European Transport Safety Council – PRAISE Seminar
Driving for Work Risk Management - Dublin, Ireland

Using the Road for Work: Performance in Ireland

31 January 2019

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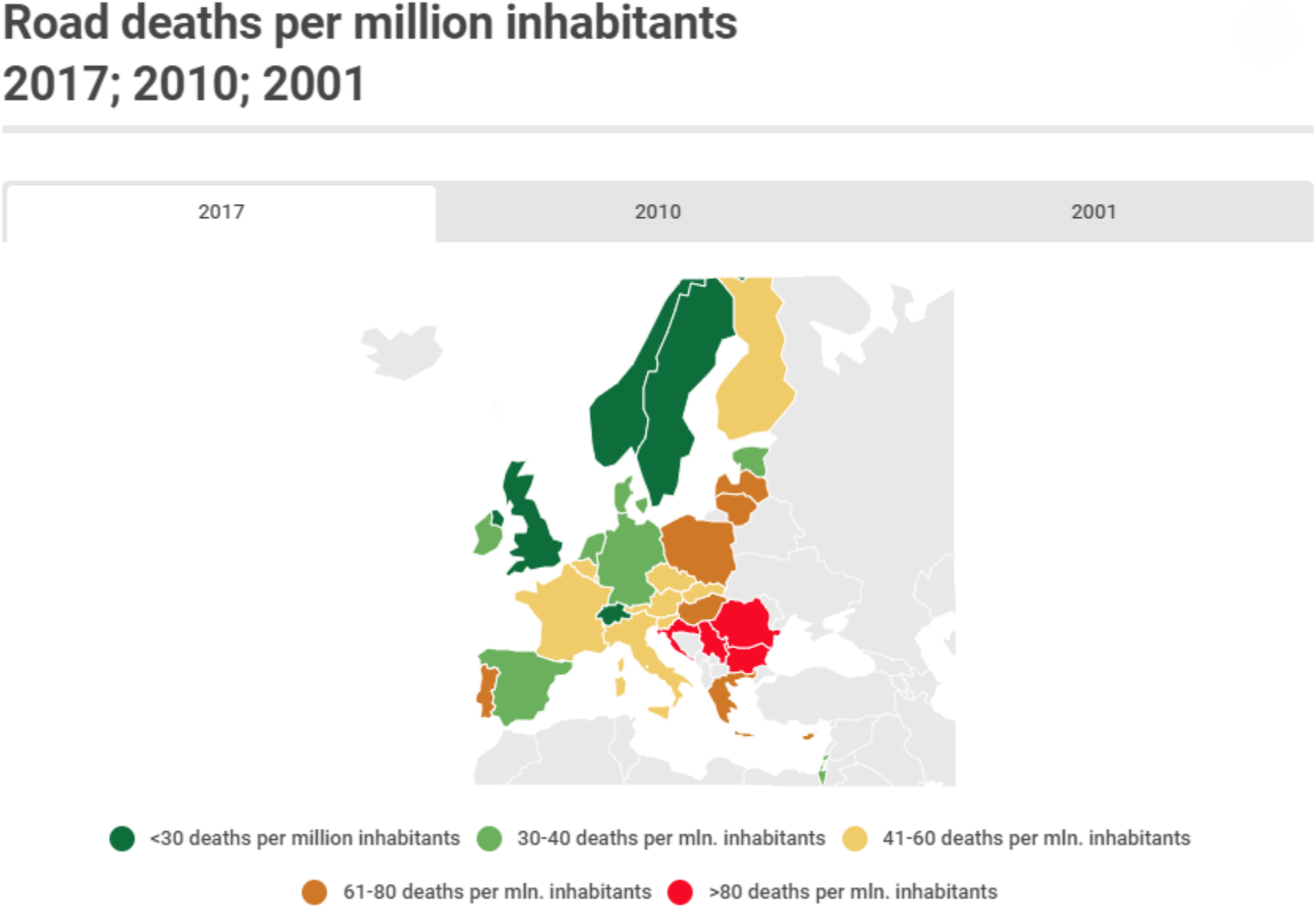
*Fatal **C**ollisions on the **R**oad **A**nd **S**afety and **H**ealth;*

using narrative data from coroners' files to determine the extent of underestimation of fatal work-related road collisions in the Republic of Ireland

https://www.iosh.co.uk/Books-and-resources/Fatal-collisions-on-the-road.aspx

Includes Research funded by the Institution of Occupational Safety and Health

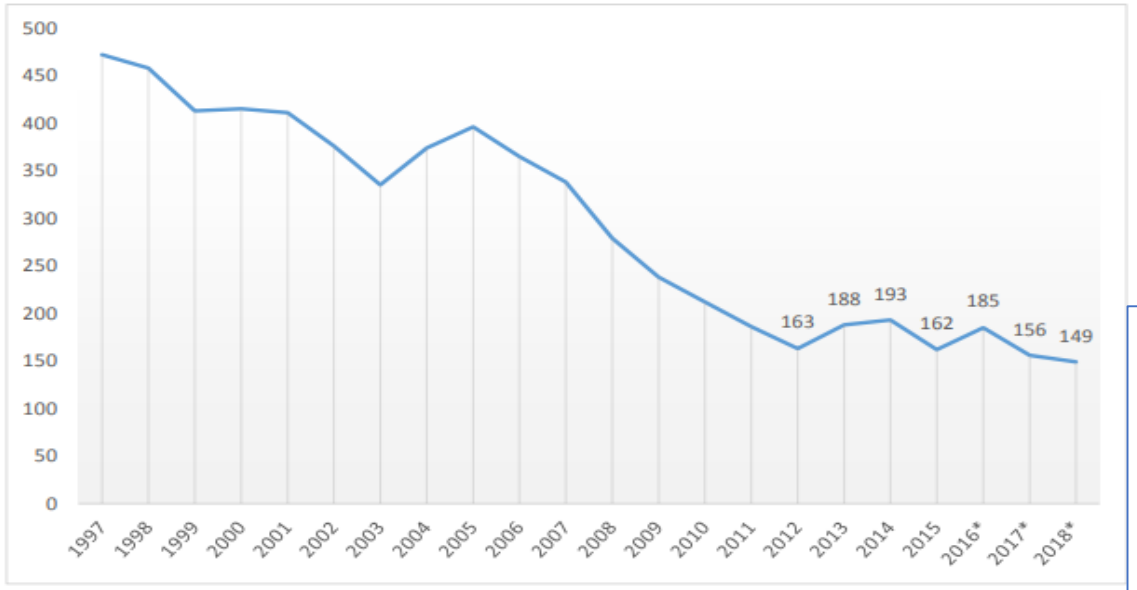
Road Traffic Fatality Profile: Europe



http://etsc.eu/euroadsafetydata/ accessed 16 Jan 2019

Irish Road Traffic and Worker Fatality Statistics

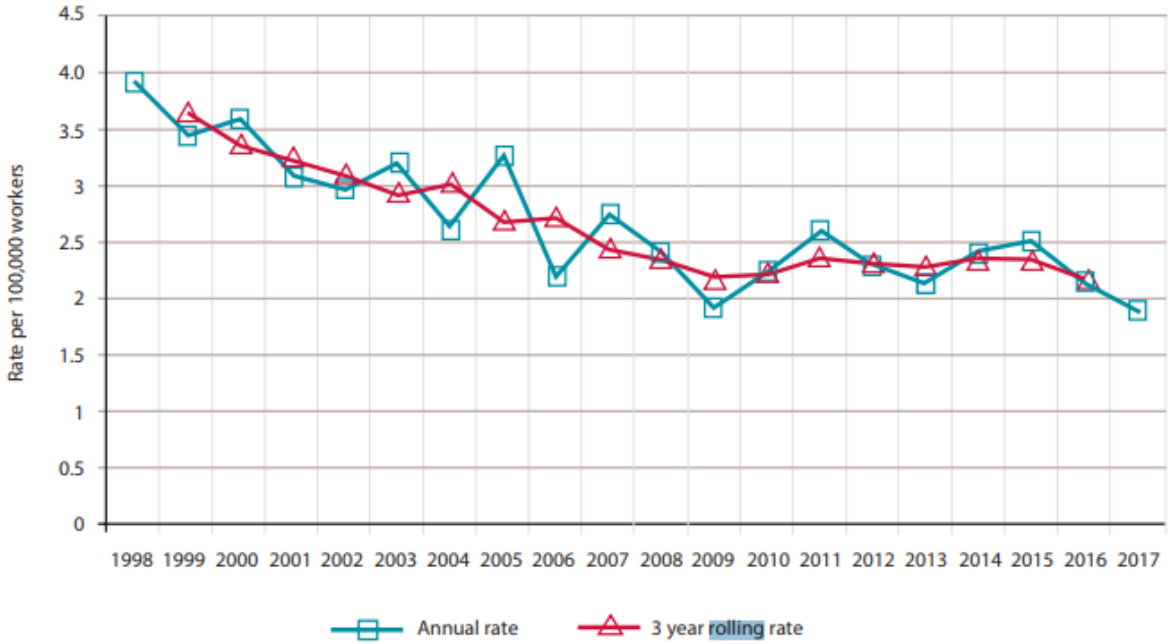
Figure 1. Fatalities by year, 1997-2018



[1] Based on provisional data and subject to change.

http://www.rsa.ie/Documents/Fatal%20Collision%20Stats/Provisional_Reviews_of_Fatal_Collisions/RRD_Res_20181227_RSAProvisionalReviewFatalities2018Jan7Report.pdf

