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RESTRAIL objectives

To help reduce



To provide

An analysis and identification of cost effective measures

Recommendations and guidance





Toolbox organisation

**General guidance
(how to analyse)**

**Specific guidance
(how to implement)**

Recommendations.

Guidelines.

Best practice.

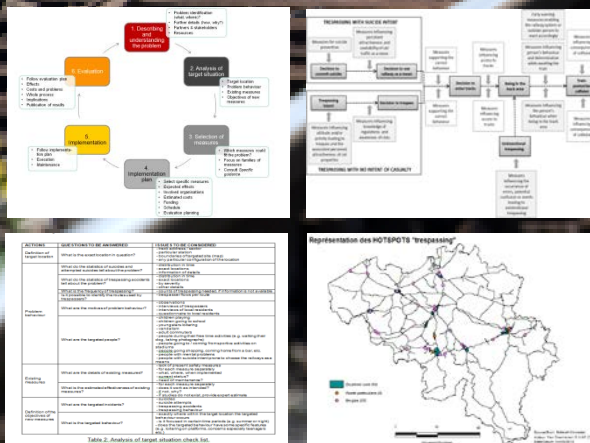
Study results.



Toolbox organisation

General guidance
(how to analyse)

Specific guidance
(how to implement)



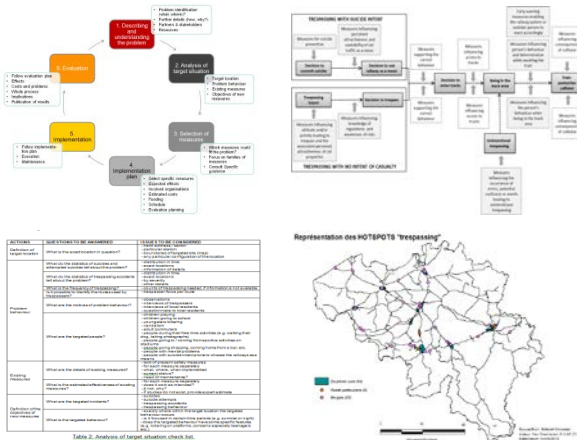


First part: General guidance

Structures the problem analysis

through a multi-step approach

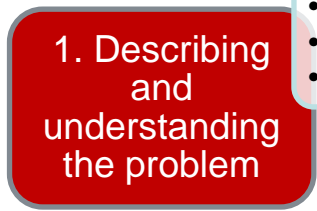
which helps decision-makers with the process of selecting from a wide range of measures



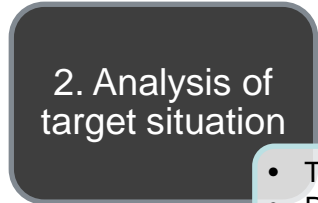


General guidance

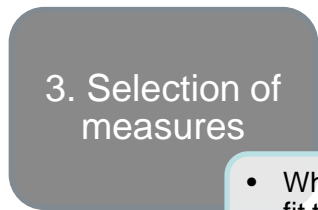
Multi-step process



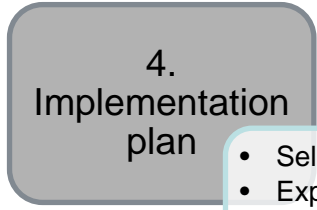
- Problem identification (what, where?)
- Further details (how, why?)
- Partners & stakeholders
- Resources



- Target location
- Problem behaviour
- Existing measures
- Objectives of new measures



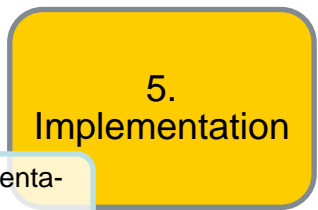
- Which measures could fit the problem?
- Focus on families of measures
- Consult *Specific guidance*



- Select specific measures
- Expected effects
- Involved organisations
- Estimated costs
- Funding
- Schedule
- Evaluation planning



- Follow evaluation plan
- Effects
- Costs and problems
- Whole process
- Implications
- Publication of results



