



Datafile Guidelines

Version 4.0, December 14, 2021



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Version history

Version	Date	Changes
1.0	04-06-2021	First draft - not yet discussed with experts
2.0	06-07-2021	Second draft, incorporating feedback from the Technical Committee, KEG leaders and 4 Member States
3.0	08-11-2021	Third draft, incorporating feedback from the KEG leaders
4.0	14-12-2021	Final Version, incorporating feedback from the Member States



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1 Introduction and aims

The Communication “Europe on the Move – Sustainable Mobility for Europe: safe, connected and clean” 13 of May 2018 confirmed the EU's long-term goal of moving close to zero fatalities in road transport by 2050 and added that the same should be achieved for serious injuries. It also proposed new interim targets of reducing the number of road deaths by 50% between 2020 and 2030 as well as reducing the number of serious injuries by 50% in the same period, as recommended in the Valletta Declaration. To measure progress, the most basic – and important – indicators are of course the result indicators on deaths and serious injuries, which will continue to be monitored closely. But in order to gain a much clearer understanding of the different issues that influence overall safety performance, the Commission has recently elaborated, in close cooperation with Member State experts, a first set of key performance indicators (KPIs), which will be completed and refined further over time. Reporting of these KPIs to the Commission is voluntary for Member States. The KPI's refer to main road safety challenges to be tackled, namely: (1) infrastructure safety, (2) vehicle safety, (3) safe road use including speed, alcohol, distraction and the use of protective equipment, and (4) emergency response. The aim of the KPIs is to be connected to EC target outcomes. Where existing national approaches differ widely, the EC wants to preserve the best national practices, and so it is left as much as possible to Member States to decide on precise methodology, bearing in mind however that the aim is to collect comparable data.

The aim of the BASELINE EC funded project is to assist participating Member States' authorities in the collection and harmonized reporting of these KPIs and to contribute to building the capacity of those Member States' authorities which have not yet collected and calculated the relevant data for the KPIs.

2 Purpose of the document

For the collection of the KPIs and the related available data from all Member States, in the context of the Baseline project, two datafiles were developed, i.e. the aggregate datafile and the semi-aggregate datafile:

- In the first version of the datafile (Baseline-DataFile-aggregate), there are **two tables in each excel sheet** (part a and part b) in which:
 - a) indicators are requested at the minimum required level and
 - b) indicators are requested for the combination of the minimum strata and in some cases the different (optional) vehicle types.
- In the second version (Baseline-DataFile-semiaggregate), more disaggregate data are requested. In this file, **all levels of disaggregation** are included (3-5 levels of disaggregation).

The Member States are recommended to first, fill in the aggregate Baseline Datafile and then, the semi-aggregate Baseline Datafile, if more disaggregate data are available. Both versions of the datafile are in .xlsx format, which include the following sheets:

- Contents
- Speed
- Seat belts & CRS
- CRS (in-vehicle inspections)
- Helmet-Cyclists
- Helmet-PTWs
- Alcohol
- Alcohol-Questionnaire Survey
- Distraction
- Vehicle Safety
- Infrastructure
- Post-crash Care
- Metadata

The present document aims to provide some **basic guidelines for filling in the two versions of the datafile**, while special emphasis is given on the filter options and the combinations of the various disaggregation levels (Medium level) included in the datafile with the semi-aggregate data requested (Baseline-Datafile-semiaggregate). The guidelines included for the Metadata, as well as the definitions of data variables and values, apply for both versions of the datafile.

Thus, each MS is requested to fill in the datafile with all available data as well as the requested metadata according to the following guidelines. It is noted that MS are encouraged to add further variables or levels of disaggregation if more data are available at national level. In case that **different data collection methods** are used for the various types of data of the same KPI (e.g. for the KPI on speed, laser guns are used for passenger cars and cameras for motorcycles, affecting also sample sizes, locations of measurements, etc.), MS are recommended to add extra excel sheets using the same data variables and values per KPI, with each sheet corresponding to a different data collection method.

The final versions of both aggregate and semi-aggregate datafiles to be delivered to the co-ordinator should be renamed as follows: Baseline-DataFile-aggregate-Country abbreviation and Baseline-Datafile-semiaggregate-Country abbreviation (e.g. Baseline-DataFile-aggregate-BE).

Please note that the Baseline will at a later stage provide guidelines for the weighting methodology (variables and formula) for those MS not using their own weighing methods and/ or not having national traffic volume data. Thus, extra columns requesting for these data will be added in the forthcoming months in the datafiles as well.

3 KPI Speeding

Based on the methodological guidelines of the KPI for Speeding, the minimum required indicator is the percentage of vehicles driving within the speed limit (at national level). In addition to this indicator, it is optional but highly recommended to also report the following speed indicators:

- average speed (including the standard deviation and standard error)
- V85 (the speed below which 85% of drivers are driving, i.e. the 85th percentile of speed)

Results should also include the number of locations and the unweighted number of vehicles/drivers the results are based on.

National speeding indicators should be reported separately according to the following minimum required parameters:

- Vehicle type (passenger cars)
- Road type (3 levels: motorways, rural roads, urban roads)
- Time period (daytime on weekdays)

It is also recommended to provide results separate for different speed limits by road type (if a road type includes different speed regimes), see 3.1.

The aggregate datafile includes a) the key indicators for these minimum strata and the requested national KPI, as well as b) indicators for the combination of the minimum strata and the different – incl. optional – vehicle types (passenger cars, vans/small trucks, trucks/buses/heavy goods vehicles, motorcycles).

3.1 Data variables and values

The semi-aggregate datafile includes the following minimum and optional **variables** and respective values:

- Time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- Road type: motorways, rural roads, urban roads
- Speed limit: 30 km/h - 130 km/h (values are differentiated by road type) *
- Vehicle type: passenger cars, vans/small trucks, trucks/buses/heavy goods vehicles, motorcycles

*Please note that the variable of speed limit is recommended to be used only if KPIs will be provided by speed limit for the different road types. Otherwise, only the variable of road type should be taken into account, considering that one “fixed speed limit” by road type has been selected for all measurement locations. More detailed information on speed limits by road type and vehicle type (if applicable), as well as any differentiation from this approach should be recorded in the metadata.

