

Road Safety – could Scotland hit Sustainable Development Goal target 3.6?

A briefing note from the Centre for Future Infrastructure in January 2018¹ reviewed how the UK was doing so far in achieving the Sustainable Development Goal (SDG) target 3.6 to halve road fatalities between 2015 and 2020. This briefing note looks at how Scotland is doing.

The 17 SDGs and 169 supporting targets were agreed by 193 member states of the United Nations on 25 September 2015 as the defining set of objectives for the wellbeing of humankind. The SDGs officially came into force on 1 January 2016.

Goal 3 is “Ensure healthy lives and promote well-being for all at all ages”. Target 3.6 is that “By 2020, halve the number of global deaths and injuries from road traffic accidents”.

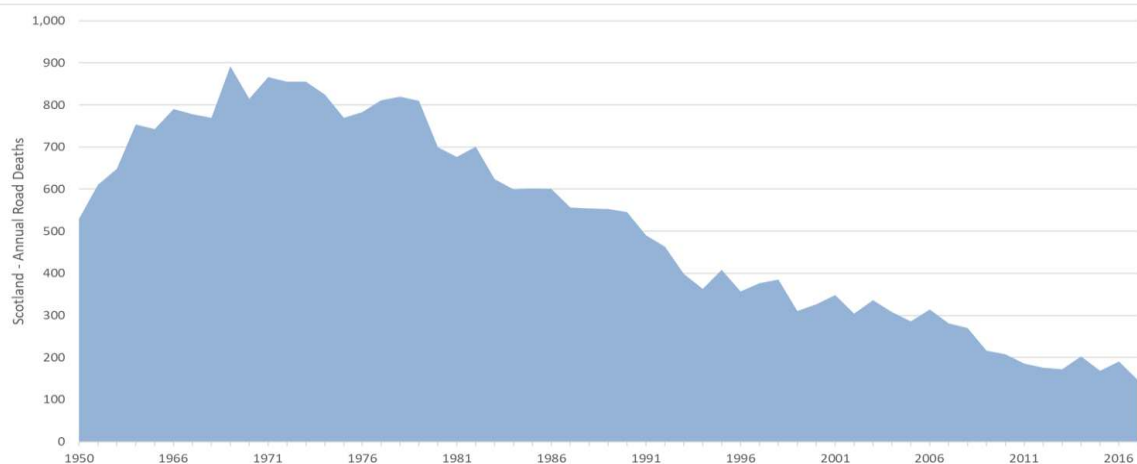
In July 2015, Scotland’s First Minister announced the Scotland’s commitment to sign up to the SDGs.

So, how *are* we doing in Scotland against SDG Target 3.6?

Provisional data for 2017 has been published by Transport Scotland². Since 1950, Scotland’s road traffic safety performance, like the rest of the UK, has had its ups and downs (Fig 1).



THE UNIVERSITY of EDINBURGH
Centre for Future Infrastructure



Data Source: Transport Scotland

Infographic: Gordon Masterton, after Thomas Findlay

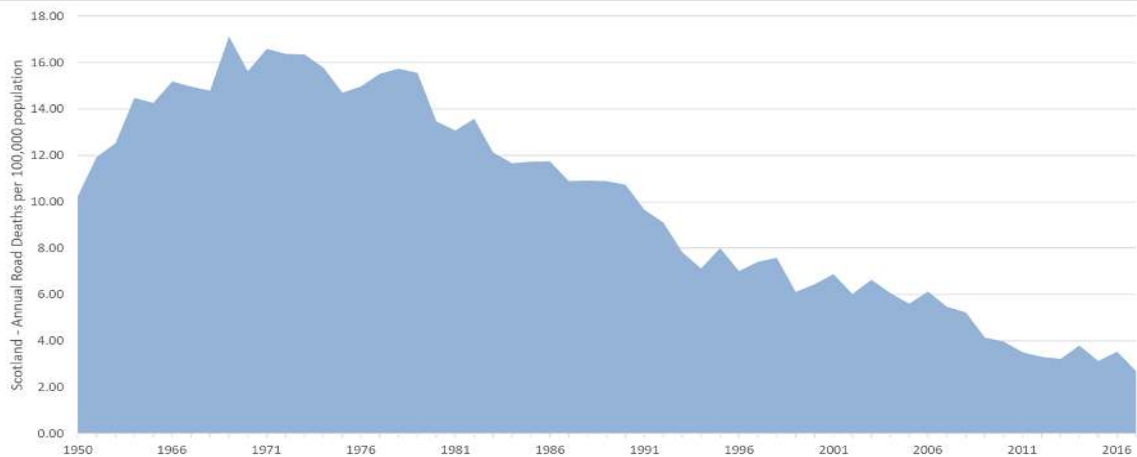
Figure 1: Scotland - road traffic accident deaths since 1950

There have been periods when deaths rose, and others when deaths decreased despite growth in population and even faster growth rate in the numbers of licensed vehicles on the road. Absolute numbers of deaths are trending downwards from the 1969 peak of 892, and Scotland’s 2017 death toll of 146 was the lowest it has ever been.

