RESPONSE

- Instructional videos
- Be Rail Smart Initiative
- Multilingual awareness efforts
- Tri-Rail and FDOT and the [211 Helpline](#) to establish a [Respect the Rails](#) outreach program to discourage suicide by train and to encourage people to seek help if needed.
- National Suicide Prevention Lifeline at [800-273-8255](#) or [suicidepreventionlifeline.org](#).

CHARACTERISTICS OF PERSONS INVOLVING RAILWAY SUICIDE

KEY CHARACTERISTICS

Based on the review of the literature, key characteristics of people likely to die by suicide on US railways include:

- Male and under 50 years of age
- Have some involvement with alcohol and or drugs
- Highly likely to suffer from depression or other mental disorder
- Highly likely to have a substance abuse disorder
- Likely have no other means of suicide (i.e., firearms)
- Likely to seek high-density, regularly scheduled train routes
- Likely to live within close proximity (1 to 3 miles) of the railroad,
- Likely to be either living alone or renting
- Highly likely to have financial stressors for some time
 - From Sherry (2016) - <https://transweb.sjsu.edu/sites/default/files/1129-suicide-prevention-on-commuter-metro-rail-remedial-actions.pdf>

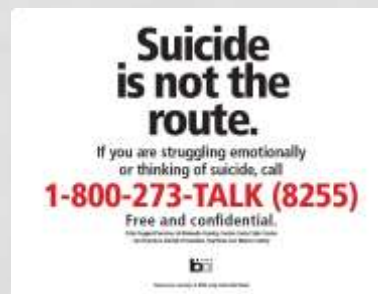
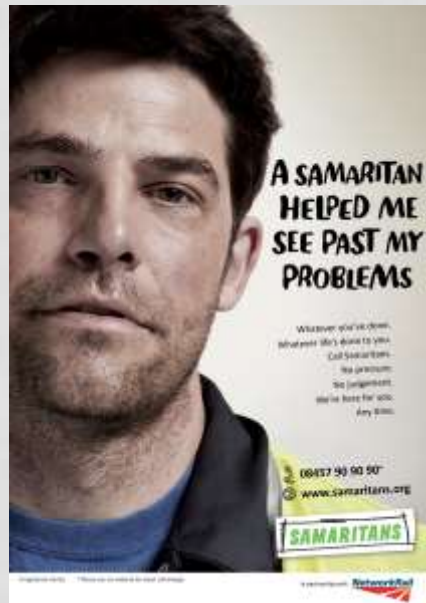
- Suicide by railroad make up only a small fraction of those who kill themselves in the United States. In 2014, for example, 42,773 people committed suicide — about half using a firearm — while only 275 succeeded in doing so by stepping in front of a train.
 - **Ashley Halsey III, Washington Post, Aug 7, 2018**

PREVENTION METHODS

SIGNAGE



Suicide has long been the main cause of rail-related deaths in the Bay Area and throughout most of the world. Signs like these are used to raise awareness along the tracks of California.



BLUE LIGHTS



BARRIERS



MEANS RESTRICTION ACTIVITIES

“red flag laws”

- So called, “red flag” laws in Connecticut, in 1999, and Indiana, in 2005.
- In Indiana, the study found a 7.5 percent reduction in firearm suicides in the ten years after enactment.
- In Connecticut, at least initially.
 - 1999 -2007 - Gun suicides fell only 1.6 percent,
 - 2007 to 2015 , after Virginia Tech, Gun suicides fell 13.7%
- “Our data shows that when red flag laws are utilized, they have the effect of preventing large numbers of suicides,” Aaron Kivisto, Professor, Univ of Indianapolis,
- [\(Kivisto & Phalen, 2018\)](#)