Furthermore, the following data are asked in both the aggregate and semi-aggregate excels:

Original data (cleaned data from measurements):

- Nr of locations: refers to the number of locations selected for the speed measurements
- N: unweighted number of vehicles/drivers observed
- Traffic counts: Number of passing vehicles on the session lane(s) and direction(s) per vehicle type (if applicable). In case of radar measurements, automatically all passing vehicles are counted. In case of e.g. a 10-minute traffic count per session by human observers, the count result per session should be extrapolated to the duration of the session, (e.g. 1 hour session = 10 minute count result x 6). The traffic count variable in the excels refers to the sum of all (extrapolated) counts from all included sessions in the respective stratum.
- Weight proportion: (if applicable) Each individual measurement in each session has a weight in the data analysis (see also *Baseline document Considerations for sampling weights*). The sum of all weights per considered stratification level divided by the total sum of all weights should be provided.

Calculated data (from post stratification and statistical analysis):

- Average speed: the average speed of observed vehicles by type of road and/or type of vehicle
- Standard deviation of speed: the standard deviation of speeds of observed vehicles by type of road and/or type of vehicle
- V85: the speed below which 85% of drivers are driving, i.e. the 85th percentile of speed
- KPI: the percentage of vehicles driving within the speed limit
- SE: Standard Error (for Average Speed, V85 and KPI)
- CI (95%): upper and lower bound of the 95% Confidence Interval (for Average Speed, V85 and KPI)

3.2 Disaggregation level

MS may opt the disaggregation level that they desire to deliver their KPIs. Based on the methodological requirements, the following levels of disaggregation are considered:

1. Minimum required level

In this case, point estimates of the indicators for all the minimum required strata or observation categories (speeding indicator for cars on 3 road types during daylight hours on weekdays) should be provided. The following filters should therefore be used for filling in the datafile:

- Vehicle type: passenger cars and passenger cars - Total
- Road type: all options (3 road types; all roads)
- Time period: weekday/daytime

Thus, the main KPIs and optional extra speed indicators and respective CIs can be provided by type of road and at national level (all roads) for passenger cars.

This version of the table is also available in the aggregate datafile (part a).

2. Medium level

For each level of disaggregation, the values that should be selected through the filters are shown:

Level 0 includes the KPI for all periods, all roads and all transport modes, without further disaggregation:

- vehicle type: all vehicles
- speed limit: all speed limits
- road type: all roads
- time period: all periods

1st level of disaggregation includes national data by each of the following optional levels of disaggregation (available data for each stratum/variable):

a) by time period

- vehicle type: all vehicles
- speed limit: all speed limits
- road type: all roads
- time period: weekday/daytime -Total, weekday/night-time -Total, weekend/daytime-Total, weekend/night-time-Total

b) by road type

- vehicle type: all vehicles
- speed limit: fixed (i.e. 1 speed limit per road type)
- time period: all periods
- road type: motorways -Total, rural roads -Total, urban roads -Total

c) by vehicle type

- time period: all periods
- road type: all roads
- speed limit: all speed limits
- vehicle type: passenger cars-Total, vans, small trucks-Total, trucks/ buses/ heavy goods vehicles-Total, motorcycles-Total

2nd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 2 strata/variables' crossings):

a) by time period and road type

- vehicle type: all vehicles
- speed limit: fixed (i.e. 1 speed limit per road type)
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways -Total, rural roads -Total, urban roads -Total

b) by time period and vehicle type

- road type: all roads
- speed limit: all speed limits
- vehicle type: passenger cars-Total, vans, small trucks-Total, trucks/ buses/ heavy goods vehicles-Total, motorcycles-Total
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time

c) by road type and vehicle type

- time period: all periods
- speed limit: fixed (i.e. 1 speed limit per road type)
- vehicle type: passenger cars-Total; vans, small trucks-Total; trucks/ buses/ heavy goods vehicles-Total; motorcycles-Total
- road type: motorways, rural roads, urban roads

d) road type and speed limit

- vehicle type: all vehicles
- time period: all periods
- road type: motorways, rural roads, urban roads
- speed limit: 80-Total, 90-Total, 100-Total, 110-Total, 120-Total, 130-Total, 60-Total, 70-Total, 80-Total, 90-Total, 100-Total, 30-Total, 50-Total, 70-Total

3rd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 3 strata/variables' crossings):

a) by time period, road type and speed limit

- vehicle type: all vehicles
- speed limit: 80-Total, 90-Total, 100-Total, 110-Total, 120-Total, 130-Total, 60-Total, 70-Total, 80-Total, 90-Total, 100-Total, 30-Total, 50-Total, 70-Total
- road type: motorways, rural roads, urban roads
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time

b) by time period, road type and vehicle type

- speed limit: fixed (i.e. 1 speed limit per road type)
- vehicle type: passenger cars, vans, small trucks, trucks/ buses/ heavy goods vehicles, motorcycles
- road type: motorways, rural roads, urban roads
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time

c) by road type, speed limit and vehicle type

- time period: all periods
- vehicle type: passenger cars-Total, vans, small trucks-Total, trucks/ buses/ heavy goods vehicles-Total, motorcycles-Total
- speed limit: 30-130 km/h
- road type: motorways, rural roads, urban roads

4th level of disaggregation includes data by time period, road type, speed limit and vehicle type (crossed-level matrix for all available crossings between the 4 strata/variables): all options are selected.

4 KPI Safety belts and Child restraint systems

Based on the methodological guidelines of the KPI for Safety belts and Child restraint systems, at a minimum, the general percentage of correct seatbelt/CRS use (at national level), the percentage of correct use of safety belt by passenger car front occupants, of safety belt by passenger car rear occupants, and of child restraint systems should be provided. The equivalent percentages in goods vehicles is desired but not mandatory. Results should also include the unweighted number of drivers the result is based on.