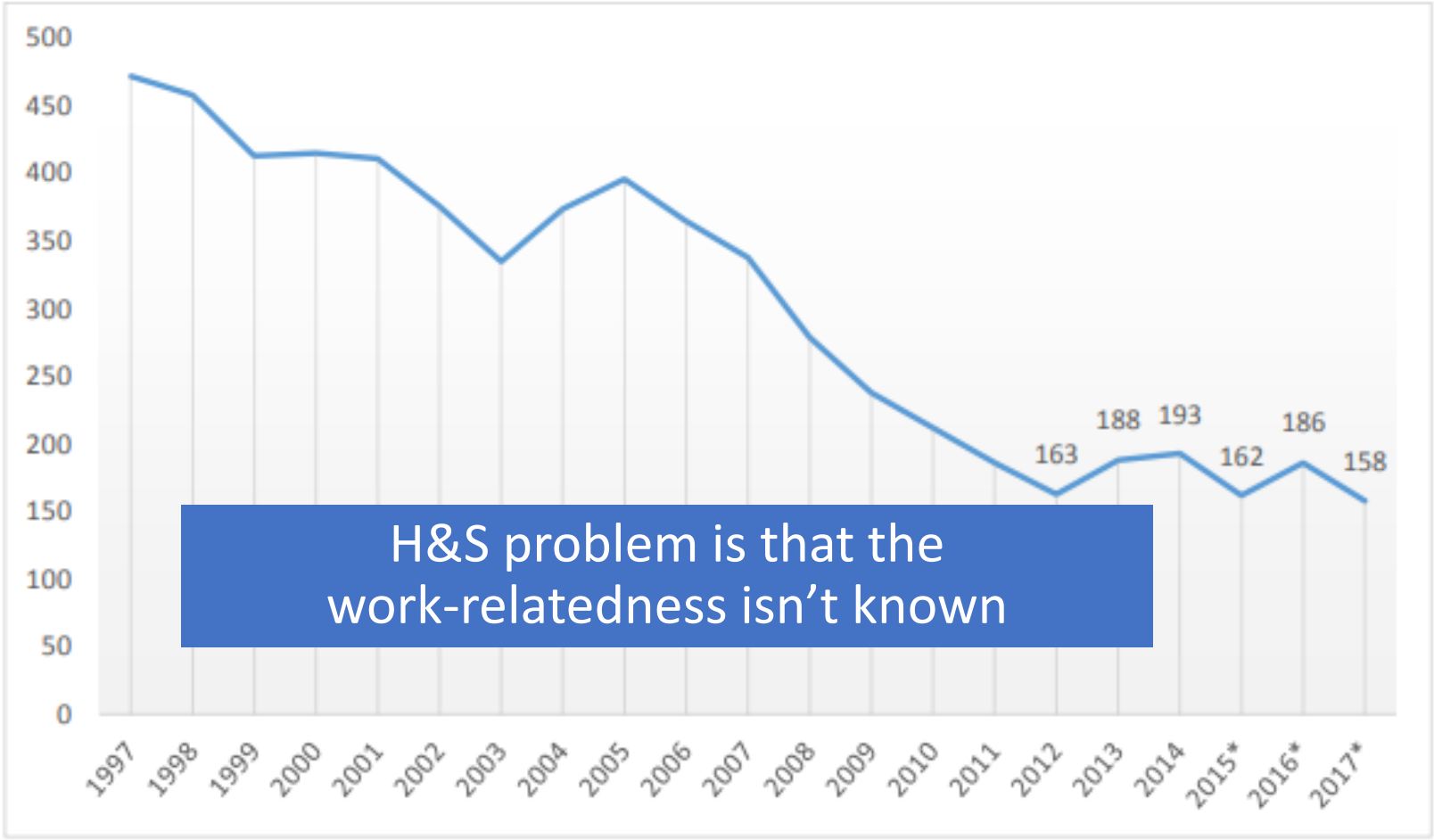
Figure 3.1: Rate of worker fatalities per 100,000 workers 1998–2017 (HSA)



https://www.hsa.ie/eng/Publications_and_Forms/Publications/Corporate/HSA_Stats_Report_2017.pdf

Road Traffic Fatality Statistics Ireland

Figure 1. Fatalities by year, 1997-2017



H&S problem is that the work-relatedness isn't known

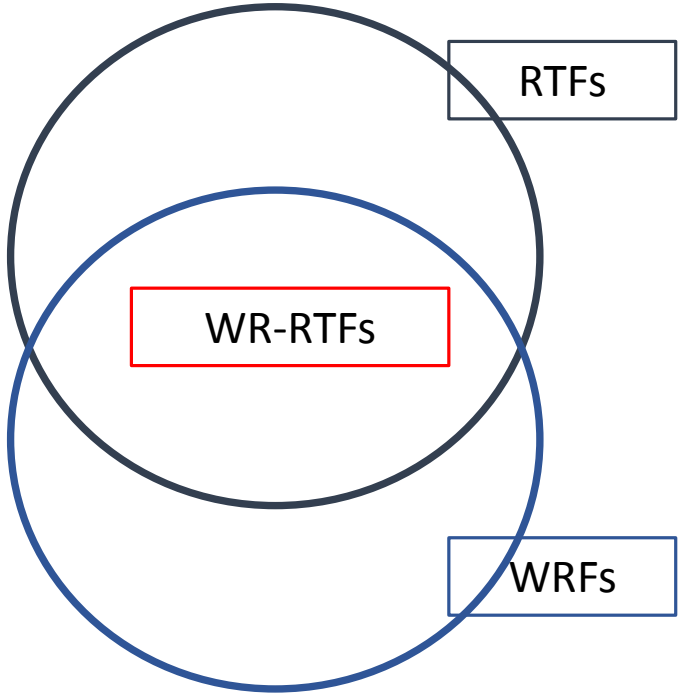
*Note: 2015-2017 data is provisional and subject to change.

http://www.rsa.ie/Documents/Fatal%20Collision%20Stats/Provisional_Reviews_of_Fatal_Collisions/RSA%20Provisional%20Review%20of%20Fatalities%2031%20December%202017.pdf

Double-edged' Conclusion from Road-Safety research Literature

- **Work-related road traffic fatalities** comprise a significant proportion of all **road traffic fatalities**

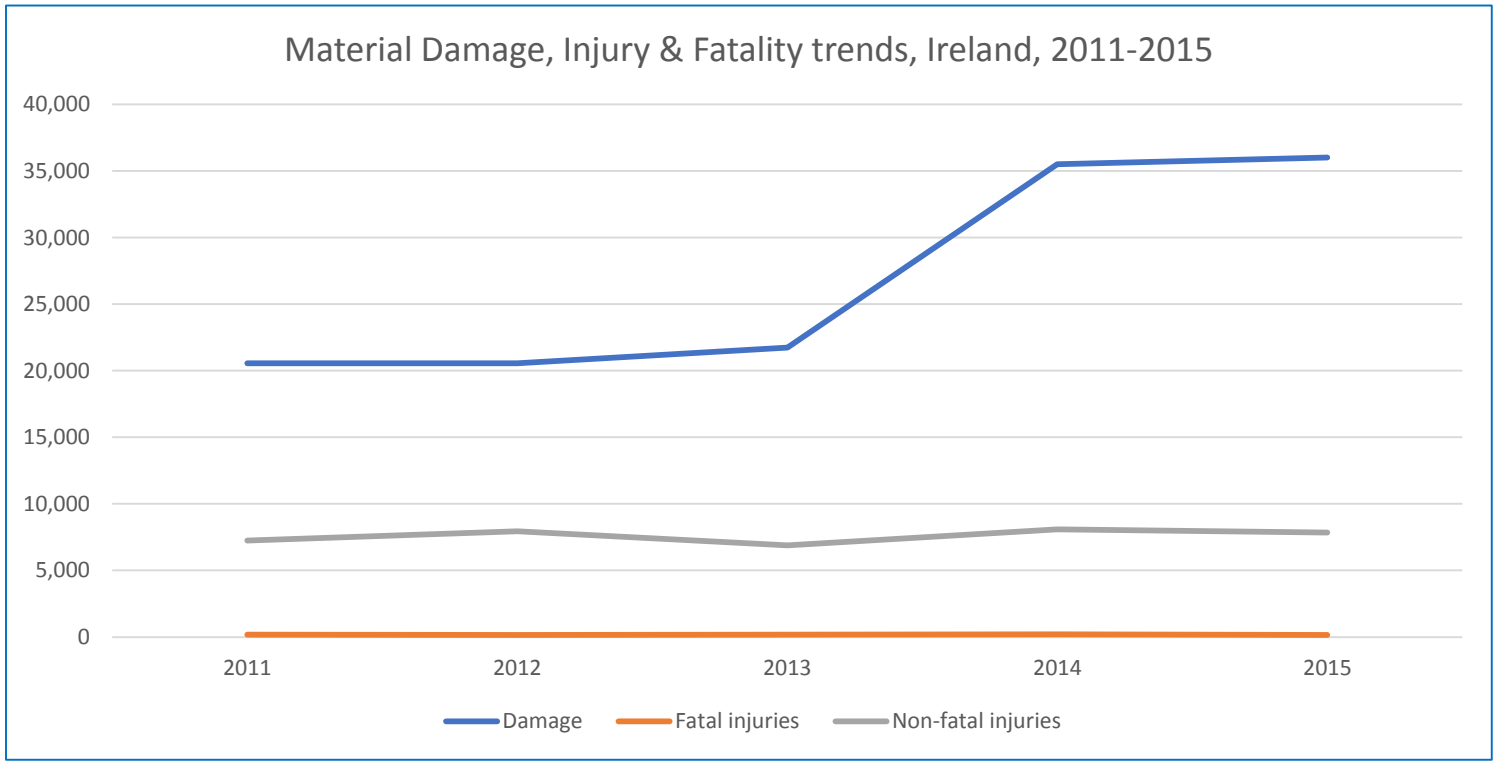
  - **Road-traffic fatalities** comprise a significant proportion of all **work-related fatalities**