- Follow implementation plan
- Execution
- Maintenance

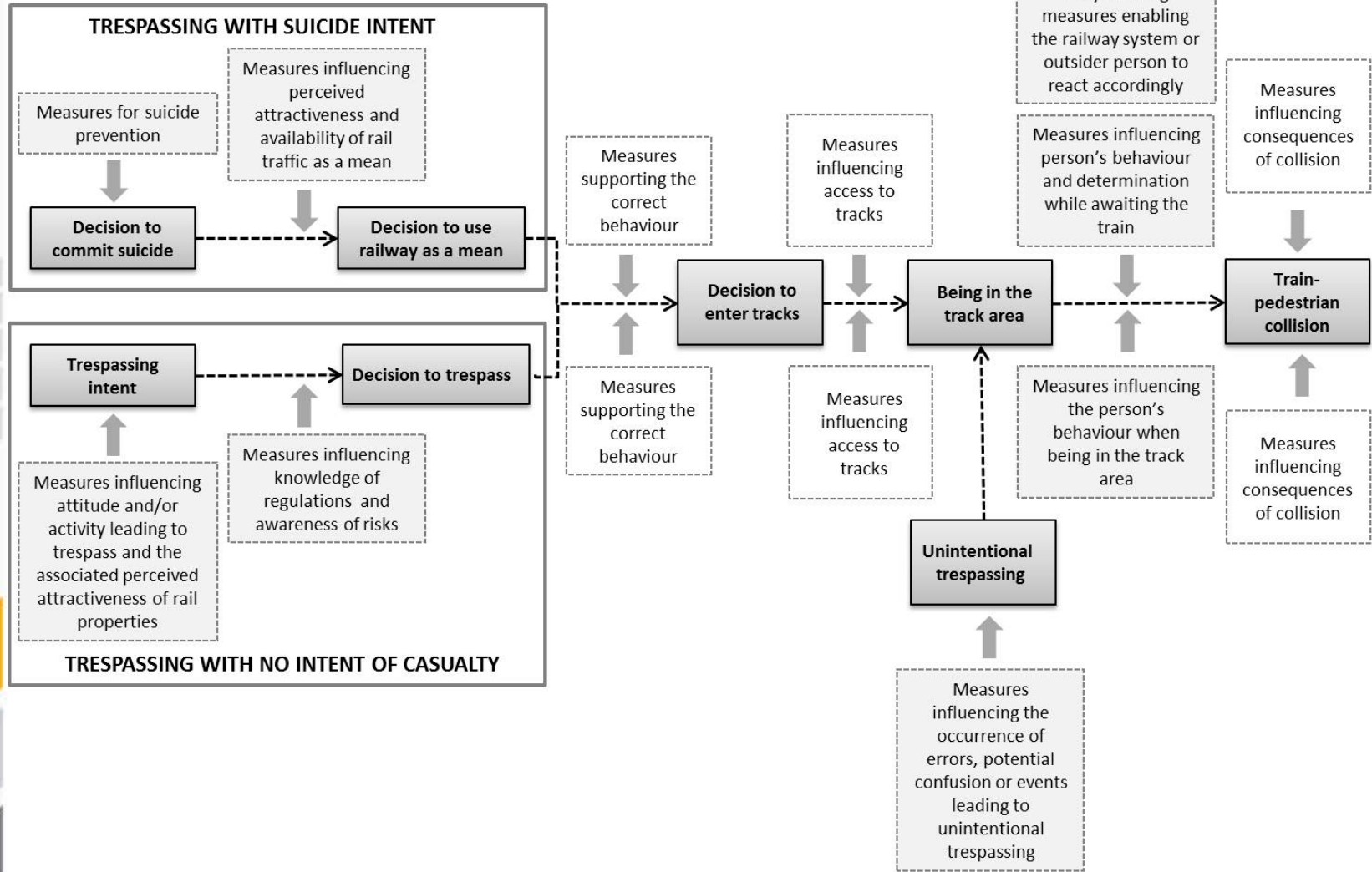
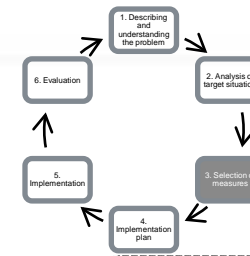