A point estimate and a corresponding 95% confidence interval is expected for each level of the following minimum stratification variables:

- Road type (3 levels: motorways, rural non-motorway roads, and urban roads)
- Front vs rear occupant (in case of seat belt use in passenger car)
- Period (2 levels: weekday/daytime, weekend/daytime)
- Vehicle type (passenger car)

Supplementary to safety belt usage, it might be valuable to include one or more of the following occupant characteristics for further analysis:

- Gender
- Age group
- Driver/passenger

It is noted that data requested here-in concern seatbelt observations, where the presence of CRS can also be observed for quantitative purposes (i.e. observation of the presence or not of a CRS). Since the correct use of CRS cannot be observed from road side observation of vehicles in traffic, a qualitative in-vehicle inspection is explained in next chapter.

The aggregate datafile includes a) the key indicators for the minimum strata and the requested national KPI, as well as b) indicators for the combination of the minimum strata with the different – incl. optional – vehicle types (passenger cars, goods vehicles).

4.1 Data variables and values

The semi-aggregate datafile includes the following minimum and optional **variables** and respective values:

- Road type: motorways, rural roads, urban roads
- Time period: weekday/daytime, weekend/daytime
- Vehicle type: passenger cars, goods vehicles
- Age group: 0-14, 15-17, 18-24, 25-64, 65+
- Gender: Male, Female

Furthermore, the following data are asked in both the aggregate and semi-aggregate excels:

Original data (cleaned data from measurements):

- Nr of locations: refers to the number of locations selected for the measurements
- Traffic counts: Number of passing relevant vehicles on the session lane(s) and direction(s) per vehicle type subject to the observation (if applicable). In case of e.g. a 10-minute traffic count per session by human observers, the count result per session should be extrapolated to the duration of the session, (e.g. 1 hour session = 10 minute count result x 6). The traffic count variable in the excels refers to the sum of all (extrapolated) counts from all included sessions in the respective stratum.
- Weight proportion: (if applicable) Each individual measurement in each session has a weight in the data analysis (see also *Baseline document Considerations for sampling weights*). The sum of all weights per considered stratification level divided by the total sum of all weights should be provided.
- (optional) N-driver: number of drivers observed
- (optional) Nused-driver: number of drivers using a seat belt
- N-front: number of front occupants observed
- Nused-front: number of front occupants using a seat belt
- N-rear: number of rear passengers observed
- Nused-rear: number of rear passengers using a seat belt
- Ntotal: number of total occupants (driver + passengers; children + adults) observed

- Nused-total: number of total occupants (driver + passengers; children + adults) using a seat belt
- N-children: number of children observed
- Nused-CRS: number of children using a child restraint system

Calculated data (from post stratification and statistical analysis):

- (optional) KPI-driver: the percentage of drivers using correctly safety belts
- KPI-front: the percentage of front occupants using correctly safety belts
- KPI-rear: the percentage of rear passengers using correctly safety belts
- KPI-total: the percentage of all occupants (driver + passengers; children + adults) using safety belts
- KPI-children: the percentage of children using a CRS
- SE: Standard Error (for each indicator)
- CI (95%): upper and lower bound of the 95% Confidence Interval (for each indicator)

4.2 Disaggregation level

MS may opt the disaggregation level that they desire to deliver their KPIs. Based on the methodological requirements, the following levels of disaggregation are considered:

1. Minimum required level

In this case, point estimates for all the minimum required observation categories should be provided. The following filters should therefore be used for filling in the datafile:

- Gender: both genders
- Age group: all ages
- Vehicle type: passenger car -Total
- Time period: all options (2 periods; all periods)
- Road type: all options (3 road types; all roads)

Thus, as the minimum, the different KPIs (driver, front, rear, total, children) and respective CIs can be provided by type of road (referring to all periods), time period (referring to all roads) and at national level (all periods and all roads), for passenger cars.

This version of the table is also available in the aggregate datafile (part a).

2. Medium level

For each level of disaggregation, the values that should be selected through the filters are shown:

Level 0: includes the KPI referring to all periods, all road types and all transport modes, without further disaggregation:

- gender: both genders
- age group: all ages
- vehicle type: all modes
- time period: all periods
- road type: all roads

1st level of disaggregation includes national data by each of the following optional levels of disaggregation (available data for each stratum/variable):

a) by road type

- gender: both genders
- age group: all ages
- vehicle type: all modes
- time period: all periods
- road type: motorways-Total, rural roads-Total, urban roads-Total

b) by time period

- gender: both genders
- age group: all ages
- vehicle type: all modes
- road type: all roads
- time period: weekday/daytime-Total, weekend/daytime-Total

c) by vehicle type

- gender: both genders
- age group: all ages
- time period: all periods
- road type: all roads
- vehicle type: passenger car-Total, goods vehicle-Total

d) by age group

- gender: both genders
- vehicle type: all modes
- time period: all periods
- road type: all roads
- age group: 0-14-Total, 15-18-Total, 18-24-Total, 25-64-Total, 65+-Total

e) by gender

- age group: all ages
- vehicle type: all modes
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total

2nd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 2 strata/variables crossings):

a) by road type and time period

- gender: both genders
- age group: all ages
- vehicle type: all modes
- road type: motorways, rural roads, urban roads
- time period: weekday/daytime-Total, weekend/daytime-Total

b) by road type and vehicle type

- gender: both genders
- age group: all ages
- time period: all periods
- road type: motorways, rural roads, urban roads
- vehicle type: passenger car-Total, goods vehicle-Total

c) by road type and age group

- gender: both genders
- vehicle type: all modes
- time period: all periods
- road type: motorways, rural roads, urban roads
- age group: 0-14-Total, 18-24-Total, 25-64-Total, 65+-Total

d) by road type and gender

- age group: all ages
- vehicle type: all modes
- time period: all periods

- road type: motorways, rural roads, urban roads
- gender: Male-Total, Female-Total

e) by time period and vehicle type

- gender: both genders
- age group: all ages
- road type: all roads
- vehicle type: passenger car-Total, goods vehicle-Total
- time period: weekday/daytime, weekend/daytime

f) by time period and age group

- gender: both genders
- vehicle type: all modes
- road type: all roads
- age group: 0-14-Total, 15-17-Total, 18-24-Total, 25-64-Total, 65+-Total
- time period: weekday/daytime, weekend/daytime

g) by time period and gender

- age group: all ages
- vehicle type: all modes
- road type: all roads
- gender: Male-Total, Female-Total
- time period: weekday/daytime, weekend/daytime

h) by vehicle type and gender

- age group: all ages
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total
- vehicle type: passenger car, goods vehicle

i) by vehicle type and age group

- gender: both genders
- road type: all roads
- time period: all periods
- age group: 0-14-Total, 15-17-Total, 18-24-Total, 25-64-Total, 65+-Total
- vehicle type: passenger car, goods vehicle, bus, motorcycle

j) by age group and gender

- vehicle type: all modes
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total
- age group: 0-14, 15-17, 18-24, 25-64, 65+