In 2014, we had no idea of the extent of the Work-Related Road Traffic fatality problem in Ireland

Road Traffic Fatality iceberg

- In Ireland, in the period 2011 to 2015 inclusive, on average
  - 3% of all road traffic collisions involving injury were fatal collisions
  - 2.3% of all of the people injured in road traffic collisions were killed



Source: Road Safety Authority 2015 Road Collision Facts (2018)

Recent Work-Related RTF data

2018 preliminary WR RTF data

- 18 out of 40 WR fatalities were vehicle related (45%)
- Of the 18 fatalities
  - 88% were men
  - 13 were workers (72%) and 5 non-workers (18%)
  - 13 died in a workplace and 5 on a public road

Targeting of new WRVS plan for 2016 to 2018

Following evaluation and review of the most up to date evidence base on injuries and deaths at work[2] it was recognised that the plan needed to strike a balance between targeting:

- work related vehicle safety issues related to specific **vehicle types**,
- specific high risk vehicle activities,
- **high risk sectors** such as in agriculture, construction, transport, retail and wholesale and manufacturing,
- specific **work occupations**, and
- **common vehicle safety risks found across all work sectors**, for example, driving for work in cars and smaller vehicles such as vans and off road vehicles.

Source: Health and Safety Authority (2018)
Data provided by Deirdre Sinnott

Road Traffic Fatality firsts…1

The first known motor vehicle fatality took place in August 1869 in Ireland

Mary Ward (42), a **passenger**, died after falling out of a steam-powered automobile, as it went around a bend, and she fell under the wheels.

https://en.wikipedia.org/wiki/Mary_Ward_(scientist)

http://thehelpfulengineer.com/index.php/2016/05/worlds-first-ever-fatal-car-accident/

A **Coroner's inquest** was held and the jury verdict was 'accidental fall'

https://www.offalyhistory.com/reading-resources/history/famous-offaly-people/mary-ward-1827-1869

Road Traffic Fatality firsts…2

The first recorded **pedestrian** road traffic fatality in the UK took place in August 1896 in Crystal Palace, London

Bridget Driscoll (44), died after a Roger-Benz vehicle, going at a "*tremendous pace – like a fire engine*" (4 mph), knocked her down and she subsequently died.

http://www.bbc.com/news/magazine-10987606

A **Coroner's inquest** was held and the jury returned a verdict of: accidental death

http://www.bbc.com/news/magazine-10987606

The problem in many countries

- **The road safety authorities** and the police know how many road traffic fatalities there are annually but they don't know how many of them are work-related
- **The OSH authorities** know that there is under-reporting of work-related road-traffic fatalities, but don't know the extent
- There is an **EU definition** of a work-related road (WRR) death in the OSH field, but there is no common EU definition of a WRR death in the road safety area*.

The challenges in the Republic of Ireland

- Multiple data sources (Police, Coroner, Road Safety, OSH) (+)
- Different definitions for the different data sources (-)
- Police variables / system did not capture work-related incidents (-)
- Under-reporting / under-notification to OSH authority (-)
- No national electronic data in the Coroner system (but very rich data) (0)
- No linkage between the data sources (-)

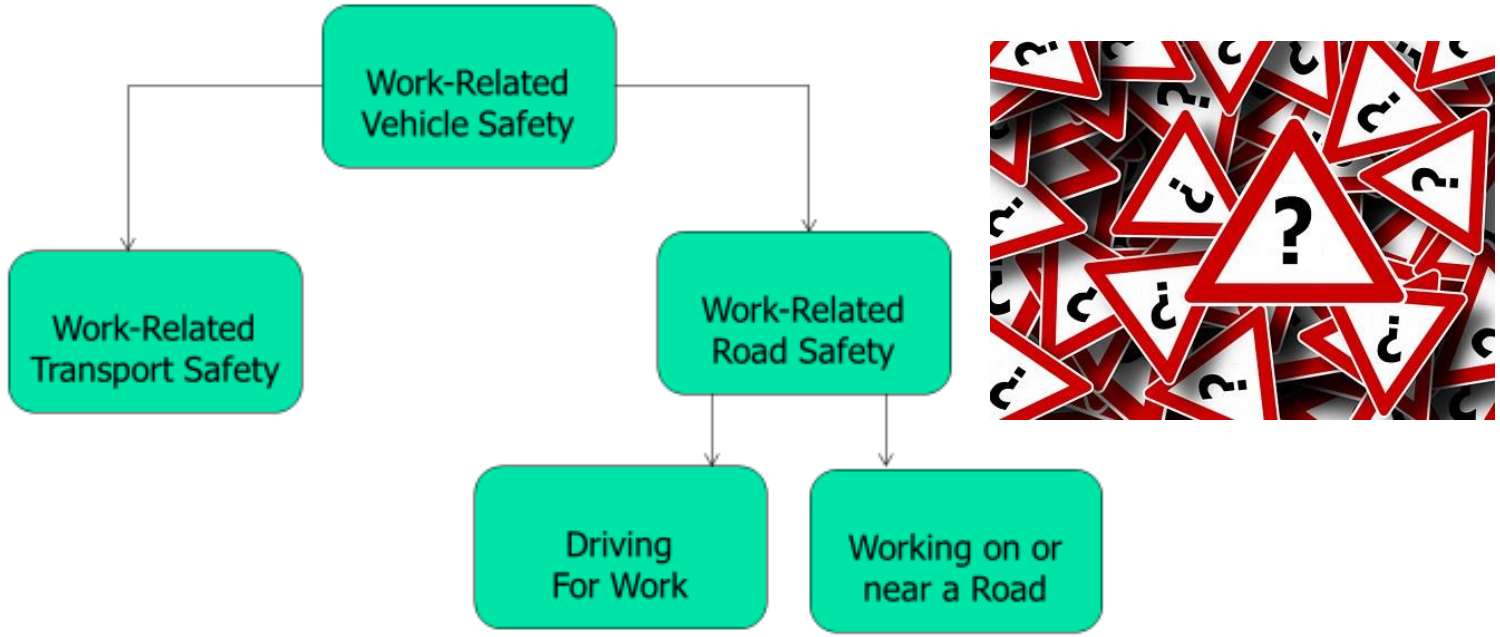
In most countries, a road traffic death is defined as death of a victim that occurred within 30 days of the collision

*A WRR death is defined in European Statistics on Accidents at Work (ESAW) as a death of a victim that occurred within one year of the collision. It covers all accidents that happened in the course of work, including road traffic collisions, but excluding commuting.

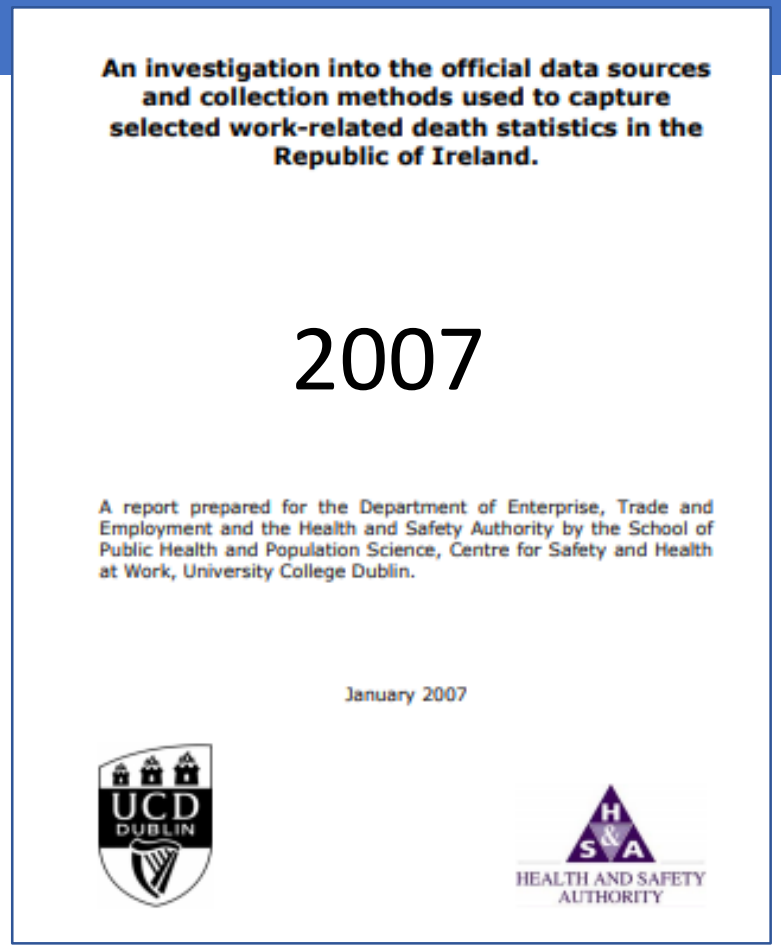
Resources directed at the problem

Work Related Vehicle Safety consultative panel

WRVS model (HSA, 2010)



Wheels grind slowly……



Work Related Vehicle Safety consultative panel

Coroners as a source of data

IOSH funding 2016

…small pilot study……It finds that the number of work-related deaths from road traffic collisions (8) in the Coronial files was double that of fatal injuries at work reported to the Health and Safety Authority (4) in the period studied, and that more than one third of the work-related fatal road traffic collisions on the coronial files involved someone who was at work at the time…..