Fig 2 shows the same road death data normalised for Scotland’s population. The pattern is similar. Population change is not a dominant influence.

¹ Road Safety - A Sustainable Development Own Goal for the UK? Centre for Future Infrastructure, University of Edinburgh, January 2018.

² Key Reported Road Casualties Scotland 2017. Transport Scotland Statistical Bulletin. 13 June 2018.

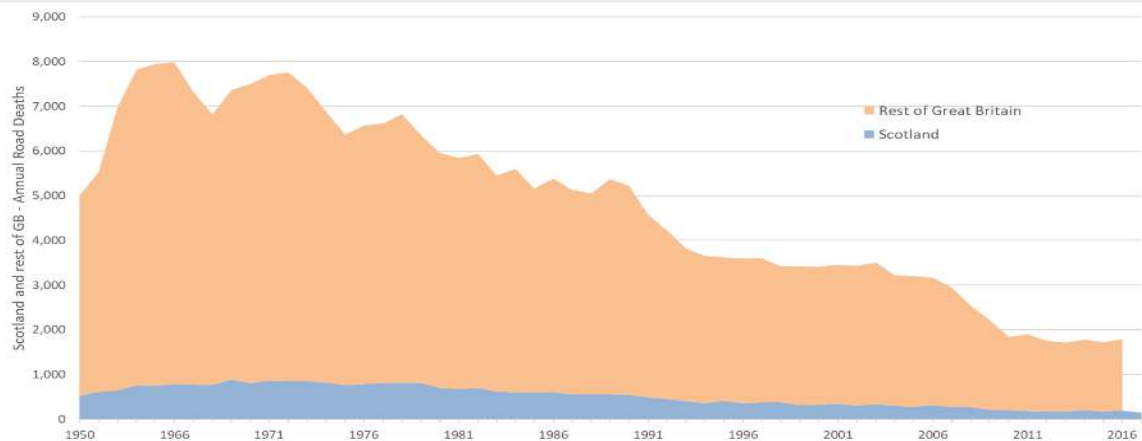


Data Source: Transport Scotland

Infographic: Gordon Masterton, after Thomas Findlay

Figure 2: Scotland - road traffic accident deaths per 100,000 population

Fig 3 shows how Scotland's road deaths compare to the rest of Great Britain (Northern Ireland uses different accident reporting criteria and so is not directly comparable).