Checklist example

ACTIONS	QUESTIONS TO BE ANSWERED	ISSUES TO BE CONSIDERED
Problem identification	What is the nature of the problem?	<ul style="list-style-type: none"> - suicides - attempted suicides - trespassing accidents - trespassing behaviour
	Which are the motives of trespassing?	<ul style="list-style-type: none"> - trespassing with suicide intent - shortcut, time saving - graffiti / vandalism - theft - leisure, walking around / loitering
	In which part(s) of the railway system does the problem occur?	<ul style="list-style-type: none"> - station (which platform, which part of the platform, etc.) - marshalling yard - railway line (open line) - level crossing - bridge - tunnel - some other location
	Where is the problem location?	<ul style="list-style-type: none"> - preliminary identification of the location - location marked in a map
	What are the characteristics of the surrounding areas?	<ul style="list-style-type: none"> - facilities attracting pedestrians - schools - mental hospitals - outdoor routes - stadiums - shopping centres
	What do the accident statistics tell about the problem in the area?	<ul style="list-style-type: none"> - available statistics of suicides, suicide attempts - available statistics of fatal and non-fatal trespassing accidents - number of events preferably for several years - do the statistics cover all targeted incidents or some are excluded (e.g. incidents with minor consequences)

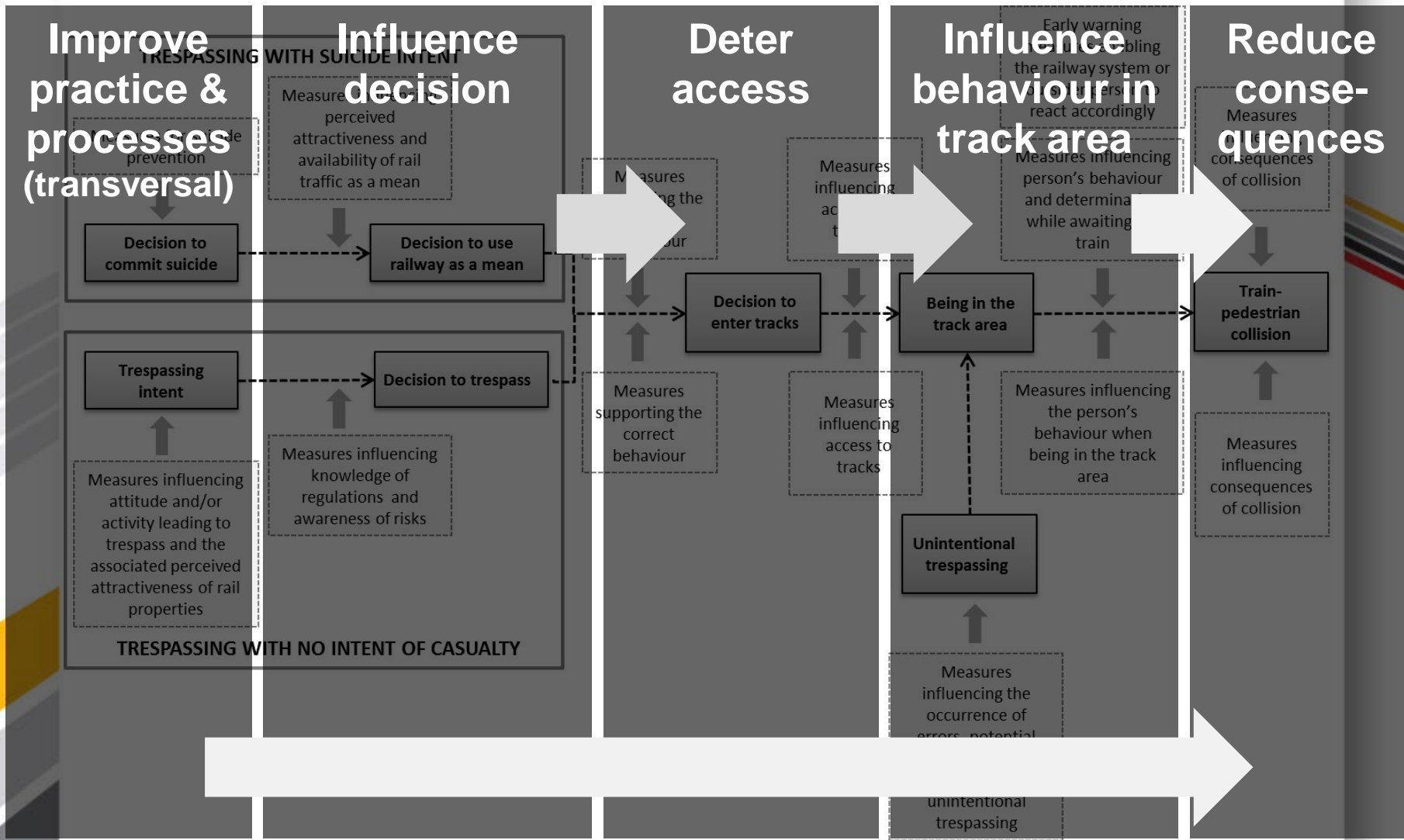


Selection of measures





Chain of events





Second part: Specific guidance

70 Specific measures
25 Families
3 Types



Indexed on several keywords



Physical and technological measures

THESE ARE MEASURES RELATED TO ENGINEERING OR TECHNOLOGY SUCH AS FENCING, LANDSCAPING, DETECTION SYSTEMS, LIGHTING DEVICES, ETC.

8. Fences at stations	8.1 Intermediate fencing between tracks 8.2 Mid platform fencing 8.3 Fencing platform ends 8.4 Sliding doors at platforms 8.5 Anti-trespass grids 8.6 Symbolic deterrent fencing
9. Fences outside stations	9.1 Fencing at hotspots 9.2 Nets at bridges 9.3 Fencing off objects close to the tracks 9.4 Measures to soil clothes
10. Landscaping	10.1 Removal of vegetation to increase visibility
11. Detection and surveillance systems	11.1 Intelligent CCTV combined with sound warnings 11.2 Detection systems combined with sound warnings
12. Lighting devices to influence behaviour	12.1 Dispelling light source 12.2 Lighting linked to a movement sensor 12.3 Tracking spotlight linked to a movement sensor
13. Light to increase visibility at hotspots	13.1 Increased visibility by lighting at specific identified hotspots