Key findings in the recent study 2017

Data collected, in an IOSH-funded study, in late 2015 - early 2016
Reference: Drummond et al (2017). Fatal CRASH: fatal Collisions on the Road And Safety and Health. Leicester: IOSH.

- Police data had recorded **915** Road Traffic Fatalities (RTFs) in Ireland 2008-11
- Data were manually collected from hard-copy inquest files in **45** coroner districts in Ireland using a bespoke case-report form
- **833** Road Traffic Fatalities were identified from the available inquest files

- Data capture was confirmed by comparing cases identified to HSA work-related fatalities and RSA road-traffic fatalities

- **193** Work-Related Road Traffic cases were identified in which a worker, work activity or work process was involved in the collision

23% of all* road traffic fatalities were work-related

* Commuters not included

Limitations 1

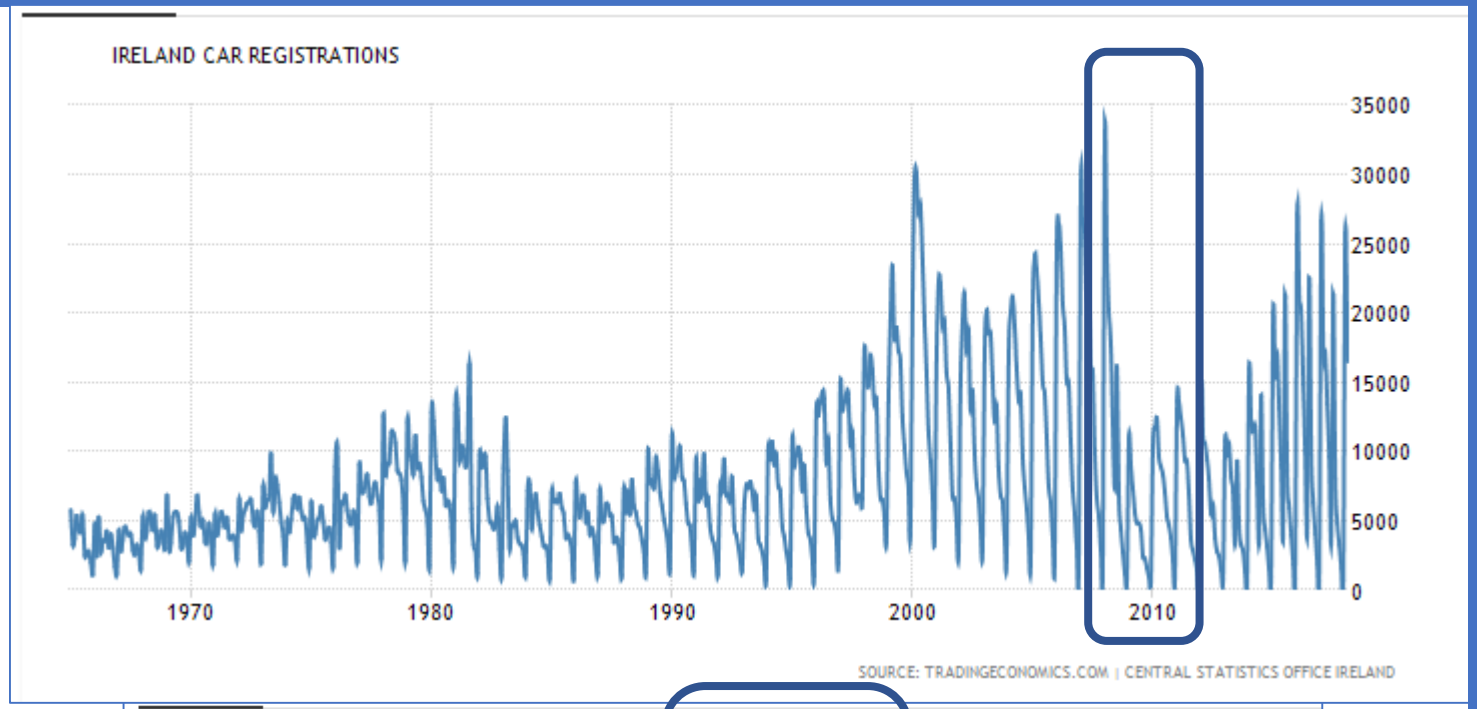
- This is quite old data at this stage
- Data was collected in 2015-16, but was taken from years where the most inquests would be complete (2008 – 2011 inclusive)

Table 3. 1 Coroner road traffic fatality case ascertainment as a proportion of all RSA road traffic fatalities

Year	RSA- recorded road traffic fatalities	Road traffic fatalities ascertained in coroner files	% of RSA recorded road traffic fatalities ascertained in coroner files
	n	n	%
2008	279	256	91.8
2009	238	222	93.3
2010	212	193	91.0
2011	186	162	87.1
RSA 44 districts (n = 895)	915	833	93.1

- This period coincided with the recession period in Ireland

Recession in Ireland 2008+



The reduction in road traffic during the recession would have included a large reduction in work-related vehicles on the road…….

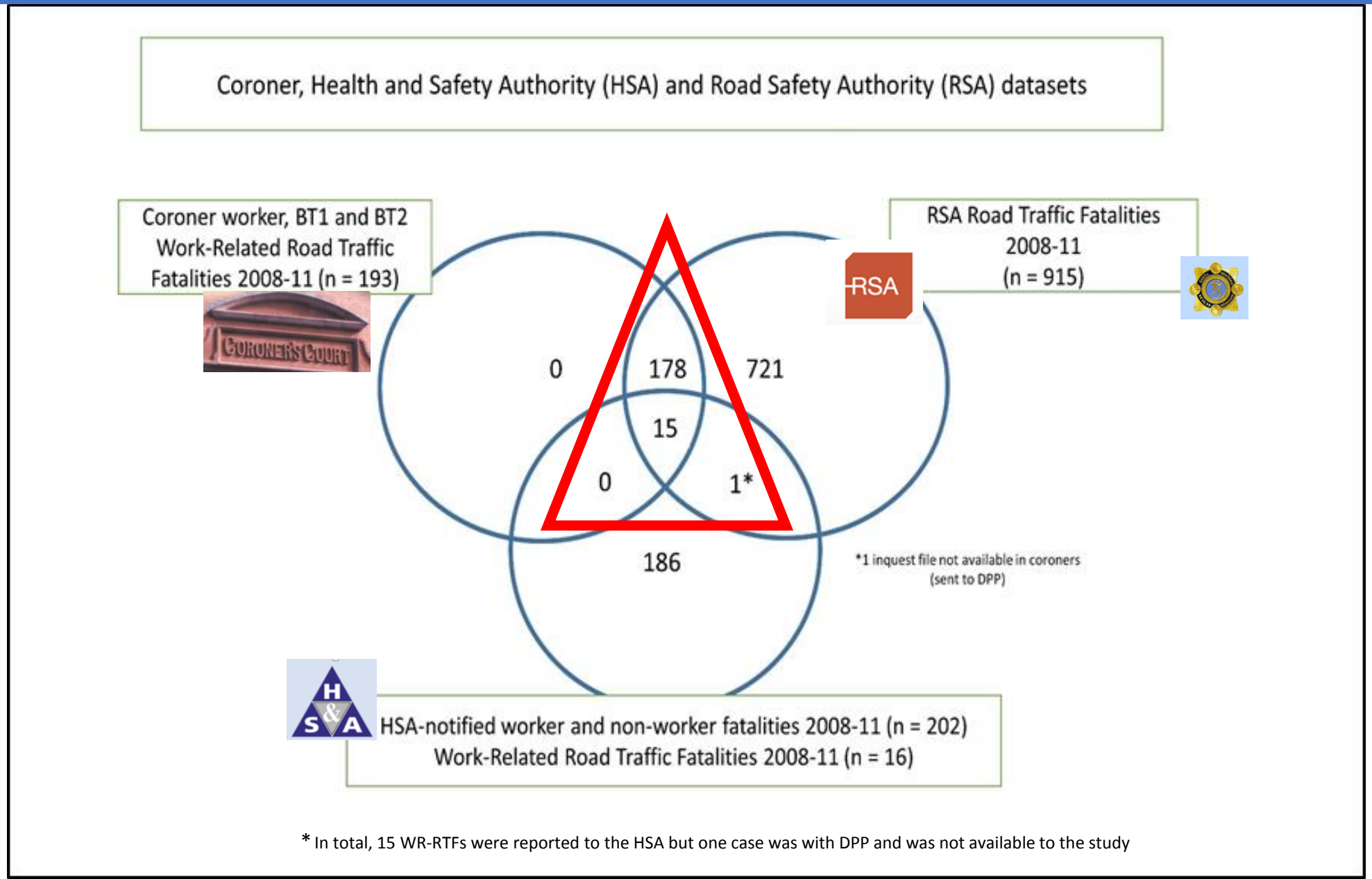
so it's possible that the number of work-related road fatalities was low in those years

Limitations 2

- Our findings were taken from narrative data
- Data was collected for a different purpose to that of the study
- Case report form V survey data
- No means of interrogating beyond what was available

