**User Consultation of Northern Ireland Road Safety Strategy to 2020 Statistical Report – Upcoming Changes to the Publication**

**User Feedback Required**

**Contents**

**Section Page**

[Background](#Background) 3

[National Statistics Designation](#NationalStatisticsDesignation) 3

[Recommended Changes to Publication](#RecommendedChange) 3

1. KPI5: Rate of killed or seriously injured motorcyclists per 100 million motorcycle kilometres
2. KPI4: Rate of killed or seriously injured pedal cyclists per 100 million kilometres cycled

[Required Changes to Publication](#RequiredChange) 7

[Invitation to Respond](#InvitationtoRespond) 8

[Annexe A: User Response](#AnnexA) 9

**Background**

Analysis Statistics and Research Branch (ASRB), a Northern Ireland Statistics and Research Agency (NISRA) branch within the Department for Infrastructure (DfI) is responsible for the compilation and publication of the ‘Northern Ireland Road Safety Strategy to 2020 Annual Statistical Report’.

The first report of this series was published in 2012 and subsequent reports published thereafter on an annual basis, in September.

The Northern Ireland’s Road Safety Strategy (NIRSS) to 2020 identified four casualty reduction targets and 199 action measures for improving road safety. A Strategy Delivery Board has the lead responsibility for monitoring and reporting on progress towards delivery of the Strategy and reports to the DfI Minister. The Annual Statistical Report provides the main source of information for the Delivery Board to assess progress being made; ASRB publish the targets and KPIs as Official Statistics and additionally provides a general analytical/research support function to the Delivery Board in order to help it perform its role.

While it is recognised that the main customers for the report are internal policy colleagues, the Statistical Report also serves a wider public purpose.

**National Statistics Designation**

In 2015, the United Kingdom Statistics Authority carried out an assessment of the Northern Ireland Road Safety Strategy to 2020 Annual Statistical Report. In 2016, they designated the statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

**Recommended changes to the Publication**

Two recommended changes to the ‘Northern Ireland Road Safety Strategy to 2020 Annual Statistical Report’ have been identified.

Several of the KPIs that are included in the strategy use survey data which has an associated sampling error. In particular, the Travel Survey for Northern Ireland (TSNI) estimates concerning miles travelled by **motorcyclists** and **pedal cyclists** have a high level of uncertainty around the statistics, and ASRB therefore recommends changing the two KPIs which use these data to an alternative data source.

1. **KPI5: Rate of killed or seriously injured motorcyclists per 100 million motorcycle kilometres**

 In 2016, despite amending the methodology to estimate the reduction in TSNI sampling errors arising from a larger pooled sample size, KPI5 was published with the following caveat:

*Motorcyclist KSIs have reduced by over one-third (36%) between the Strategy baseline period and 2011-2015. However, the very high levels of uncertainty associated with the distance travelled estimates means that no robust trend for this can yet be established... One cannot safely conclude at this stage whether there has been any real change in motorcyclist risk over the monitoring period.*

It was known at the time that the amended methodology was still limited by overlapping 3-year survey time periods, and so after publication in 2016, ASRB carried out a comprehensive review of this indicator to determine whether confidence intervals in future reports could be further improved by running the calculations using the pooled source data for the precise time period, i.e., removing any element of overlap across years.

Results from this review have lead to the conclusion that the TSNI estimates used in this indicator are not fit for purpose due to the low numbers of motorcyclists in the sample; despite pooling the data and examining for the precise period, there is still a very high level of uncertainty and no robust trend can be established. See Figure 1 below. The 95% Confidence Range around each estimate is very wide – in practical terms, the true value will lie somewhere within the range, and because all of the ranges overlap, it is impossible to say whether the trend is going up or down.

Figure 1: Rate of motorcyclist KSIs per 100 million motorcycle KMs with associated 95% Confidence Range (5 year rolling average).

Because the NI Travel Survey is not fit-for-purpose for the Motorcycle KPI (due to the low numbers of motorcyclists in the sample), a change to this indicator is recommended. Specifically, it is proposed that instead of reporting the rate of KSIs per 100 million KMs, a **rate of motorcycle KSIs per 1,000 licensed motorcycles** is published. The data used to create this rate does not come from a sample survey, and therefore does not have sampling errors. Figure 2 below plots the trend. The rate in 2015 was 28% below the 2004-2008 baseline providing a clear indication of improvement.

Figure 2: Rate of Motorcycle KSIs per 1,000 licensed motorcycles, 2009-2015

Limitations to the new data

While the proposed new data source is not hindered by sampling error, there are still limitations to the data which are unquantifiable. It does not take in to account how far each motorcycle will travel, and an assumption is therefore inherent that all will travel the same distance. However, this is less of a limitation when examining trends, assuming any potential uncertainty remains reasonably constant over time, and in the absence of usable kilometres travelled data, it is the next best estimator of motorcyclist casualty risk exposure.