MEANS RESTRICTION ACTIVITIES

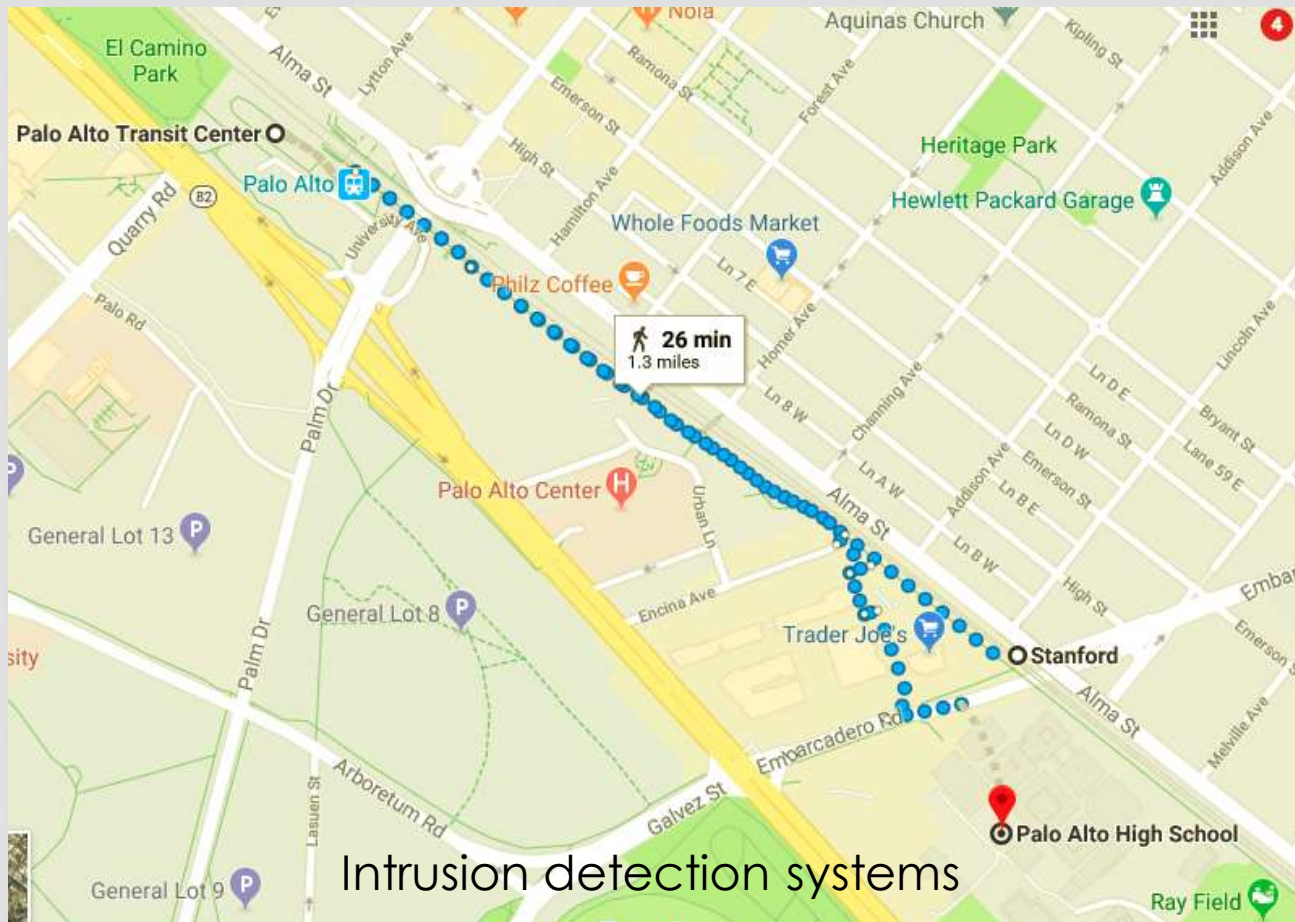
PROJECT SAFETY NET COMMITTEE
CITY OF PALO ALTO - STANFORD UNIVERSITY

The Means Restriction Advisory Committee for the City of Palo Alto

and the international literature in suicidology identify four types of best practices for prevention at suicide hotspots. These include

- (a) restricting access to lethal means;
- (b) encouraging help-seeking behavior by placing signs and telephones at hotspot locations;
- (c) There is strong evidence that reducing access to means prevents death by suicide, with some evidence of positive improvement on overall suicide rates.
- (d) Importantly, evidence does not support suicides thereby occurring at other locations. The evidence is weaker though promising for other approaches.