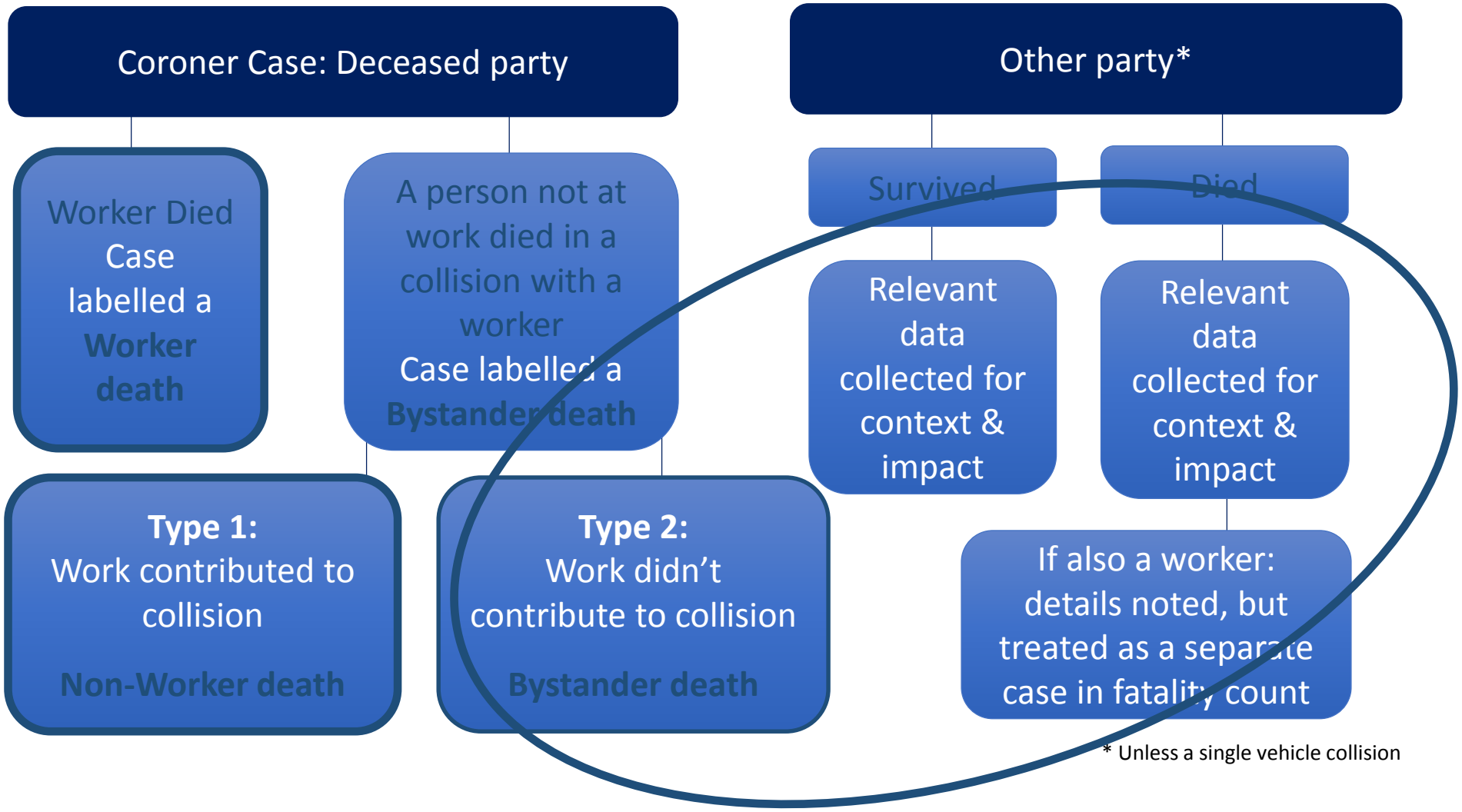
- Possible that we did not capture the full extent

Concordance between national data-sets



Methodology & Terminology used in reporting findings from Coroner files:

(either the **decedent** or the **key other party** in the fatal collision was at work)



Findings:

23% of all RTFs reviewed (n = 193) were work-related
(either the **decedent** or the **key other party** in the fatal collision was at work)

Legally notifiable* to OSH authority
Prevention responsibility?

29 **worker** deaths 15%

41% (n = 12) were notified*

4% of RTFs

45 **non-worker** deaths 23%
Work contributed

9% (n = 4) were notified *

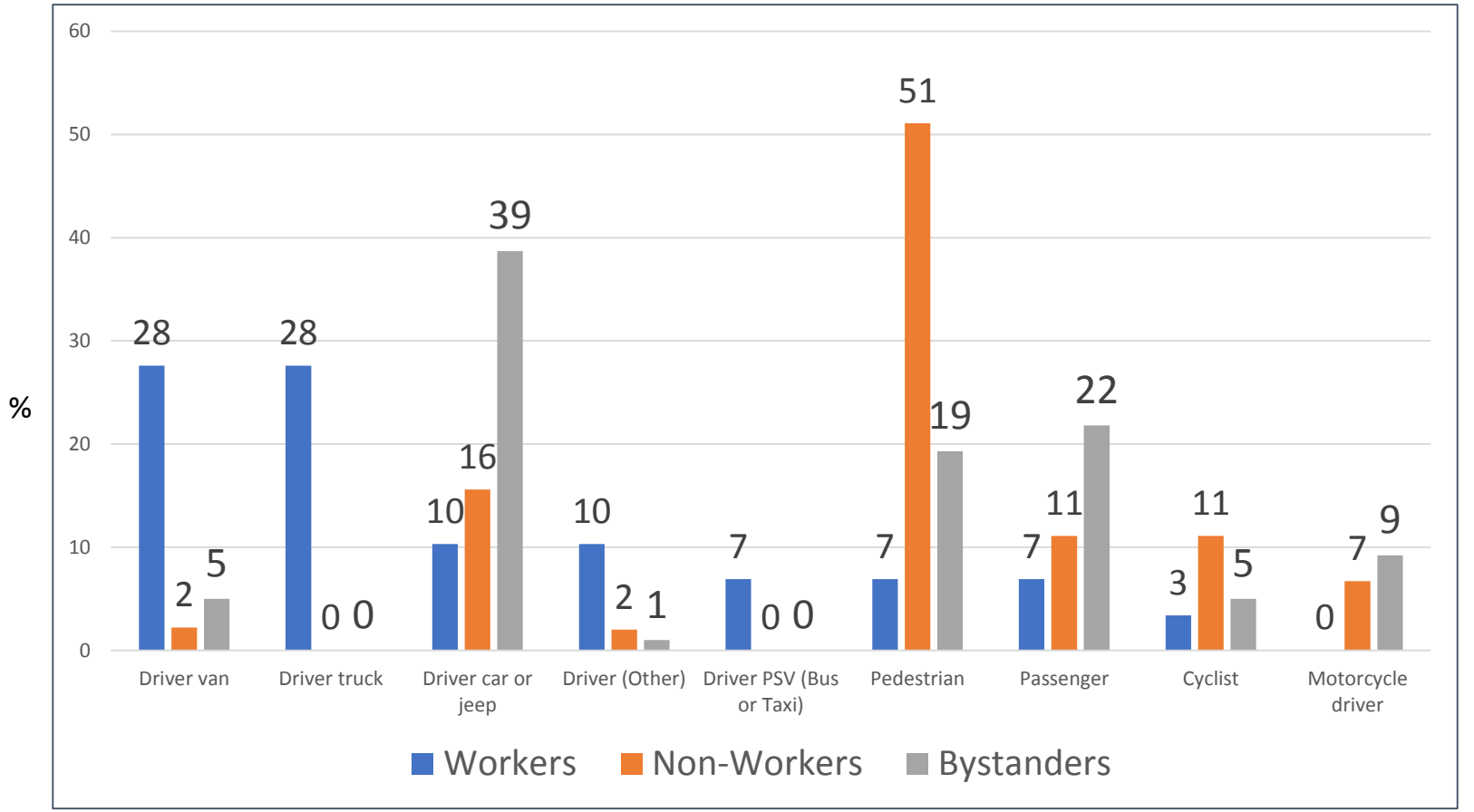
5% of RTFs

Not legally notifiable to OSH
Prevention responsibility?

119 non-worker 62%
(**bystander**) deaths
Work did not contribute but a worker was involved and survived

14% of RTFs

Primary classification of death by the **road user category** of the person who died



Among the **29 workers** who died
28% were driving a truck;
28% were driving a van;
7% were PSV drivers

Overall **60%** were **professional drivers** and **83%** were **the drivers of their vehicle**

Among the **45 non-workers** who died
51% were pedestrians;
11% were cyclists;
7% were motorcyclists

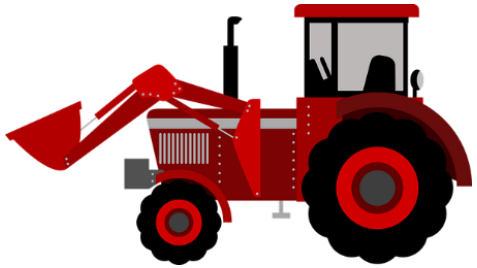
Nearly **70% of non-workers** who died were vulnerable road users

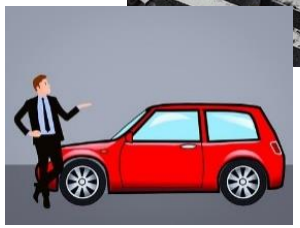
Among the **119 Bystanders** who died

39% were driving cars / jeeps;
22% were passengers;

19% were pedestrians;
10% were motor-cyclists

Using the road for work





Images from Pixabay.com

Ireland is not alone

190 worker fatalities of which:

32% were vehicle collisions

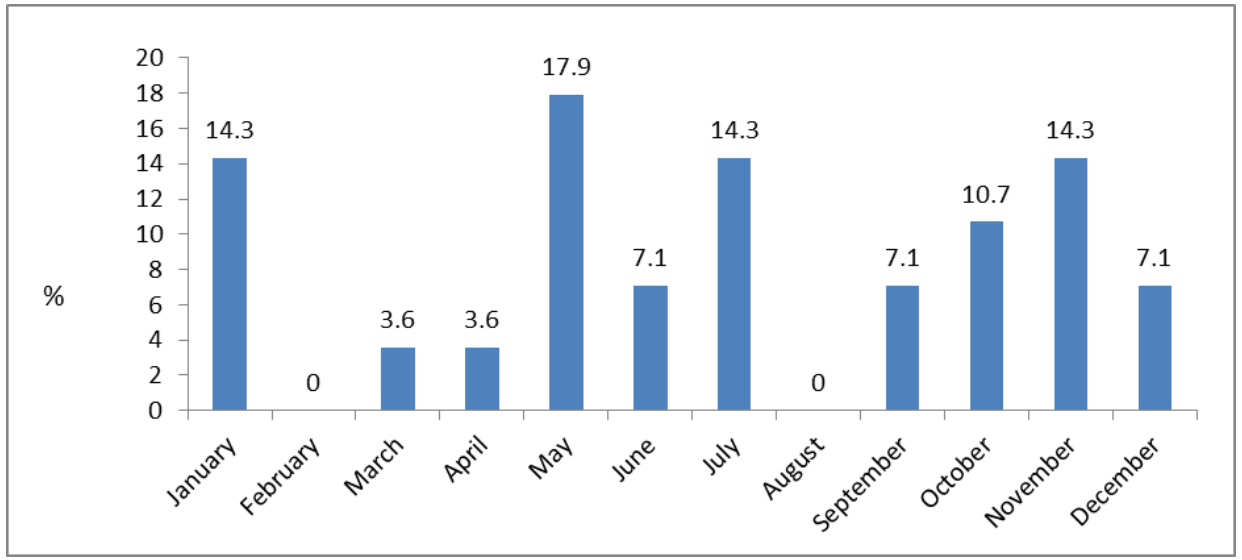
63% were related to vehicles

61% of bystander fatalities were due to a vehicle collision

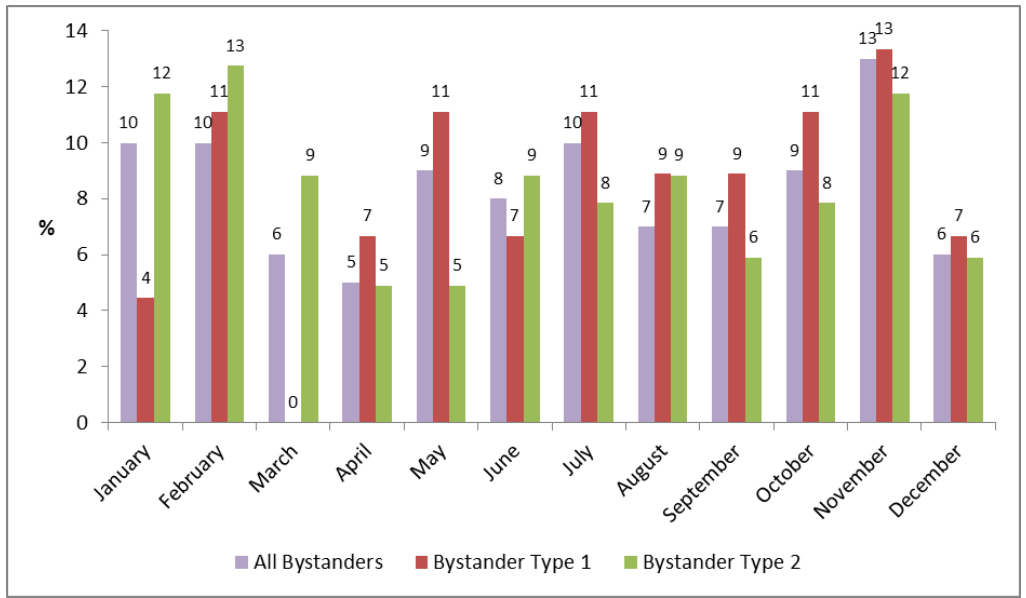
safe work australia

Month of the year

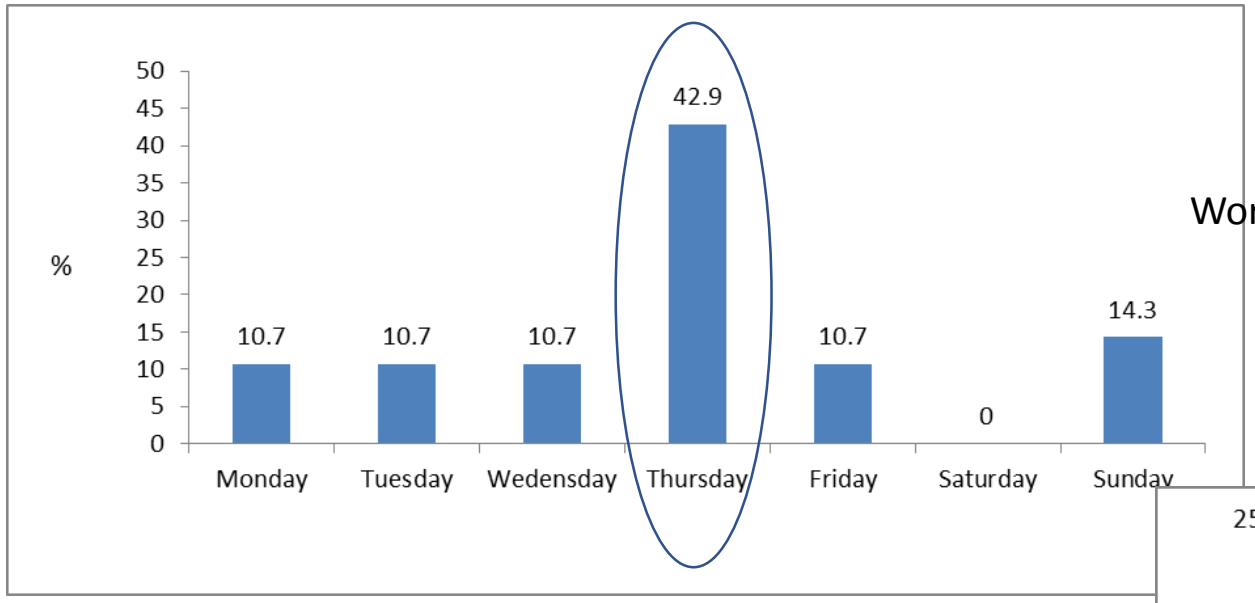
Worker deaths n = 29



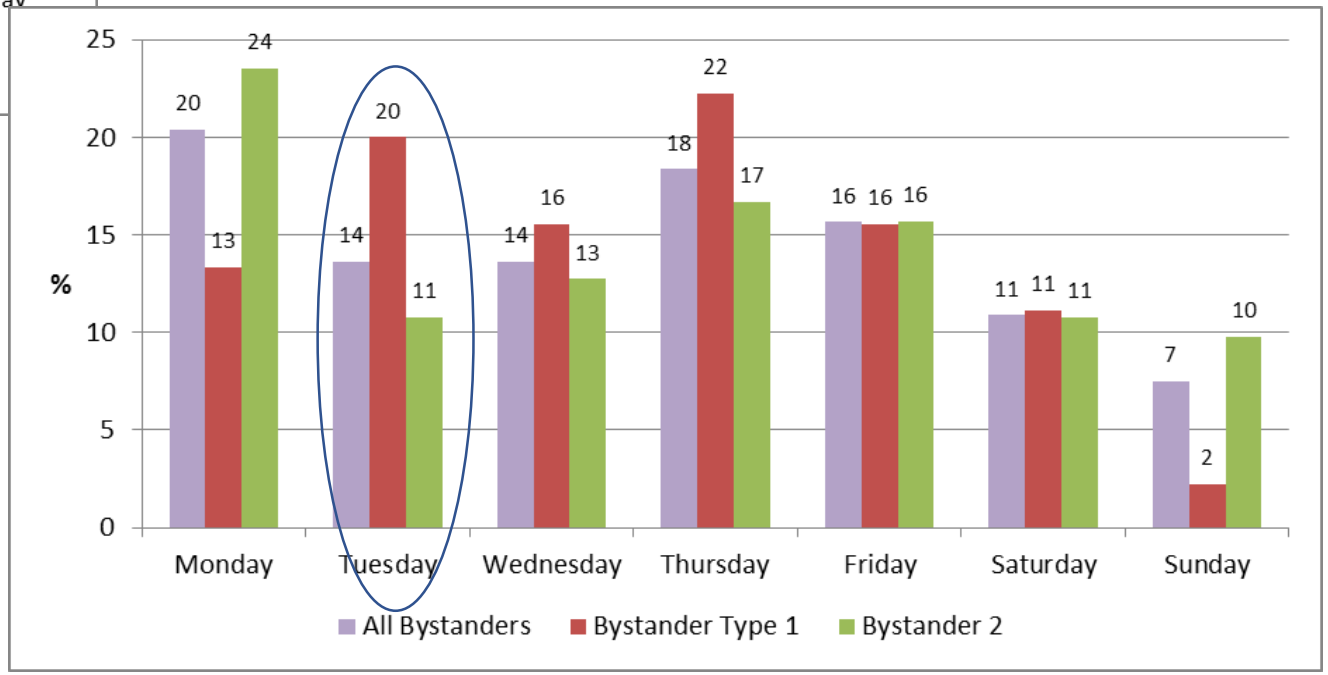
Non-workers n = 45
Bystanders n = 119



Day of week



Worker deaths n = 29



Non-worker deaths n = 45
Bystander deaths n = 119

Time of day

Time	Workers (%)	All Bystanders (%)	Bystander Type 1 (%)	Bystander Type 2 (%)
00:01 - 02:00	7.1	4.1	2.2	4.9
02:01 - 04:00	0	3.4	0	4.9
04:01 - 06:00	7.1	3.4	0	4.9
06:01 - 08:00	14.3	9.5	11.1	8.8
08:01 - 10:00	10.7	8.2	6.7	8.8
10:01 - 12:00	17.9	14.3	31.1	6.9
12:01 - 14:00	10.7	18.4	17.8	18.6
14:01 - 16:00	10.7	13.6	13.3	13.7
16:01 -18:00	14.3	9.5	8.9	9.8
18:01 - 20:00	7.1	8.2	4.4	9.8
20:01 - 22:00	0.0	4.1	0.0	5.9
22:01 - 00.00	0	3.4	2.0	2.9