3rd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 3 strata/variables crossings):

a) by road type, time period and vehicle type

- gender: both genders
- age group: all ages
- vehicle type: passenger car, goods vehicle
- time period: weekday/daytime, weekend/daytime
- road type: motorways, rural roads, urban roads

b) by road type, time period and age group

- gender: both genders
- age group: 0-14-Total, 15-18-Total, 18-24-Total, 25-64-Total, 65+-Total
- vehicle type: all modes
- time period: weekday/daytime, weekend/daytime
- road type: motorways, rural roads, urban roads

c) by road type, time period and gender

- age group: all ages
- vehicle type: all modes
- time period: weekday/daytime, weekend/daytime
- road type: motorways, rural roads, urban roads
- gender: Male-Total, Female-Total

d) by vehicle type, age group and gender

- road type: all roads
- time period: all periods
- vehicle type: passenger car-Total, goods vehicle-Total
- age group: 0-14, 15-17, 18-24, 25-64, 65+
- gender: Male, Female

e) by time period, age group and gender

- vehicle type: all modes
- road type: all roads
- time period: weekday/daytime-Total, weekend/daytime-Total
- age group: 0-14, 15-17, 18-24, 25-64, 65+
- gender: Male, Female

f) by road type, age group and gender

- vehicle type: all modes
- time period: all periods
- road type: motorways-Total, rural roads-Total, urban roads-Total
- age group: 0-14, 15-17, 18-24, 25-64, 65+
- gender: Male, Female

4th level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 4 strata/variables' crossings):

a) by road type, time period, vehicle type and age group

- gender: both genders
- age group: 0-14-Total, 15-18-Total, 18-24-Total, 25-64-Total, 65+-Total
- vehicle type: passenger car, goods vehicle
- time period: weekday/daytime, weekend/daytime
- road type: motorways, rural roads, urban roads

b) by road type, time period, vehicle type and gender

- age group: all ages
- gender: Male-Total, Female-Total
- vehicle type: passenger car, goods vehicle
- time period: weekday/daytime, weekend/daytime
- road type: motorways, rural roads, urban roads

c) by road type, vehicle type, gender and age group

- time period: all periods
- vehicle type: passenger car-Total, goods vehicle-Total
- gender: Male, Female

- age group: 18-24, 25-64, 65
- road type: motorways, rural roads, urban roads

d) by time period, vehicle type, gender and age group

- road type: all roads
- vehicle type: passenger car-Total, goods vehicle-Total
- gender: Male, Female
- age group: 18-24, 25-64, 65
- time period: weekday/daytime, weekend/daytime

5th level of disaggregation includes data by road type, time period, vehicle type, age group and gender selected (crossed-level matrix for all available crossings between the 5 strata/variables): all options are selected.

5 KPI Correct use of Child restraint systems (in-vehicle inspections)

Based on the methodological guidelines of the KPI for Safety belts and Child restraint systems, an additional detailed in-vehicle inspection of the correct use of CRS is recommended for the calculation of the respective KPI. In this case, only passenger cars are recommended to be observed, while more variables could also be included for further analysis.

A point estimate and a corresponding 95% confidence interval is expected for each level of the following minimum stratification variables:

- Road type (3 levels: motorways, rural non-motorway roads, and urban roads)
- Period (2 levels: weekday/daytime, weekend/daytime)
- Vehicle type (passenger car)

5.1 Data variables and values

The semi-aggregate datafile includes the following minimum and optional **variables** and respective values:

- Time period: weekday/daytime, weekend/daytime
- Road type: motorways, rural roads, urban roads
- Vehicle type: passenger car
- Age group: 0-4, 5-9, 10-14
- Trip purpose: School/Work, Leisure/Entertainment, Holiday, Other¹ (optional)

Furthermore, the following data are asked in both the aggregate and semi-aggregate excels:

Original data (cleaned data from measurements):

- Nr of locations: refers to the number of locations selected for the measurements
- N-children: number of children observed
- N-correct: number of children using child restraint systems correctly

Calculated data (from post stratification and statistical analysis):

- KPI-CRS: the percentage of children using correctly CRS
- SE: Standard Error
- CI (95%): upper and lower bound of the 95% Confidence Interval

5.2 Disaggregation level

MS may opt the disaggregation level that they desire to deliver their KPIs. Based on the methodological requirements, the following levels of disaggregation are considered:

1. Minimum required level

In this case, point estimates for all the minimum required observation categories should be provided. The following filters should therefore be used for filling in the datafile:

- trip purpose: all purposes
- age group: all ages

¹ The values of the variable trip/journey purpose of the CARE database are recommended for the Baseline project, which are defined as follows:

1. Education/work: The person was on his/her way to school (university) or working place. This trip purpose aims to record each person's every day-routine routes.
2. Leisure/Entertainment: The trip purpose was leisure or entertainment (free time activities - shopping, sports training etc.).
3. Holiday: The person was on his/her way to holiday (includes one day trips).
4. Other: Other trip purpose not included in the list of the previous values.

- time period: all options (2 periods; all periods)
- road type: all options (3 road types; all roads)
- vehicle type: passenger car

Thus, KPIs and respective CIs can be provided by time period (referring to all periods), by type of road (referring to all roads) and at national level (all periods and all roads), for passenger cars.

This version of the table is also available in the aggregate datafile (part a).

2. Medium level

For each level of disaggregation, the values that should be selected through the filters are shown:

Level 0: includes the KPI referring to all periods and all road types, without further disaggregation.