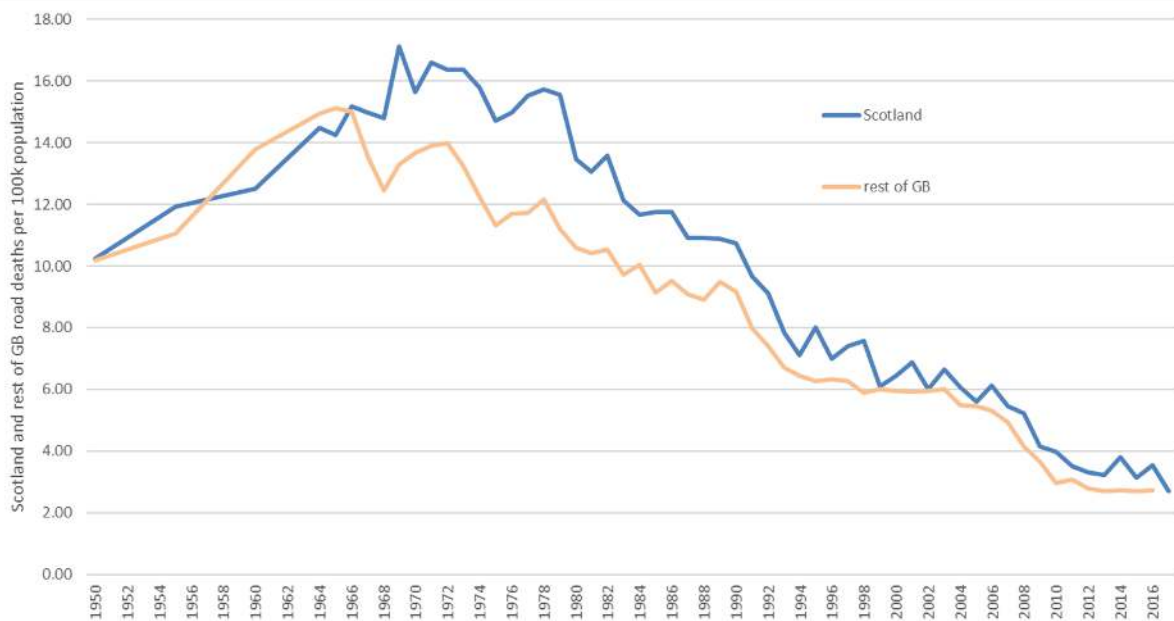


Data Source: Department for Transport

Infographic: Gordon Masterton, after Thomas Findlay

Figure 3: Scotland and rest of GB annual road deaths (2017 data for rest of GB not available as at August 2018)

The data population difference makes it difficult to visualise comparative performance. Fig 4 plots road death rates per 100,000 population for both Scotland and the rest of Great Britain.



Data Source: Department for Transport; Transport Scotland

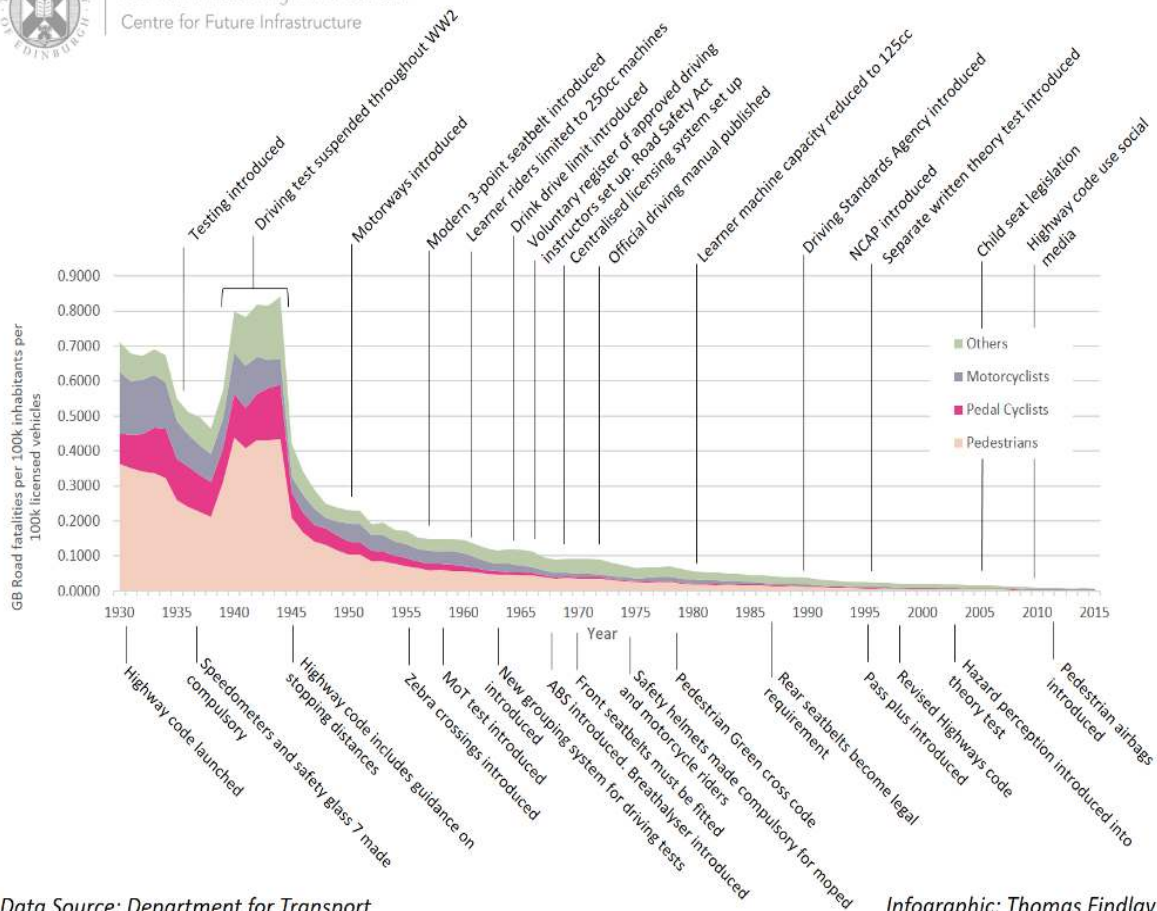
Infographic: Gordon Masterton, after Thomas Findlay