14. Safety and emergency devices at stations	14.1 Emergency information at stations to ensure rapid intervention 14.2 Information encouraging help seeking for people with suicide intent
15. Incident management and information platform	15.1 Geo-data relating to the incident location and access points 15.2 Incident information, including third party involvement 15.3 Essential response actions
16. Forward facing CCTV	16.1 Forward facing CCTV



Specific guidance: content

Description

Measure profile

Recommendations

Warning points

Observations

Study results

Gallery

EXAMPLE:

Lighting linked to a movement sensor

It refers to technologies to influence people at risk by lighting when motion is detected in a specific perimeter. Useful to provide a warning to people who move into an area that they should not enter, or behave in a way that places them at risk.

The intention of influencing the person to modify their behaviour and move to a place of safety.



Specific guidance: content

Description	Type of measure	Organisational and procedural Physical and technological Public awareness and educational
Measure profile		
Recommendations	Target problem	Suicide Trespass Mitigation
Warning points	Effect mechanism	Improve practice and processes Influence decision
Observations		Deter access
Study results		Influence behaviour in track area Reduce consequences
Gallery	Family	Lighting devices to influence behaviour
	Evaluation studies	RESTRAIL Other None



Specific guidance: content

Description

Measure profile

Recommendations

- Check the laws on human integrity in your country before making the plans.
- The sensor needs to be able to react only to persons who are in its range.
- The effect will increase when combined with a follow-up measure as surveillance or sound warnings.
- May need support from staff to attend when alarms are operated.

Warning points

Observations

Study results

Gallery



Specific guidance: content

Description

Measure profile

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Gallery

- Blinding of train drivers by lights should be prevented.
- Be aware that light pollution can cause acceptance risks with neighbours and nature conservation organisations. Communicate before installing. Maybe not to be used in rural nature areas because of light pollution. For further details on how to reduce light pollution you may check: www.sustainablefairfax.org/content/view/321/27
- Impact of the spotlights for the people living in the direct environment could be an issue. For dispelling light sources there can be problems with national laws on human integrity.
- Effective only during night time.