- trip purpose: all purposes
- age group: all ages
- time period: all periods
- road type: all roads

1st level of disaggregation includes national data by each of the following optional levels of disaggregation (available data for each stratum/variable):

a) by road type

- trip purpose: all purposes
- age group: all ages
- time period: all periods
- road type: motorways-Total, rural roads-Total, urban roads-Total

b) by time period

- trip purpose: all purposes
- age group: all ages
- road type: all roads
- time period: weekday/daytime-Total, weekend-daytime-Total

c) by age group

- trip purpose: all purposes
- time period: all periods
- road type: all roads
- age group: 0-4-Total, 5-9-Total, 10-14-Total

d) by trip purpose

- age group: all ages
- time period: all periods
- road type: all roads
- trip purpose: Education/work-Total, Leisure/Entertainment-Total, Holiday-Total, Other-Total

2nd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 2 strata/variables crossings):

a) by time period and age group

- trip purpose: all purposes
- road type: all roads
- age group: 0-4-Total, 5-9-Total, 10-14-Total
- time period: weekday/daytime, weekend/daytime

b) by time period and trip purpose

- age group: all ages
- road type: all roads

- trip purpose: Education/work-Total, Leisure/Entertainment-Total, Holiday-Total, Other-Total
- time period: weekday/daytime, weekend/daytime

c) by road type and time period

- Age group: all ages
- time period: weekday/daytime, weekend/daytime
- trip purpose: Education/work-Total, Leisure/Entertainment-Total, Holiday-Total, Other-Total

d) by road type and age group

- trip purpose: all purposes
- time period: all periods
- age group: 0-4-Total, 5-9-Total, 10-14-Total
- road type: motorways, rural roads, urban roads

e) by road type and trip purpose

- age group: all ages
- time period: all periods
- trip purpose: Education/work-Total, Leisure/Entertainment-Total, Holiday-Total, Other-Total
- road type: motorways, rural roads, urban roads

3rd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 3 strata/variables crossings).

a) by road type, time period and age group

- trip purpose: all purposes
- age group: 0-4-Total, 5-9-Total, 10-14-Total
- time period: weekday/daytime, weekend/daytime
- road type: motorways, rural roads, urban roads

b) by road type, time period and trip purpose

- age group: all ages
- trip purpose: Education/work-Total, Leisure/Entertainment-Total, Holiday-Total, Other-Total
- time period: weekday/daytime, weekend/daytime
- road type: motorways, rural roads, urban roads

c) by time period, age group and trip purpose

- road type: all roads
- trip purpose: Education/work-Total, Leisure/Entertainment-Total, Holiday-Total, Other-Total
- age group: 0-4, 5-9, 10-14
- time period: weekday/daytime, weekend/daytime

4th level of disaggregation includes data by road type, time period, age group and trip purpose selected (crossed-level matrix for all available crossings between the 4 strata/variables): all options are selected

6 KPI Helmet use among Cyclists

Based on the methodological guidelines of the KPI for helmet use among cyclists (including e-bikes), the main indicator is the percentage of cyclists wearing a helmet across all times and locations, in general (national aggregate) and separately for riders and passengers, and where available for children.

A point estimate and a corresponding 95% confidence interval is expected for each level of the following minimum stratification variables:

- Cyclists (including of e-bikes): riders, passengers
- Road type (2 levels: rural non-motorway roads and urban areas)
- Period of the week (2 levels: weekday/daytime and weekend/daytime)
- Child*

*Where available, values for children (0-14 years old) and older people should be presented separately; if national legislation requires cyclist children to wear helmets up to a certain age, this age category should be added (i.e. data should be shown separately for children aged “0-10”, for those aged “11- 14”, and for those older than 14 “≥15”).

The aggregate datafile includes a) the key indicators for the minimum strata and the requested national KPI, as well as b) indicators for the combination of the minimum strata for separate (optional) bicycle types (bikes and electric bikes).

6.1 Data variables and values

The semi-aggregate datafile includes the following minimum and optional **variables** and respective values:

- Road type: rural roads, urban roads
- Time period: weekday/daytime, weekend/daytime
- Vehicle type: bike, electric bike, Cycles-Total
- Age group: 0-14 y.o.; 14+ (further age groups are suggested to be added according to national legislation on helmet use by children)
- Gender: Male, Female

Furthermore, the following data are asked in both the aggregate and semi-aggregate excels:

Original data (cleaned data from measurements):

- Nr of locations: refers to the number of locations selected for the measurements
- Traffic counts: Number of passing cycles on the session lane(s) and direction(s). In case of e.g. a 10-minute traffic count per session by human observers, the count result per session should be extrapolated to the duration of the session, (e.g. 1 hour session = 10 minute count result x 6). The traffic count variable in the excels refers to the sum of all (extrapolated) counts from all included sessions in the respective stratum.
- Weight proportion: (if applicable) Each individual measurement in each session has a weight in the data analysis (see also *Baseline document Considerations for sampling weights*). The sum of all weights per considered stratification level divided by the total sum of all weights should be provided.
- N-rider: number of riders observed
- Nused-rider: number of riders wearing a helmet
- N-passenger: number of passengers observed
- Nused-passenger: number of passengers wearing a helmet
- N-total: number of both riders and passengers observed
- Nused-total: number of both riders and passengers wearing a helmet

Calculated data (from post stratification and statistical analysis):

- KPI-rider: the percentage of riders wearing a helmet
- KPI-passenger: the percentage of passengers wearing a helmet
- KPI-total: the percentage of all riders and passengers wearing a helmet
- SE: Standard Error (applying for each indicator)
- CI (95%): upper and lower bound of the 95% Confidence Interval (applying for each indicator)

6.2 Disaggregation level

MS may opt the disaggregation level that they desire to deliver their KPIs. Based on the methodological requirements, the following levels of disaggregation are considered:

1. Minimum required level

In this case, point estimates for all the minimum required observation categories should be provided. The following filters should therefore be used for filling in the datafile:

- Gender: both genders
- Age group: all ages
- Vehicle type: all cycles
- Time period: all options (2 periods and all periods)
- Road type: all options (2 road types and all roads)

Thus, as the minimum, the KPIs (rider, passenger, total) and respective CIs can be provided by type of road (referring to all periods), by time period (referring to all roads) and at national level (all periods and all roads). This version of the table is also available in the aggregate datafile (part a).