1. **KPI4: Rate of killed or seriously injured pedal cyclists per 100 million kilometres cycled**

Like the motorcycling KPI, the pedal cycle indicator was also published with a caveat in 2016:

 *The wide confidence intervals around the distance travelled estimates for cyclists currently makes it very difficult to reach any firm conclusions on the annual changes in the rate indicator. Even pooling 2 additional years of Travel Survey data, does not show any statistically significant change in the cyclist KSI rate between the baseline period and the latest 2011-2015 figure. We do know that cyclist KSIs have been increasing markedly since the Strategy baseline, with a 67% increase between 2004-2008 and 2011-2015, but, at this point, it is not possible to say to what extent this is in line with increased distance cycled during the same period.*

ASRB again carried out a comprehensive review of this indicator to determine whether confidence intervals in future reports could be further improved by running the calculations using the pooled source data for the precise time period, i.e., removing any element of overlap across years.

Results from this review have lead to the conclusion that the Travel Survey estimates used in this indicator are not fit for purpose (due to the low number of cyclists in the sample); similar to the conclusions found for motorcycling, no robust trend can be established for pedal cyclists. See Figure 3 below. The 95% Confidence Range around each estimate is very wide and it is impossible to say whether the trend is going up or down.

Figure 3: Rate of pedal cycle KSIs per 100 million KMs cycled, with associated 95% Confidence Range (5 year rolling average).

Because the NI Travel Survey is not fit-for-purpose for the pedal cycle KPI (due to the small numbers of cyclists in the sample), a change to this indicator is recommended. Specifically, it is proposed that instead of reporting the rate of KSIs per 100 million KMs cycled, a **rate of pedal cyclist KSIs per 100,000 people that have cycled in the last 12 months** is published. The data used to create this rate does still come from a sample survey, but the associated sampling errors are much smaller than for kilometres travelled. Figure 4 below plots the trend. The rate in 2015 was 32% above the 2004-2008 baseline providing a clear indication that cycling KSIs are increasing.

Figure 4: Rate of pedal cycle KSIs per 100,000 people that have cycled in the last 12 months, with associated 95% Confidence Range, 2006-2015

Limitations to the new data

While the sampling errors present for the proposed new data source are narrow enough to allow conclusions to be drawn, there are still limitations to the data which are unquantifiable. It does not take in to account how far each person will travel by bicycle, and an assumption is therefore inherent that all will travel the same distance. However, this is less of a limitation when examining trends, assuming any potential uncertainty remains reasonably constant over time, and in the absence of usable kilometres travelled data, it is the next best estimator of cyclist casualty risk exposure.

**Required changes to the Publication**

A required change to the ‘Northern Ireland Road Safety Strategy to 2020 Annual Statistical Report’ has been identified, specifically regarding the following three KPIs:

* **KPI1: Rate of road deaths per 100 million vehicle kilometres**
* **KPI6: Rate of car users KSIs per 100 million kilometres (cars and vans)**
* **KPI7: Rate of fatal and serious collisions per 100 million vehicle kilometres**

One of the primary sources of data for these indicators is the Vehicle Kilometres Travelled (VKT). The last available year of data for the VKT is 2014; due to budget constraints the survey is no longer being carried out. Therefore, an alternative source of data is required to enable continued reporting – the Travel Survey for Northern Ireland (TSNI) is proposed.

ASRB has carried out extensive analysis to determine whether estimates produced using the new data source are robust. Figure 5 below shows the rate of road deaths per 100 million vehicle kilometres using both data sources. While the VKT was originally considered more appropriate for use due to single year data and larger sample size, the TSNI is the next best estimate, and the fact that the two trend lines track each other so consistently is an indication that the TSNI will be sufficient for our reporting needs. ASRB are content to proceed on this basis.

Figure 5: Rate of road deaths per 100 million vehicle kilometres, 2004-2015

**Invitation to Respond**

ASRB wish to assess the impact of the proposed changes to ‘Northern Ireland Road Safety Strategy Annual Statistical Report’ and would therefore welcome any views you may have.

Users are invited to complete the form contained in Annexe A of this document and submit it to ASRB no later than 25 August 2017. Contact details are provided at the end of the form.

**Annex A: User Response**

Please use the space below to detail any comments, queries of concerns you have about the above proposed changes to the ‘Northern Ireland Road Safety Strategy Annual Statistical Report’.

1a: Comments about the **recommended change** to KPI5: Rate of killed or seriously injured **motorcyclists** per 100 million motorcycle kilometres.

1b: Comments about the **recommended change** to KPI4: Rate of killed or seriously injured **pedal cyclists** per 100 million kilometres cycled.

2: Comments about the **required changes** to:

* KPI1: Rate of road deaths per 100 million vehicle kilometres
* KPI6: Rate of car users KSIs per 100 million kilometres (cars and vans)
* KPI7: Rate of fatal and serious collisions per 100 million vehicle kilometres

Details of respondent:

|  |  |
| --- | --- |
| Name  |  |
| Organisation(s) represented: |  |
| Address |  |
| Telephone number  |  |
| E-mail address |  |

**Responses should be returned no later than 25 August 2017.**

Please return in writing to: Helen Irwin

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**Many thanks for your response.**

**Please note that responses may be made public and attributable to the respondent.**