PALO ALTO HS



INTRUSION DETECTION SYSTEMS

- Project Safety Net
- City of Palo Alto
- \$325,000 a year.



http://storage.pardot.com/31052/127541/Palo_Alto_Intrusion_Detection_System_FINAL.pdf



INTRUSION DETECTION SYSTEMS

- Very favorable results from this pilot project.

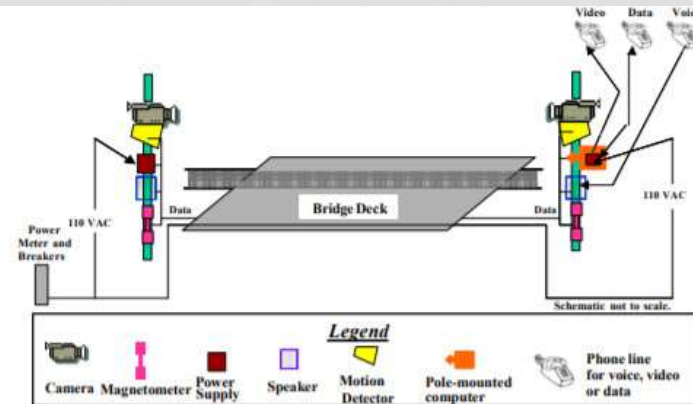
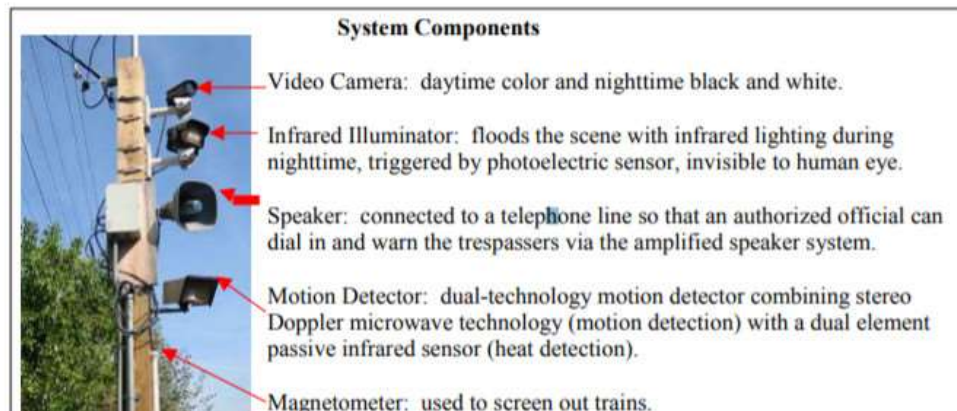


Figure 5. Illustration of the Surveillance System Technology





10/1/2018

RR EMPLOYEE TRAINING - GATEKEEPERS

ANALYSIS OF TWO US EMPLOYEE TRAINING PROGRAMS

Sample Questions

Attitudes:

- Suicide prevention is not my responsibility.

Self-Efficacy

- I feel confident that I can help, in some small way, prevent suicide.