2. Medium level

For each level of disaggregation, the values that should be selected through the filters are shown:

Level 0: includes the KPI referring to all periods and all road types, without further disaggregation.

- gender: both genders
- age group: all ages
- vehicle type: all cycles
- time period: all periods
- road type: all roads

1st level of disaggregation includes national data by each of the following optional levels of disaggregation (available data for each stratum/variable):

a) by road type

- gender: both genders
- age group: all ages
- vehicle type: all cycles
- time period: all periods
- road type: rural roads-Total, urban roads-Total

b) by time period

- gender: both genders
- age group: all ages
- vehicle type: all cycles
- road type: all roads
- time period: weekday/daytime-Total, weekend/daytime-Total

c) by vehicle type

- gender: both genders
- age group: all ages
- time period: all periods
- road type: all roads
- vehicle type: Bike-Total, Electric bike-Total

d) by age group

- gender: both genders
- vehicle type: all cycles
- time period: all periods

- road type: all roads
- age group: 0-14-Total, 14+-Total

e) by gender

- age group: all ages
- vehicle type: all cycles
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total

2nd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation data (available data for 2 strata/variables crossings):

a) by road type and time period

- gender: both genders
- age group: all ages
- vehicle type: all cycles
- time period: weekday/daytime-Total, weekend/daytime -Total
- road type: rural roads, urban roads

b) by road type and vehicle type

- gender: both genders
- age group: all ages
- time period: all periods
- vehicle type: bike-Total, electric bike-Total
- road type: rural roads, urban roads

c) by road type and age group

- gender: both genders
- vehicle type: all cycles
- time period: all periods
- age group: 0-14-Total, 14+-Total
- road type: rural roads, urban roads

c) by road type and gender

- age group: all ages
- vehicle type: all cycles
- time period: all periods
- gender: Male-Total, Female-Total
- road type: rural roads, urban roads

d) by time period and vehicle type

- age group: all ages
- gender: both genders
- road type: all roads
- vehicle type: bike-Total, electric bike-Total
- time period: weekday/daytime, weekend/daytime

e) by time period and age group

- gender: both genders
- vehicle type: all cycles
- road type: all roads
- age group: 0-14-Total, 14+-Total
- time period: weekday/daytime, weekend/daytime

f) by time period and gender

- age group: all ages
- vehicle type: all cycles
- road type: all roads
- gender: Male-Total, Female-Total
- time period: weekday/daytime, weekend/daytime

g) by age group and gender

- vehicle type: all cycles
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total
- age group: 0-14-Total, 14+-Total

3rd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation data (available data for 3 strata/variables crossings):

a) by road type, time period and vehicle type

- gender: both genders
- age group: all ages
- vehicle type: bike-Total, electric bike-Total
- time period: weekday/daytime, weekend/daytime
- road type: rural roads, urban roads

b) by road type, time period and age group

- gender: both genders
- vehicle type: all cycles
- age group: 0-14 -Total, 14+ - Total
- time period: weekday/daytime, weekend/daytime
- road type: rural roads, urban roads

c) by road type, time period and gender

- age group: all ages
- vehicle type: all cycles
- gender: Male-Total, Female-Total
- time period: weekday/daytime, weekend/daytime
- road type: rural roads, urban roads

d) by time period, age group and gender

- vehicle type: all cycles
- road type: all roads
- gender: Male, Female
- age group: 0-14, 14+
- time period: weekday/daytime-Total, weekend/daytime-Total

e) by vehicle type, age group and gender

- time period: all periods
- road type: all roads
- gender: Male, Female
- age group: 0-14, 14+
- vehicle type: bike-Total, electric bike-Total

4th level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation data (available data for 4 strata/variables' crossings):

a) by road type, time period, vehicle type and gender

- age group: all ages
- gender: Male-Total, Female-Total
- vehicle type: bike, electric bike
- time period: weekday/daytime, weekend/daytime
- road type: rural roads, urban roads

b) by road type, time period, vehicle type and age group

- gender: both genders
- age group: 0-14 -Total, 14+ - Total
- vehicle type: bike, electric bike
- time period: weekday/daytime, weekend/daytime
- road type: rural roads, urban roads

c) by road type, time period, age group and gender

- vehicle type: all cycles
- gender: Male, Female
- age group: 0-14, 14+
- time period: weekday/daytime-Total, weekend/daytime-Total
- road type: rural roads, urban roads

d) by time period, vehicle type, age group and gender

- road type: all roads
- gender: Male, Female
- age group: 0-14, 14+
- vehicle type: Bike-Total, Electric bike-Total
- time period: weekday/daytime, weekend/daytime

5th level of disaggregation includes data by road type, time period, vehicle type, age group and gender (crossed-level matrix for all available crossings between the 5 strata/variables): all options are selected.

7 KPI Helmet use among Powered two-wheelers

Based on the methodological guidelines of the KPI for helmet use, the main indicator is the percentage of riders wearing a helmet across all times and locations, in total and separately for PTW riders and passengers.

A point estimate and a corresponding 95% confidence interval is expected for each level of the following minimum stratification variables:

- PTW (mopeds and motorcycles): riders, passengers
- Road type (3 levels: motorways, rural non-motorway roads and urban areas)
- Period of the week (2 levels: weekday/daytime and weekend/daytime)

The aggregate datafile includes a) the key indicators for the minimum strata and the requested national KPI, as well as b) indicators for the combination of the minimum strata with the different – incl. optional – vehicle types (motorcycles, mopeds).