Green = < 8.3%, Amber = 8.3 – 12.5%, Red = ≥ 12.6%

Profile of **workers** who died (n = 29 in 28 collisions)

- 97% men
- Average age 41 years (range 22 – 73); 97% aged 16-64.
- 83% were drivers of their vehicle
- 55% were drivers of vans / trucks and 7% were professional drivers (taxis or PSVs).
- Alcohol was <u>not</u> a feature of <u>most</u> worker fatalities, either on the part of the decedent or the *other party*.
- Very few details about work were recorded, possibly because work-factors were not the focus of police / coroners' investigations.
- 9 had lost control of vehicle, 3 were on the wrong side of the road, 2 stopped or braked suddenly, 3 working on the road when struck by a vehicle.
- In 7 cases the other party was on the wrong side of the road
- In half of **worker** fatalities, another **worker** was involved as the 'other party'

Profile of the ‘other party’ (the worker) in Bystander cases

- 96% men, but in more than half of the cases age of the other party was not available
- By occupation
  - 50% were truck drivers

  (58% in non-worker deaths, 47% in bystander deaths)
  - 20% were bus or taxi drivers

  (13% in non-worker deaths, 23% in bystander deaths)
  - 5% were van drivers

  (2% in non-worker deaths, 6% in bystander deaths)

- By Road user type
  - 3% drove cars, 11% drove vans, 52% drove trucks,
  - 20% drove buses or taxis
- A third of all ‘*other parties*’ were tested for alcohol and drugs – all tested negative
- 8.5% of ‘other parties’ had criminal proceedings taken against them or their company (20% in non-worker deaths, 4% in bystander deaths)

Road-user perspective

- In 58 cases (49%) where bystanders died, the ‘road user’ status of the ***Other Party*** to the collision (i.e. the worker) was the **driver of a truck**

  - Many of the decedents in this category (+/- a vehicle), veered / skidded / walked / ran / jumped / fell, cycled / wobbled into, or were lying in, the path of the truck
  - Poor lighting conditions and lack of high-visibility clothing was a major factor

  - From a driver perspective, almost all of these collisions were unavoidable.
  - In cases where testing was carried out, none of the truck drivers tested positive for alcohol or drugs
  - Only one criminal prosecution was taken against a truck driver who was the other party in a fatality

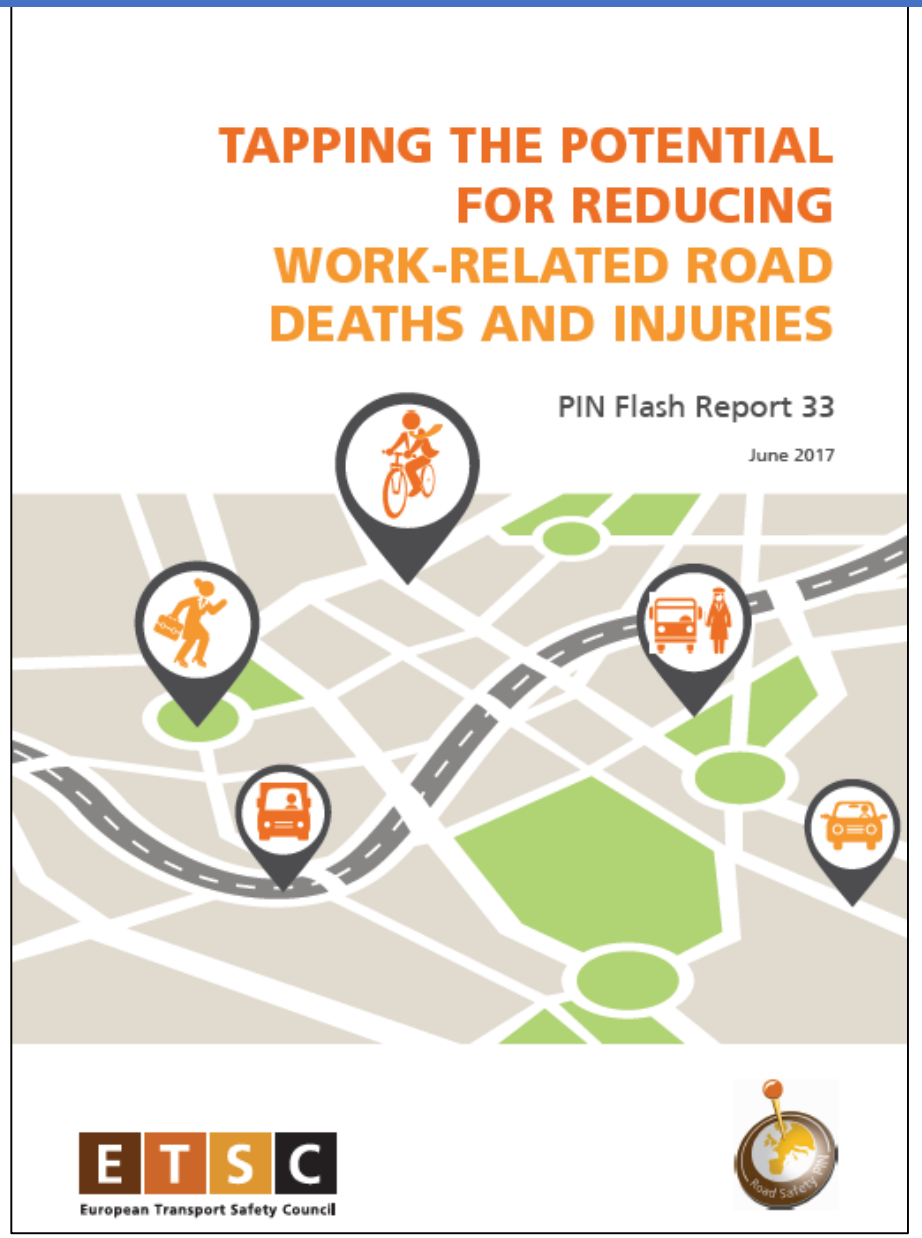
Remember: in this category, **work was NOT the primary contributor** to the collision

EU: European Transport Safety Council

"*In 2010, the European Union renewed its commitment to reduce road deaths by 50% by 2020, compared to 2010 levels*"

"*Over 25,600 lives were lost on the road in the European Union in 2016, of those a large proportion were victims of work-related road (WRR) collisions. Even though the exact number is unknown, it is likely that up to 40% of all road deaths are work-related*"

ETSC consider it likely that up to 40% of all RTFs are work-related!



What about commuters *?

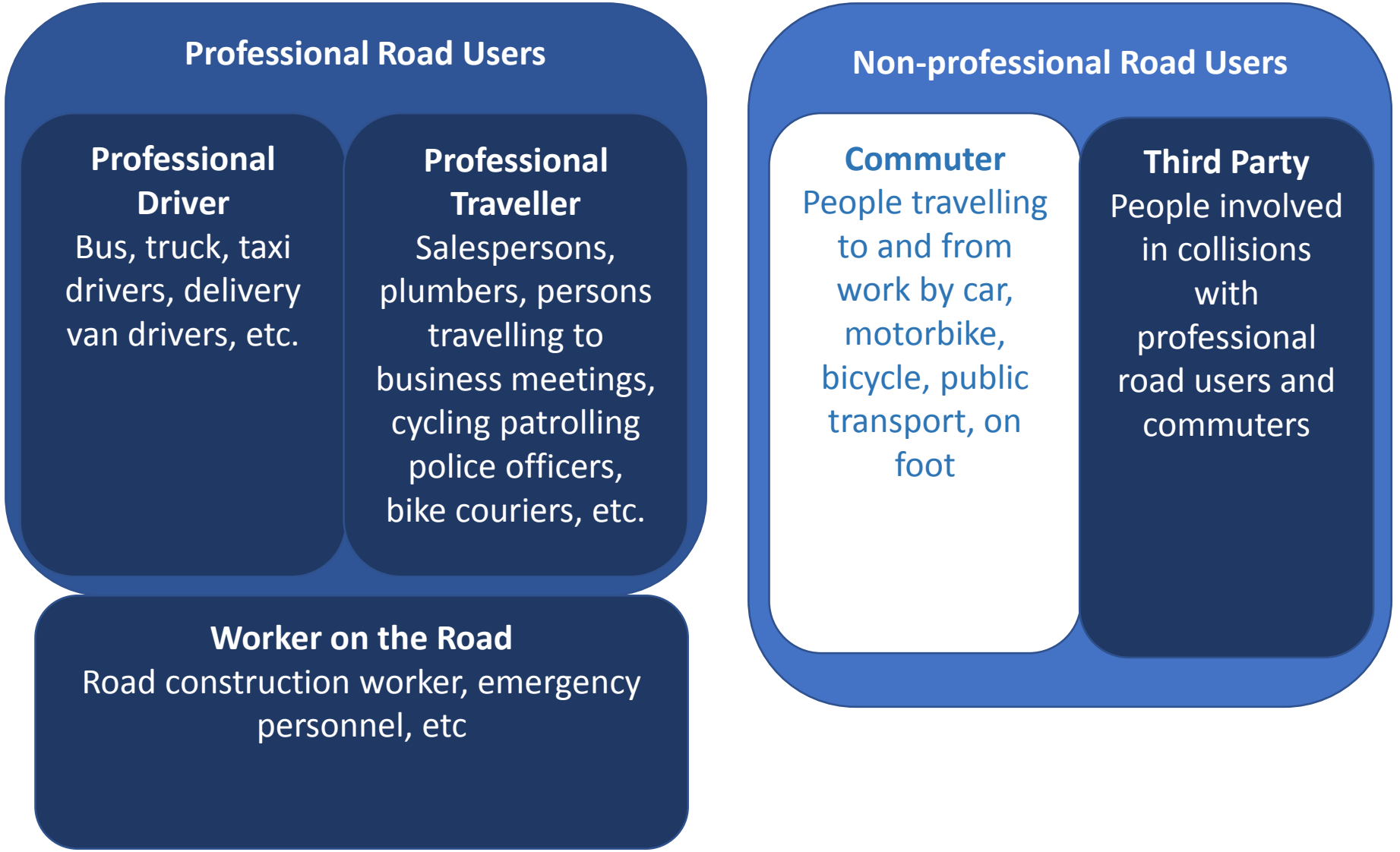
- In Ireland, commuter deaths are **not** considered work-related under any system (social welfare, OSH)
- ESAW (OSH system) does not include commuters in the OSH WRRS definition
- However, 13 EU countries include commuters to some extent in their Work-related Road Traffic statistics, and nearly all include commuting accidents in work-related sickness payment benefit