Knowledge

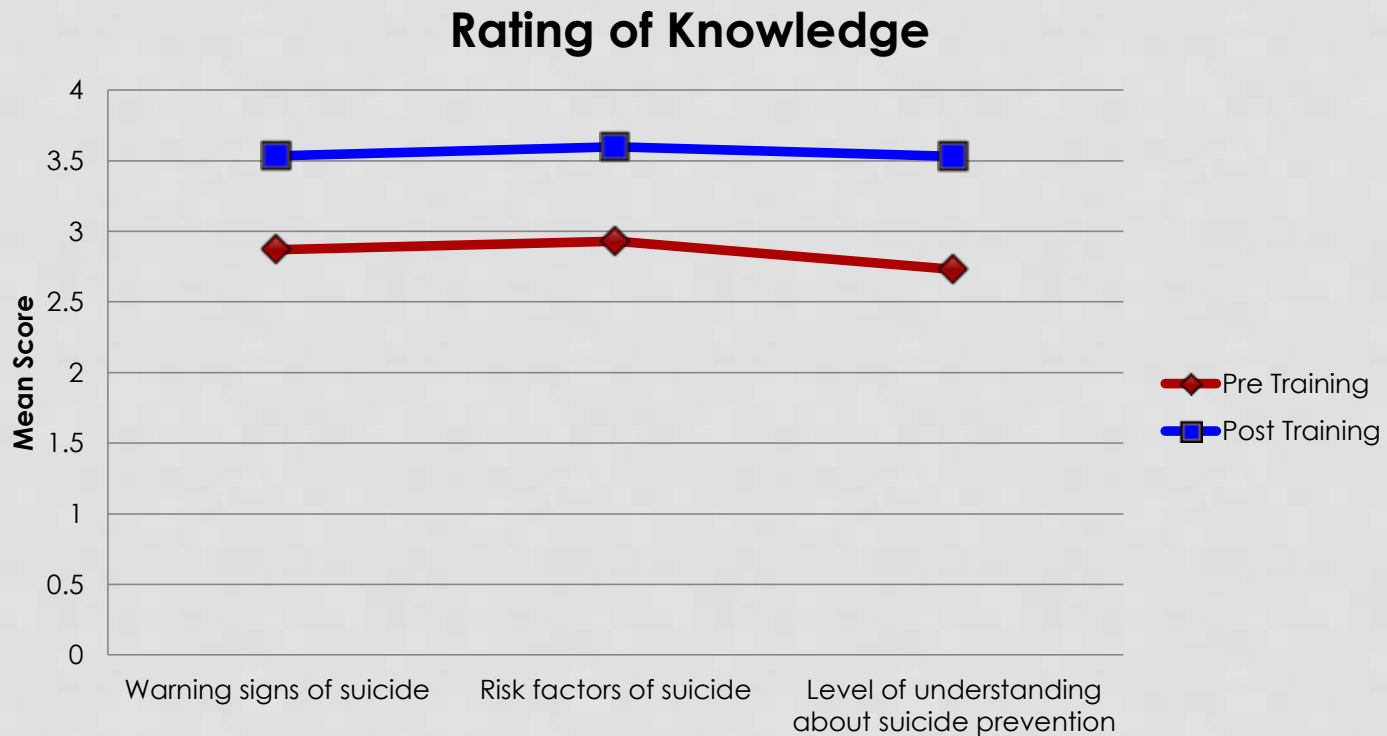
- How would you rate your level of understanding of suicide risk factors

Scale	N	Mean	SD	Cronbach's Alpha
1. Attitudes	16	35.57	7.40	.808
2. Self-efficacy	13	47.51	6.57	.860
3. Declared Knowledge	6	17.92	4.32	.901

SELF-EFFICACY



KNOWLEDGE



IMPACT ON STAFF

The results suggest that for the most part, Transit employees...

- ✓ Believe that they have a responsibility to helping prevent suicide.
- ✓ Did not feel prepared to recognize or help a suicidal person prior to training. **Improved following training.**
- ✓ Are willing to help someone in need. **improved following training.**
- ✓ Have mixed knowledge about the risk factors and warning signs of suicide. **Improved following training.**
- ✓ Initially did not rate their knowledge of risk factors and warning signs to be high indicating a need to improve self efficacy before the training. **Improved following training.**

Training improved self-efficacy, actual knowledge and perceived knowledge about the risk factors and warning signs.