7.1 Data variables and values

The semi-aggregate datafile includes the following minimum and optional **variables** and respective values:

- Road type: motorways, rural roads, urban roads
- Time period: weekday/daytime, weekend/daytime
- Vehicle type: motorcycle, moped, all PTWs

Furthermore, the following data are asked in both the aggregate and semi-aggregate excels:

Original data (cleaned data from measurements):

- Nr of locations: refers to the number of locations selected for the measurements
- Traffic counts: Number of passing vehicles on the measurement session lane(s) and direction(s) per vehicle type (if applicable). In case of e.g. a 10-minute traffic count per session by human observers, the count result per session should be extrapolated to the duration of the session, (e.g. 1 hour session = 10 minute count result x 6). The traffic count variable in the excels refers to the sum of all (extrapolated) counts from all included sessions in the respective stratum.
- Weight proportion: (if applicable) Each individual measurement in each session has a weight in the data analysis (see also *Baseline document Considerations for sampling weights*). The sum of all weights per considered stratification level divided by the total sum of all weights should be provided.
- N-rider: number of riders observed
- Nused-rider: number of riders wearing a helmet
- N-passenger: number of passengers observed
- Nused-passenger: number of passengers wearing a helmet
- N-total: number of both riders and passengers observed
- Nused-total: number of both riders and passengers wearing a helmet

Calculated data (from post stratification and statistical analysis):

- KPI-rider: the percentage of riders wearing a helmet
- KPI-passenger: the percentage of passengers wearing a helmet
- KPI-total: the percentage of all riders and passengers wearing a helmet
- SE: Standard Error (applying for each indicator)
- CI (95%): upper and lower bound of the 95% Confidence Interval (applying for each indicator)

7.2 Disaggregation level

MS may opt the disaggregation level that they desire to deliver their KPIs. Based on the methodological requirements, the following levels of disaggregation are considered:

1. Minimum required level

In this case, point estimates for all the minimum required observation categories should be provided. The following filters should therefore be used for filling in the datafile:

- Vehicle type: Motorcycle-Total (applying for motorways), all PTWs
- Time period: all options (2 periods; all periods)
- Road type: all options (3 road types; all roads)

Thus, as the minimum, the KPIs (rider, passenger, total) and respective CIs can be provided by type of road (referring to all periods), by time period (referring to all roads) and at national level (all periods and all roads).

This version of the table is also available in the aggregate datafile (part a).

2. Medium level

For each level of disaggregation, the values that should be selected through the filters are shown:

Level 0: includes the KPI referring to all periods and all road types without further disaggregation:

- vehicle type: all PTWs
- time period: all periods
- road type: all roads

1st level of disaggregation includes national data by each of the following optional levels of disaggregation (available data for each stratum/variable):

a) by road type

- vehicle type: all PTWs, motorcycle-Total
- time period: all periods
- road type: motorways, rural roads-Total, urban roads-Total

b) by time period

- vehicle type: all PTWs
- road type: all roads
- time period: weekday/daytime-Total, weekend/daytime-Total

c) by vehicle type

- time period: all periods
- road type: all roads
- vehicle type: motorcycle-Total, Moped-Total

2nd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation data (available data for 2 strata/variables crossings):

a) by road type and time period:

- vehicle type: motorcycle-Total, all PTWs
- time period: weekday/daytime-Total, weekend/daytime -Total
- road type: motorways, rural roads, urban roads

b) by road type and vehicle type:

- time period: all periods
- vehicle type: moped-Total, motorcycle-Total
- road type: motorways, rural roads, urban roads

c) by time period and vehicle type:

- road type: all roads
- time period: weekday/daytime-Total, weekend/daytime -Total
- Vehicle type: Motorcycle, Moped

3rd level of disaggregation includes data by road type, time period and vehicle type (crossed-level matrix for all available crossings between the 3 strata/variables): all options are selected.

8 KPI Driving under the Influence of Alcohol

Based on the methodological guidelines of the KPI for Driving under the Influence of Alcohol, the main indicator is the **percentage of drivers driving within the legal limit for blood alcohol concentration (BAC)**. Considering the minimum requirements, sampling is stratified according to several parameters:

- Road type (3 levels: motorways, rural roads, urban roads)
- Time period or Day of week and time of day (4 levels: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time)
- Vehicle type (passenger cars)

The aggregate datafile includes a) the key indicators for the minimum strata and the requested national KPI, as well as b) indicators for the combination of the minimum strata for all modes together (passenger car and optional ones: goods vehicle, bus, motorcycle).

8.1 Data variables and values

The semi-aggregate datafile includes the following minimum and optional **variables** and respective values:

- Road type: motorways, rural roads, urban roads
- Time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- Vehicle type: passenger car, goods vehicle, bus, motorcycle
- Gender: Male, Female
- Age group: 18-24, 25-65, 65+

Furthermore, the following data are asked in the aggregate and semi-aggregate excels:

Original data (cleaned data from measurements):

- Nr of locations: refers to the number of locations selected for the measurements
- Traffic counts: Number of passing vehicles on the control session lane(s) and direction(s) per vehicle type (if applicable). In case of e.g. a 10-minute traffic count per session by human observers, the count result per session should be extrapolated to the duration of the session (e.g. 1 hour session = 10 minute count result x 6). The traffic count variable in the excels refers to the sum of all (extrapolated) counts from all included sessions in the respective stratum.
- Weight proportion: (if applicable) Each individual measurement in each session has a weight in the data analysis (see also *Baseline document Considerations for sampling weights*). The sum of all weights per considered stratification level divided by the total sum of all weights should be provided.
- N: number of drivers tested
- N-within legal limit: number of drivers tested with BAC level within the legal limit
- N-above legal limit: number of drivers tested with BAC level above the legal limit

Calculated data (from post stratification and statistical analysis):

- KPI: the percentage of drivers driving within the legal BAC limit
- SE: Standard Error
- CI (95%): upper and lower bound of the 95% Confidence Interval
- (optional) % drivers – BAC 0.0: the percentage of drivers with BAC level equal to 0.0 g/l per total number of drivers tested
- (optional) % drivers – BAC 0.0-0.2: the percentage of drivers within BAC level group 0.0-0.2 g/l per total number of drivers tested
- (optional) % drivers – BAC 0.2-0.5: the percentage of drivers within BAC level group 0.2-0.5 g/l per total number of drivers tested
- (optional) % drivers – BAC 0.5-0.8: the percentage of drivers within BAC level group 0.5-0.8 g/l per total number of drivers tested
- (optional) % drivers – BAC 0.8-1.2: the percentage of drivers within BAC level group 0.8-1.2 g/l per total number of drivers tested
- (optional) % drivers – BAC 1.2+: the percentage of drivers with BAC level higher than 1.2 g/l per total number of drivers tested

KPIs and the respective data can be provided separately for all drivers tested, novice drivers and professional drivers, if applicable.