Specific guidance: content

Description

Measure profile

Recommendations

Warning points

Observations

- It is expected that the effects are durable.

Study results

Gallery



Specific guidance: content

Description

Measure profile

Recommendations

Warning points

Observations

Study results

Gallery

- Anti-suicide lighting is used in The Netherlands on a broader scale. There have been positive results with a **40%** reduction when used at hotspots.
- South Korean authorities report that the suicide rate has dropped with more than **70%** at Mapo bridge in Seoul, where inspirational messages of hope light up as people walk by.
- In Japan, introduction of blue LED lights at 11 stations resulted in **84%** decrease in the number of suicides between 2000-2010 compared to other 60 stations without blue light (Matsubayashi et al., 2012).
- The installation of blue lights on platforms, even were they to have some effect in preventing railway suicides at night, would have a much smaller impact than previously estimated (Ichikawa, Inada, & Kumeji, 2014).



Specific guidance: content

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Measure profile

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Gallery



Example from
the Netherlands.
Source: ProRail



Example of the Duwamish bridge in USA (WA) equipped with blue LEDs, electronics, steel, train signaling system. The blue LED lights turn on as the trains are crossing the bridge.

Source: <http://dancorson.com/duwamish-bridge>

Copyright © Dan Corson 1989-2014.



Example of the Mapo bridge in Seoul, South Korea. Source:

<http://www.pri.org/stories/2012-09-27/bridge-signs-used-south-korea-anti-suicide-efforts>



Other examples: Symbolic fencing...



CAUTION-DO NOT ENTER

Yellow/Black Caution
Do Not Enter

AUTHORIZED ACCESS ONLY

Red/White
Authorized Access Only

DANGER-KEEP OUT

Yellow/Black
Keep Out

NO ENTRY

Red/White
No Entry



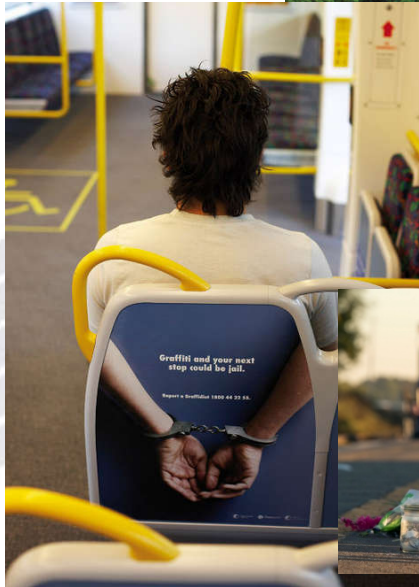


...VS. fencing at hotspots





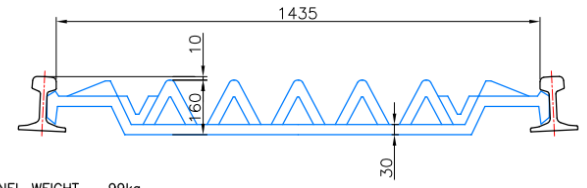
Other galleries



Quelque chose de suspect?



Aidez-nous à combattre les vols de cuivre!
 Les vols de câbles ont causés en 2013 plus de 50.000 minutes de retard des trains en Belgique.
APPELEZ LE 0800/30 230



PANEL WEIGHT - 99kg



10 Tips voor journalisten bij berichtgeving over **suicide**

Suicide is een serieus maatschappelijk probleem: met jaarlijks ongeveer 1500 doden en 14.000 suïcidopogingen die tot behandeling in een ziekenhuis leiden. In meer dan 90% van de gevallen is het geen onbetwiste keuze, maar een uitdaging van een psychiatrische ziekte, vaak depressiviteit.