COMMUNITY ECO-SYSTEM PREVENTION

COMMUNITY – ORGANIZATION PREVENTION PROGRAMS

- Ecological model for prevention suicide (Bean & Baber, 2011)
- The US Air Force (USAF) community based intervention program focusing on training of community personnel in the recognition of early warning signs in potential victims that resulted in a reduction of 33% in suicide rates.
- The Toronto Transit Commission (TTC)

COMMUNITY ATTITUDES

- N=453 Western city community members
- 64.6% of people feel that you can talk to suicidal people without making it worse. **This is an area of intervention!**
- General agreement (80.0%) that suicide is preventable.
- General agreement (71.6%) that suicide is a community responsibility.
- 67.4% say they would ask about intent if they observed that there were warning signs for suicide.
- Participants were unsure about whether there were warning signs of suicide. **Another area of intervention!**

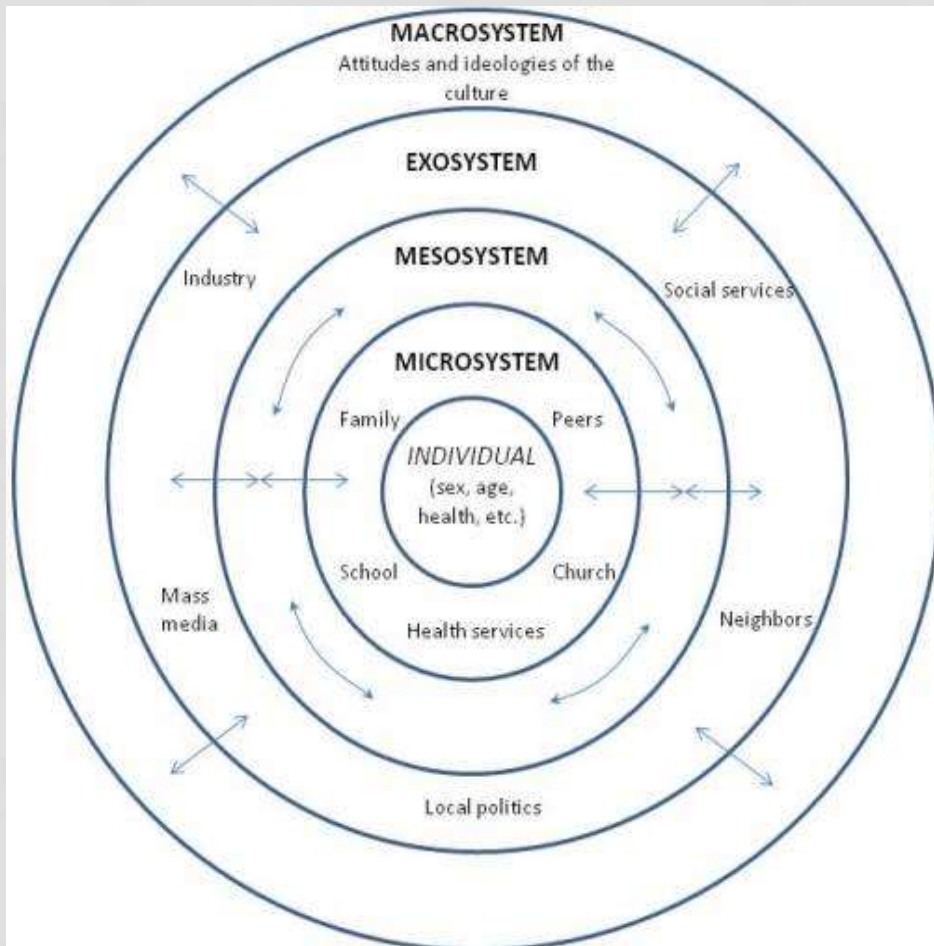
PSN PALO ALTO COMMUNITY



PALO ALTO - COMMUNITY ATTITUDES

- N=476 current parents N=229 students
- 69.6% of adults without a student BUT 84-86% of parents with a student - feel that you can talk to suicidal people without making it worse. **This is an area for intervention!**
- General agreement (82%) BUT only 77% - 92% of parents with a student felt that suicide is preventable.
- 67.4% say they would ask about intent if they observed that there were warning signs for suicide.
- Only 38 % of adults felt that they would recognize if a person thinking of intentional death. **This is an area for intervention!**

OUR ECO-SYSTEM COMMUNITY FOCUSED APPROACH



- ✓ Increase Awareness
- ✓ Reduce Stigma
- ✓ Engage Community
- ✓ Improve Identification/Surveillance
- ✓ Enhance Employees' Self-efficacy
- ✓ Prevent Premature Deaths/Suicides

COMMUNITY COLLABORATION NEEDED

- While railway operators around the world recognize their responsibility in preventing suicide on their networks, it is important to remember that, as WHO points out, suicide results from “many complex socio-cultural factors” and **“the health sector but also education, employment, social welfare, the judiciary and others”** should all become involved in its prevention in order for significant progress to be achieved.
 - [From - Railway Technology , 2015](#)

PSN COLLECTIVE IMPACT

- **Common Agenda:** All participants share a vision for change that includes a common understanding of the problem and a joint approach to solving the problem through agreed upon actions.