Figure 4: Scotland and rest of GB road accident deaths per 100,000 population

Between 1950 and 1966, the (worsening) performance trend was broadly similar. The rest of GB (mainly England of course), began its turnaround to long term improvement in 1966 but Scotland lagged by three years. Although Scotland's improvement was steady thereafter, it took about thirty years to get closer to parity with the rest of Great Britain. One could speculate that whilst regulatory changes and promotional campaigns were UK-wide, the rate of roll out of physical infrastructure that helped improve safety, notably the motorway network, took longer for Scotland to see material benefits. The similarity of trends between 1950 and 1966 and indeed more recently, suggests that weather or geographic differences should not necessarily be a reason for poorer safety performance, but Scotland has never quite attained the same standard consistently as the rest of GB since 1966. The devolution of decision-making powers on infrastructure spending, legislation, policing levels etc give an opportunity for Scotland's priorities to be differentiated, as we have seen with drink-drive legislation. The smaller data set for Scotland leads to bigger year on year variations.

The good news is that the probability of a Scottish resident being killed in a road traffic accident today is 1/6 of what it was in 1969, despite there being many more licensed vehicles on the roads.

Road deaths are the consequence of unplanned catastrophic encounters between people *and* vehicles. Fig 5 normalises for both GB population *and* number of licensed vehicles and overlays some of the principal national road safety measures implemented since 1930.



Data Source: Department for Transport

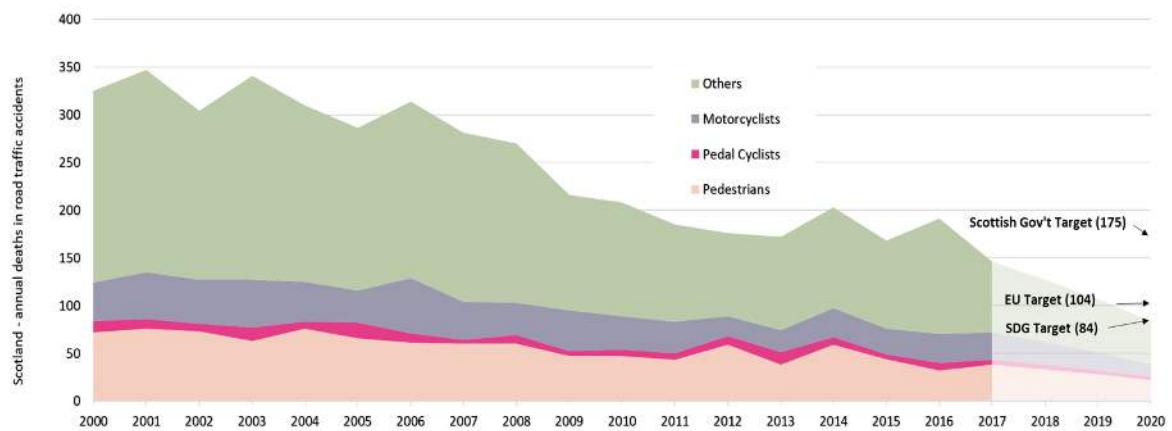
Infographic: Thomas Findlay

Figure 5: Great Britain - road safety initiatives since 1930

Many initiatives and measures have contributed to the improvements, and it's right that we should continue to trial as many measures as we can conceive, accepting that it's difficult to measure an indisputable cause / effect relationship. So long as we reduce deaths, we should accept that some measures will be more successful than others.

Let's step away from the long view and look more closely at recent years and return to the SDG metric of absolute numbers.

Fig 6 shows Scotland's road deaths since 2000. The category 'Others' is dominated by car occupants, but also includes those killed in buses, coaches, minibuses, taxis and goods vehicles.



Data Source: Transport Scotland

Infographic: Thomas Findlay

Figure 3: Scotland – annual road traffic accident deaths 2000-17 and targets for 2020

The provisional 2017 data are encouraging. There were 146 fatalities on Scottish roads, the lowest ever and, after a disappointing 2016, deaths were significantly less than the Scottish Government's target set in 2009 (to reduce deaths in 2020 by 40% from the 2004-08 average³).