De afgelopen jaren is suicide steeds meer uit de taboe sfeer gekomen, onder andere door berichtgeving in de pers. Als daarbij goede achtergrondinformatie wordt geboden, kan dat helpen om suïcides te voorkomen. Berichtgeving over concrete suïcides kan echter ook gevaarlijk nieuws zijn. Mensen die op de rand verkeren kunnen hierdoor het idee krijgen dat suicide de enige oplossing is voor hun probleem. Diverse wetenschappelijke studies hebben aangetoond dat dit 'copycat-effect' een reëel risico vormt. Als aan dit kopiegevaar wordt voorkomen.

<p>end</p> <p>concrete suïcides zo de gebeurtenis of de afgelegen daarvan niet op.</p> <p>n</p> <p>stelt gerantwoord of door te cliëren uit een om je dat mensen die in heliden of martelaren te geschieden zich met 1 persoon identificeren.</p>	<p>Geen details 2</p> <p>Geef geen beschrijving van de methode of het middel. Zo voorkom je dat je lezende op het idee brengt dat dit een effectieve manier is: je gaat erin dood en komt ermee in het nieuws.</p>
<p>Voorkom simplificatie 4</p> <p>Beschrijf suicide nooit als oplossing van een probleem. Lag in verband met één enkele oorzaak of gebeurtenis. Suïcides hebben vaak een lange voorgeschiedenis, waarbij meerdere factoren meespelen.</p>	<p>Bied achtergrondinformatie 6</p> <p>Geef bij de algemene berichtgeving over suicide goede achtergrondinformatie. Neem bijvoorbeeld de landelijke hulplijn 113 Online.</p>
<p>cy</p> <p>ven de overledene en familieleden kopen een idee door dat zij kunnen begrip of schuldgevoel. over de suicide of de zij hem extra hard aan.</p>	<p>'BN-ers': kijk extra uit 8</p> <p>Wees bij de berichtgeving over een suicide van een bekende persoon extra voorzichtig en terughoudend. In dit geval kunnen artikelen en reportages namelijk een negatieve impact hebben op suïcidale mensen en leiden tot imitatiegedrag.</p>
<p>nnen</p> <p>ere informatie is te onderwerpen, zoals het Trimbos-instituut, het Angst & Depressie van de Ken Schrijding.</p>	<p>Benoem dat hulp helpt 10</p> <p>In Nederland hebben jaarlijks naar schatting zo'n half miljoen mensen suïcidale gedachten. Meer dan 90% van hen weet zich te redden met hulp van hun omgeving of een professional. Hulp zoeken werkt dus echt. Door dit te benoemen help je het aantal suïcides te verminderen!</p>