- **Shared Measurement:** All participating organizations agree on the ways success will be measured and reported, with a short list of common indicators identified and used for learning and improvement.
- **Mutually Reinforcing Activities:** A diverse set of stakeholders, typically across sectors, coordinate a set of differentiated activities through a mutually reinforcing plan of action.
- **Continuous Communication:** All players engage in frequent and structured open communication to build trust, assure mutual objectives, and create common motivation.
- **Backbone Support:** An independent, funded staff dedicated to the initiative provides ongoing support by guiding the initiative's vision and strategy, supporting aligned activities, establishing shared measurement practices, building public will, advancing policy, and mobilizing resources.
 - **six important activities**
 - Guide vision and strategy
 - Support aligned activities
 - Establish shared measurement
 - Build public will
 - Advance policy
 - Mobilize funding
- From - https://ssir.org/articles/entry/collective_impact

RECOMMENDATIONS

FROM (2016) REPORT

1. Encourage community engagement effort in high-risk areas near the railroad.
2. Training of RR employees regarding warning signs and risk factors for suicide.
3. One size fits all approach to prevention will not succeed.
4. Barriers are needed but not sufficient
5. Intervene with those dealing with mental illness and substance abuse.
6. Suicides increases when economic conditions are poor
7. Target – stations, platforms, schools, hospitals – few identifiable “hotspots.”
8. Video monitoring using remote sensing, motion detectors, and video.
9. Operation Lifesaver should increase their discussion about the possibility of suicide, intoxication, and other forms of mental illness.

From [Sherry \(2016\)](https://transweb.sjsu.edu/sites/default/files/1129-suicide-prevention-on-commuter-metro-rail-remedial-actions.pdf) - <https://transweb.sjsu.edu/sites/default/files/1129-suicide-prevention-on-commuter-metro-rail-remedial-actions.pdf>



ADDITIONAL RECOMMENDATIONS

- Railroads
 - Do due diligence and put up barriers
 - *Do not have sole responsibility*
 - Encourage Community responsibility for providing barriers
 - Work with Operation Lifesaver on community
 - Champion eco-system collective impact

5 Steps to help someone at risk

1. Ask.
2. Keep them safe.
3. Be there.
4. Help them connect.
5. Follow up.

Find out how this can save a life by visiting:

www.BeThe1To.com 

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THANK YOU!