So, are we likely to hit the SDG target by 2020? Fig 6 also looks forward to 2020 and plots where we need to get to. By eyeballing recent trends it's easy to see whether we're on track, or whether we need to do things differently and better. Whilst challenging, trends suggest that it appears possible to reach the SDG target if it is accepted as such and efforts are focussed. Scotland's road deaths reduced from 191 in 2016 to 146 in 2017, 76 per cent less. Similar percentage improvements over the next three years would comfortably beat the SDG Target of 84 (half the 2015 deaths). One year's data in a relatively small dataset is by no means a reliable basis for forecasting, but at least it's encouraging, and the longer trend is steadily downward, although since 2011 rather slower than necessary.

The House of Commons International Development Committee said in June 2016: "We are particularly concerned that the SDGs have not been included in the 2015–2020 Single Departmental Plans of all government departments, which indicates a worrying lack of engagement in the SDGs across Government. Departments should be assigned specific responsibilities for making progress on the SDGs to ensure ownership and clear lines of accountability and these should be laid out clearly in each department's Single Departmental Plan, with specific references to relevant SDGs"⁴.

The European Union has agreed a target of reducing road deaths by 50% from 2010 levels by 2020⁵. This target has been added to Fig 6. It is less stretching than the SDG Target but more ambitious than the Scottish Government target.

Given the First Minister's announcement in July 2015, one would have thought that the SDG Target would supersede previous targets. But Transport Scotland's 2016 Strategic Road Safety Plan maintains

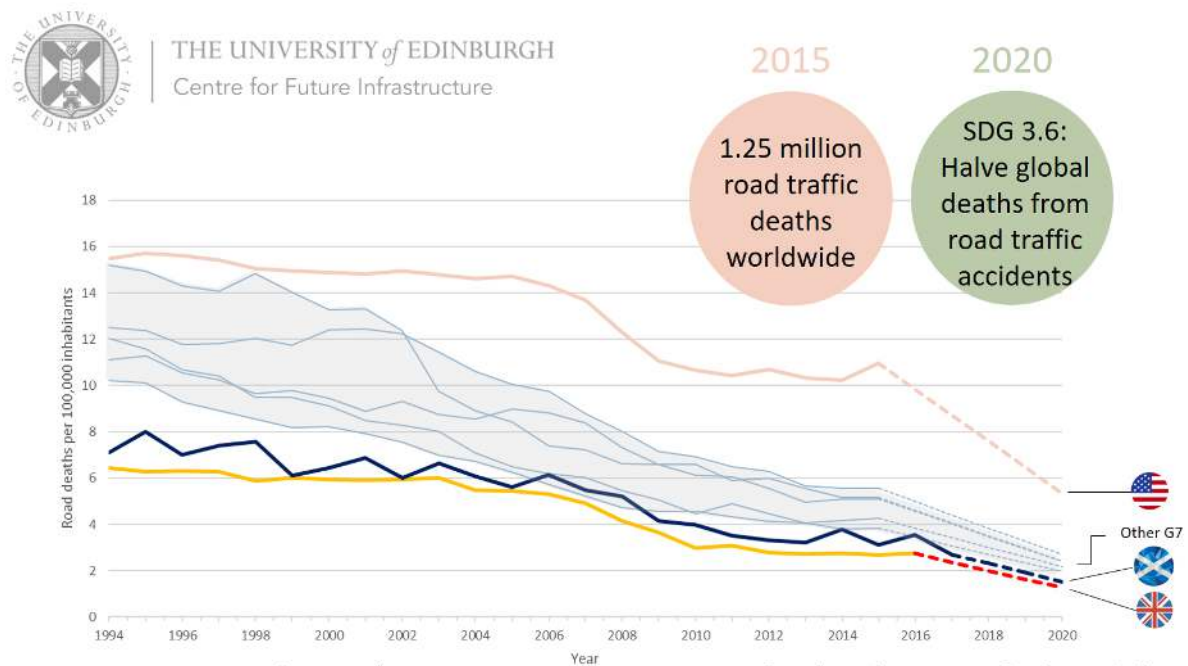
³ Go Safe on Scotland's Roads it's Everyone's Responsibility: Scotland's Road Safety Framework to 2020. 2009.