Table 3. Country answers regarding the definition of work-related road collisions and the extent of the definition.

	Q1: Is there a definition of a WRR collision in your country?	Q2: Does the WRR collision definition cover commuting?	Q3: Does the WRR collision definition cover all road user groups?
AT	Yes	Yes	Yes
BE	Yes	Yes	Yes
CY	No	Not applicable	Not applicable
CZ	Yes	No	No
DE	Yes	Yes	Yes
EE	Yes	No	No
EL	No	Not applicable	Not applicable
ES	Yes	Yes	Yes
FI	Yes	Yes	Yes
FR	Yes	Yes	Yes
HR	No	Not applicable	Not applicable
HU	Yes	Partially	Not applicable
* IE	Yes	No	No
IT	Yes	Yes	Yes
LT	No	Not applicable	Not applicable
LU	Yes	Yes	Yes
LV	No	Not applicable	Not applicable
PL	Yes	Yes	Yes
SE	Yes	Yes	Yes
SI	Yes	Not applicable	Not applicable
SK	No	No	Not applicable
UK	Yes	No	Not applicable
IL	Yes	Yes	Yes
NO	No	Not applicable	Not applicable
CH	Yes	Yes	Yes
RS	No	Not applicable	Not applicable

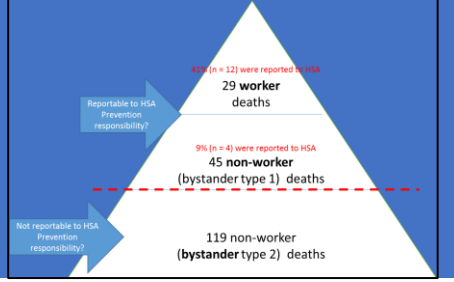
Yes · Partially · No · Not applicable

Work-related road user-types described by ETSC



Prevention (OSH)

Focus on **pre and post** collision interventions



Haddon Matrix	Human Factors General Public & Workers	Vehicle Factors	OSH national & Organisational factors	Environmental and Road Safety Factors
Leaders	HSA, Public Safety and Road Safety Agencies, Employers, Unions, OSH professional bodies	HSA, RSA, TII, transport and sector representative groups and employer groups	HSA, employer groups, unions and employers, OSH professional bodies	HSA, RSA, TII, Local Authorities, Police
Primary Prevention Pre-collision	OSH Management Training & information Blind spot & road risk awareness Safe driving policies & behaviours Safety equipment and gear	Vehicle road-worthiness Lighting & braking Mirrors & cameras Speed reduction Reflective strips Risk assessment	Health surveillance Fitness to drive Pre-identification of medical conditions Road safety events Risk assessment Fleet management Enforcement	Weather preparedness Road design Speed limits Visibility at pedestrian crossings / junctions Public awareness of blind spots Enforcement Data collection Research
Secondary Prevention Collision	At the scene interventions Saving lives, preventing secondary collisions, first responders, traffic management, etc.			
Tertiary Prevention Post-collision	Accident & Collision investigation Post-traumatic stress risk assessment & interventions	Accident & Collision investigation	Accident & Collision investigation Employee Assistance Programmes Sick-leave & rehab Risk Assessment	Data collection Research

Current status

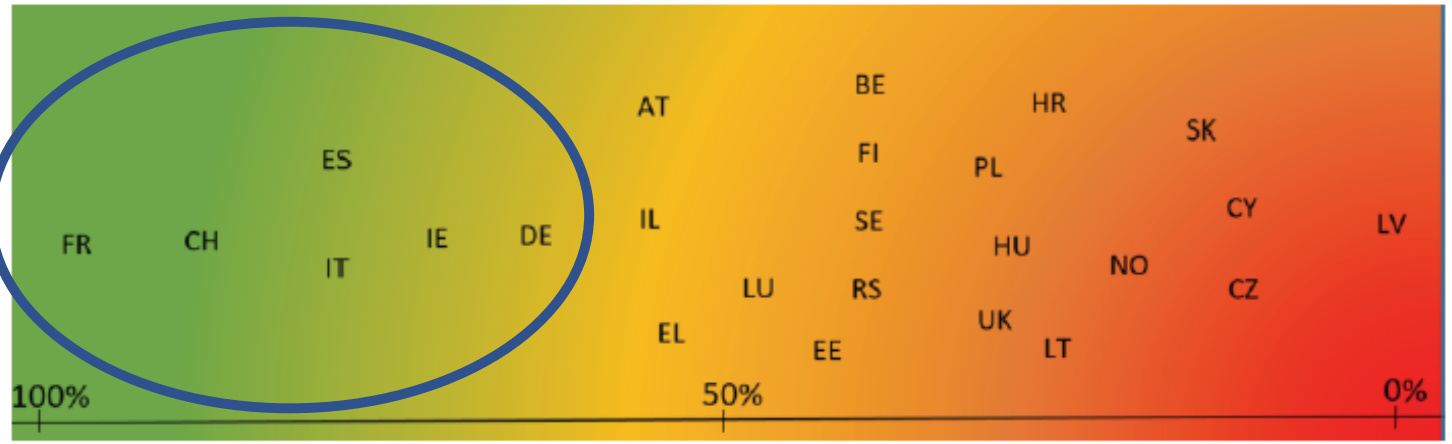
- Multi-agency co-operative approach has continued
- Prevention strategies clearly articulated in the strategies and programmes of work of relevant agencies
- Stakeholder work-related road safety panel continues
- National seminars highlighting the issue for and giving practical advice to employers are held annually countrywide and are very well attended and received
- Work-related road injury prevention is on large employer agendas

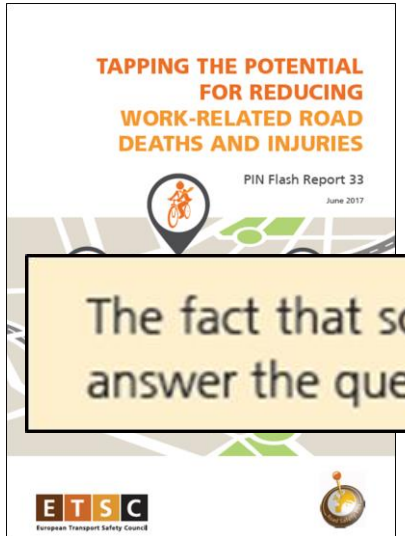
PIN Flash report 33 (2017) headlines

1.1 Country ranking for WRRS data collection and reporting

France, Switzerland, Spain, Italy, Ireland and Germany performed best in data collection and reporting of work-related road (WRR) deaths compared to the other PIN countries (Fig.1). France scored 14.5 points out of the maximum 15 points which could have been gathered in Part I.

Fig.1 Country performance in 2017 in data collection and reporting of work related road collisions as a proportion (%) of maximum 15 points. SI is excluded from the figure as three or more questions of Part I were not answered.





No response was received from Bulgaria, Denmark, Malta, the Netherlands or Portugal. A response was received from Romania but, due to lack of information, Romania was excluded from the report.

The fact that some PIN panellists found it challenging to gather the information to answer the questions asked suggests that tackling WRRS is complex.

Discussion points from an OSH perspective

Employer recognition in risk assessment and risk management that:

- It's not just about trucks and buses: vans, cars, motorcycles and bicycles are mobile workplaces
- More people drive for work than we can count
- More people are at work on the road than we can count
- Driving alone and driving long hours are high-risk activities
- Being involved (in or witness to) a serious road traffic collision is a psycho-social risk for workers on the road
- Official statistics are important

What's under the water?

- Non-professional drivers
- Commuters
- Psychosocial risks for workers involved in collisions
- We know more than we used to but there is a lot we don't know
- Lots of data and also a dearth of data with limited research funding sources

Thank you!

The UCD research team are grateful for the contribution of:

- The Institution of Occupational Safety and Health (IOSH) for funding our research
- The Coroners of Ireland for providing access to their files
- Ms Deirdre Sinnott and staff of the Irish Health and Safety Authority
- Mr Michael Rowlands and staff of Irish Road Safety Authority

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