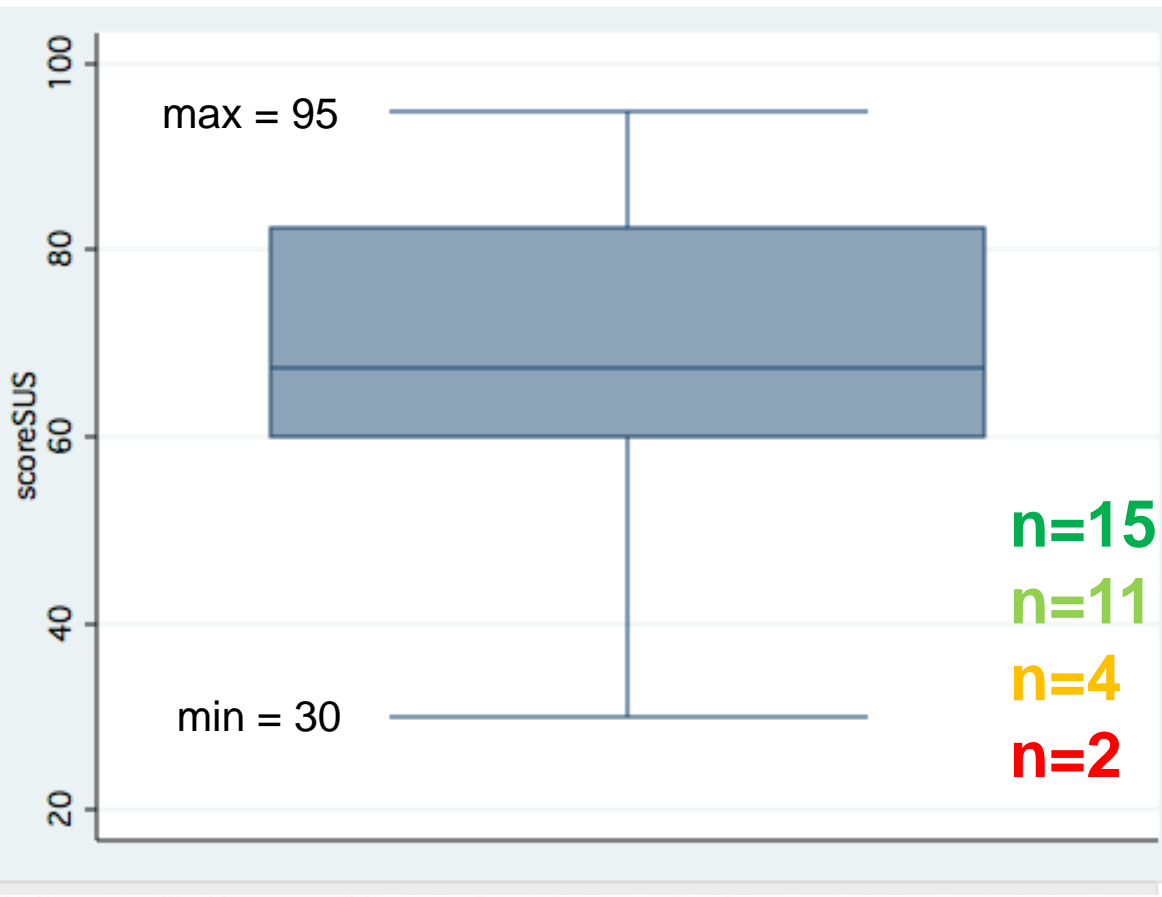


auteur: Wiflo Vries © 2012 Inwra van de versie 1.0. Mogeel gemaakt door de afdeling van de Volksgezondheid, Welzijn en Sport voor achtergrondinformatie over dit document: www.koninkrijksdag.nl



Systematic development

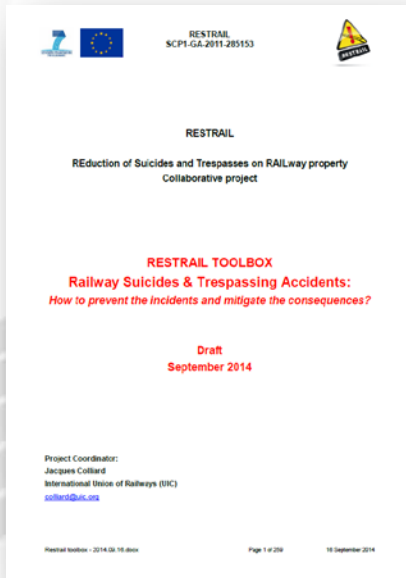
- Expert evaluation results (N=32): Brooke (1996)



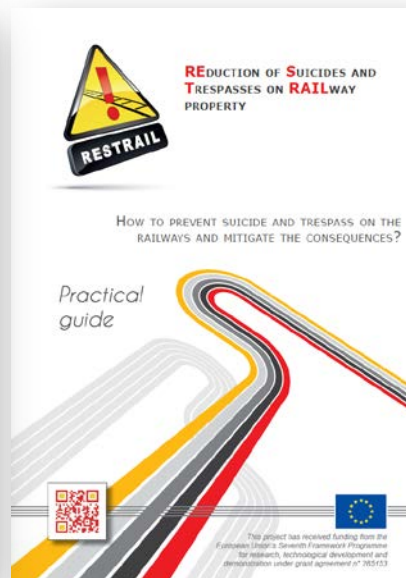
n=15 acceptable
n=11 marginally high
n=4 marginally low
n=2 not acceptable