⁴ UK implementation of the Sustainable Development Goals First Report of Session 2016–17. House of Commons International Development Committee. June 2016.

⁵ 11th Road Safety Performance Index (PIN) Report. European Transport Safety Council. 2017.

the less ambitious target set in 2009, with no acknowledgement of either the EU or the SDG Targets⁶. Cascading high level SDG-related policy commitments to departmental or agency level is a challenge not unique to Westminster.

How is Scotland benchmarked against its peers? The UK road safety death rate (by population), is better than the other G7 countries (Fig 7), although the performance gap has narrowed significantly since the early 1990s. Scotland now tracks more closely with the UK data and its 2017 improvement has increased the likelihood of being able to achieve SDG Target 3.6. Many, including the UK, slowed down their improvement rates since 2010. The USA looks to have a formidable challenge.



Data Source: data.oecd.org/transport/road-accidents.htm Infograph: Gordon Masterton after Thomas Findlay
 Figure 4: Scotland and G7 Countries - road death rates since 1994 and projections to SDG Target

The slowdown in improvement is disappointing, and all G7 members are currently trending to miss the SDG target.

Can we collectively still hit the target? Perhaps, but only with a strong and concerted commitment to succeed, and inspired leadership. Countries would need an average 15% improvement each year between 2015 and 2020 to halve the absolute number of deaths. Improvement rates of the order required were achieved in the UK between 2007 and 2010, and in Scotland between 1990 and 1994 so it's not a forlorn hope. The EU target of halving deaths every decade rather than the SDG target of five years has a greater depth of academic and social research behind it and is self-evidently more achievable⁷. Even that would be a step-change beyond Scotland's current target.

New impetus and energy in this life-saving area can only be beneficial. Signing up to the SDG Target, challenging as it undoubtedly is (but all SDG Targets are challenging), would be a stimulus towards achieving the next step-change in performance. Targets are important, and they drive behaviour and

⁶ Strategic Road Safety Plan 2016. Transport Scotland. ISBN: 978-1-909948-74-7

⁷ Reducing Risk on Road and Rail. Richard Allsop. UTSG50: Universities Transport Study Group Conference. UCL London, January 2018.

attitudes. The benefits are concisely set out by the World Health Organisation Regional Office for Europe⁸, including:

- *for every reported death at least 23 people are injured, with 1.6 million nonfatal road traffic injuries reported in 2013 requiring hospital admissions, and many more require emergency room attendances*⁹
- *disability associated with road traffic injuries contributes to a significant public health burden and economic loss in the Region, particularly in countries with low and middle incomes; and*
- *the median estimate of permanent disability from road traffic injuries in the Region is 4% and the societal costs of this are between 0.6% and 5.8% of gross national product throughout the Region.*
- *In 2013, about 40% of people who died as a result of road crashes in the WHO European Region were vulnerable road users such as pedestrians, cyclists or motorcyclists "*

In Scotland in 2017, for every reported death, 63 people were injured, with 11 of those being serious and 49% of people who died in road accidents were vulnerable road users. The consequential economic and societal costs and public health burden of every road traffic accident are as significant to Scotland as they are to the rest of Europe.

It would be disappointing if road safety became the first Sustainable Development *Own* Goal for the UK, Europe and the G7, setting a poor example to developing countries.

It would be bold and inspiring if Scotland, spurred on by its excellent performance in 2017, could deploy its devolved powers in transport policy to lead the way in improving this aspect of national wellbeing and follow through on the First Minister's July 2015 announcement by actively committing to SDG Target 3.6. The benefits of this to society outweigh any political embarrassment if we fall short of a stretch target. Presumably those who set SDG Target 3.6, and those who set the successive EU Targets, felt the same.

Prof Gordon Masterton
Chair of Future Infrastructure
University of Edinburgh

⁸ Road Safety: fact sheets on sustainable development goals: health targets. World Health Organization Regional Office for Europe. 2017. (http://www.euro.who.int/_data/assets/pdf_file/0003/351444/3.6-Fact-sheet-SDG-Road-safety-FINAL-10-10-2017.pdf?ua=1 accessed 29 July 2018).

⁹ Jackish J, Sethi D, Mitis M, Szymański T, Arra I. European facts and the Global status report on road safety 2015. Copenhagen: WHO Regional Office for Europe; 2015. (http://www.euro.who.int/_data/assets/pdf_file/0006/293082/European-facts-Global-Status-Report-road-safety-en.pdf?ua=1, accessed 31 August 2017).