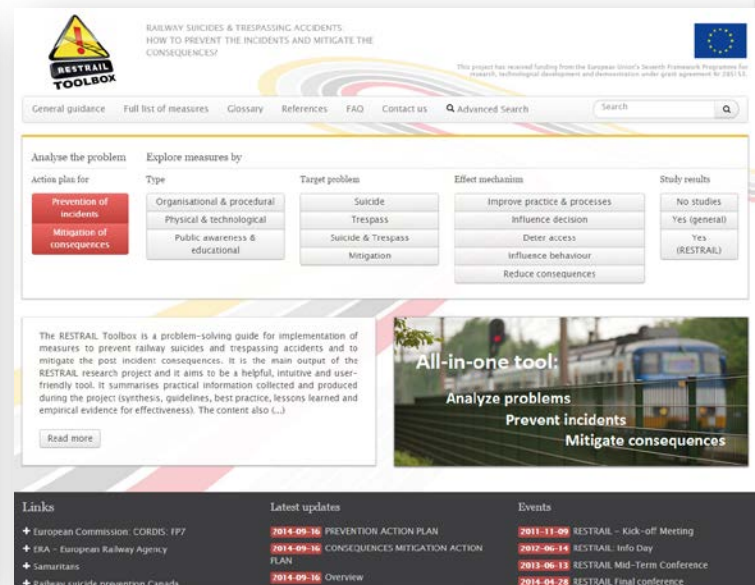
Toolbox format



Paper version
(260 pages)



Practical guide
(44 pages)



Website
www.restrail.eu/toolbox

Better perspective

Better functionality



Analyse the problem

Action plan for

Prevention of incidents

Mitigation of consequences

Explore measures by

Type

Organisational & procedural

Physical & technological

Public awareness & educational

Target problem

Suicide

Trespass

Suicide & Trespass

Mitigation

Effect mechanism

Improve practice & processes

Influence decision

Deter access

Influence behaviour

Reduce consequences

Study results

No studies

Yes (general)

Yes
(RESTRAIL)

The RESTRAIL Toolbox is a problem-solving guide for implementation of measures to prevent railway suicides and trespassing accidents and to mitigate the post incident consequences. It is the main output of the RESTRAIL research project and it aims to be a helpful, intuitive and user-friendly tool. It summarises practical information collected and produced during the project (synthesis, guidelines, best practice, lessons learned and empirical evidence for effectiveness). The content also (...)

[Read more](#)



Links

- + [European Commission: CORDIS: FP7](#)
- + [ERA – European Railway Agency](#)
- + [Samaritans](#)
- + [Railway suicide prevention Canada](#)

Latest updates

- [2014-09-16](#) PREVENTION ACTION PLAN
- [2014-09-16](#) CONSEQUENCES MITIGATION ACTION PLAN
- [2014-09-16](#) Overview

Events

- [2011-11-09](#) RESTRAIL – Kick-off Meeting
- [2012-06-14](#) RESTRAIL: Info Day
- [2013-06-13](#) RESTRAIL Mid-Term Conference
- [2014-04-28](#) RESTRAIL Final conference



Conclusions: **main features (1)**

Systematic development

- **Periodical evaluation** (Internal & external feedback)

Double orientation

- **Practical & Scientific** (framework for collecting and structuring information)

Content (two parts)

- **User-friendly & Complex**

Two formats

- **Paper-based & Web-based** (www.restrail.eu/toolbox)



Conclusions: **main features (2)**

Keyword classification system

- **Simple & advanced search**

Easy referencing + printing

- **Scientific bibliography & Glossary**

Mobile ready

- Adjusts to any **Tablet** or **Smartphone**

Feedback submission system

- Built in **Contact form**



Conclusions: **way forward**

Imbalanced content

- **Little information** or **weak evidence** (for some of the measures)

Combination of measures

- **No clear guidance**

Galleries

- **More examples**

Design

- **More ergonomic, new features...**



Analyse the problem

Explore measures by

Action plan for

- Prevention of incidents
- Mitigation of consequences

Type

Type	Target population	Effect mechanism	Study results
Organisational & procedural	Suicide	Improve practice & processes	No studies
Physical & technological	Trespass	Influence decision	Yes (general)
Physical & technological	Trespass	Deterrence	Yes (RESTRAIL)
Physical & technological	Trespass	Reduce consequences	

Thank you!
havarneanu@uic.org

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