8.2 Disaggregation level

MS may opt the disaggregation level that they desire to deliver their KPIs. Based on the methodological requirements, the following levels of disaggregation are considered:

1. Minimum required level

In this case, a point estimate as well as a 95% confidence interval is expected for each level of the following stratification variables:

- Time period: all options (4 periods and all periods)
- Road type: all options (3 road types and all roads)
- Vehicle type (passenger cars)

The following filters should therefore be used for filling in the datafile:

- Age group: all ages
- Gender: both genders
- Vehicle Type: passenger car-Total

Thus, as a minimum, the KPIs and respective CIs can be provided by type of road (referring to all periods) and by time period (referring to all roads), and at national level (all periods and all roads), for passenger cars.

This version of the table is also available in the aggregate datafile (part a).

2. Medium level

For each level of disaggregation, the values that should be selected through the filters are shown:

Level 0: includes the KPI for all vehicle types, all roads and all periods without further disaggregation:

- age group: all ages
- gender: both genders
- vehicle type: all modes
- time period: all periods
- road type: all roads

1st level of disaggregation includes national data by the following levels of disaggregation (available data for each stratum/variable):

a) by road type

- age group: all ages
- gender: both genders
- vehicle type: all modes
- time period: all periods
- road type: motorways-Total, rural roads-Total, urban roads-Total

b) by time period

- age group: all ages
- gender: both genders
- vehicle type: all modes
- road type: all roads
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total

c) by vehicle type

- age group: all ages
- gender: both genders

- time period: all periods
- road type: all roads
- vehicle type: passenger car-Total, bus-Total, goods vehicle-Total, motorcycle-Total

d) by gender

- age group: all ages
- vehicle type: all modes
- time period: all periods
- road type: all roads
- Gender: Male-Total, Female-Total

e) by age group

- gender: both genders
- vehicle type: all modes
- time period: all periods
- road type: all roads
- Age group: 18-24-Total, 25-65-Total, 65+-Total

2nd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 2 strata/variables crossings):

a) by road type and time period

- age group: all ages
- gender: both genders
- vehicle type: all modes
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total
- road type: motorways, rural roads, urban roads

b) by road type and vehicle type

- age group: all ages
- gender: both genders
- time period: all periods
- vehicle type: passenger car-Total, bus/coach-Total, lights goods vehicle-Total
- road type: motorways, rural roads, urban roads

c) by road type and gender

- age group: all ages
- vehicle type: all modes
- time period: all periods
- gender: Male-Total, Female-Total
- road type: motorways, rural roads, urban roads

d) by road type and age group

- gender: both genders
- vehicle type: all modes
- time period: all periods
- age group: 18-24-Total, 25-65-Total, 65+-Total
- road type: motorways, rural roads, urban roads

e) by time period and vehicle type

- age group: all ages
- gender: both genders
- road type: all roads
- vehicle type: passenger car-Total, bus/coach-Total, lights goods vehicle-Total
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total

f) by time period and age group

- gender: both genders
- vehicle type: all modes
- road type: all roads
- age group: 18-24-Total, 25-65-Total, 65+-Total
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total

g) by time period and gender

- age group: all ages
- vehicle type: all modes
- road type: all roads
- gender: Male-Total, Female-Total
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total

h) by vehicle type and gender

- age group: all ages
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total
- vehicle type: passenger car, goods vehicle, bus, motorcycle

i) by vehicle type and age group

- gender: both genders
- road type: all roads
- time period: all periods
- age group: 18-24-Total, 25-65-Total, 65+-Total
- vehicle type: passenger car, goods vehicle, bus, motorcycle

j) by age group and gender

- vehicle type: all modes
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total
- age group: 18-24, 25-65, 65+

3rd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 3 strata/variables crossings):

a) by road type, time period and vehicle type

- age group: all ages
- gender: both genders
- vehicle type: passenger car-Total, bus-Total, goods vehicle-Total, motorcycle-Total
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways, rural roads, urban roads

b) by road type, time period and age group

- gender: both genders
- vehicle type: all modes
- age group: 18-24-Total, 25-65-Total, 65+-Total
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways, rural roads, urban roads

c) by road type, time period and gender

- age group: all ages
- vehicle type: all modes
- gender: Male-Total, Female-Total
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways, rural roads, urban roads

d) by vehicle type, age group and gender

- time period: all periods
- road type: all roads
- vehicle type: passenger car-Total, bus-Total, goods vehicle-Total, motorcycle-Total
- gender: Male, Female
- age group: 18-24, 25-65, 65+

e) by time period, age group and gender

- vehicle type: all modes
- road type: all roads
- gender: Male, Female
- age group: 18-24, 25-65, 65+
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total

f) by road type, age group and gender

- vehicle type: all modes
- time period: all periods
- age group: 18-24, 25-65, 65+
- gender: Male, Female
- road type: motorways-Total, rural roads-Total, urban roads-Total

4th level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 4 strata/variables' crossings):

a) by road type, time period, vehicle type and gender

- age group: all ages
- gender: Female-Total, Male-Total
- vehicle type: passenger car, bus, goods vehicle, motorcycle
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways, rural roads, urban roads

b) by road type, time period, vehicle type and age group

- gender: both genders
- age group: 18-24-Total, 25-65-Total, 65+-Total
- vehicle type: passenger car, bus, goods vehicle, motorcycle
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways, rural roads, urban roads

c) by road type, vehicle type, gender and age group

- time period: all periods
- vehicle type: passenger car-Total, bus-Total, goods vehicle-Total, motorcycle-Total
- gender: Male, Female
- age group: 18-24, 25-65, 65+
- road type: motorways, rural roads, urban roads

d) by time period, vehicle type, gender and age group

- road type: all roads
- vehicle type: passenger car-Total, bus-Total, goods vehicle-Total, motorcycle-Total

- gender: Male, Female
- age group: 18-24, 25-65, 65+
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time

5th level of disaggregation includes data by road type, time period, vehicle type, gender and age group (crossed-level matrix for all available crossings between the 5 strata/variables): all options are selected.

9 KPI Driving under the Influence of Alcohol (Questionnaire Survey)

Based on the methodological guidelines of the KPI for Driving under the Influence of Alcohol, data can also be collected through questionnaire surveys on self-reported behaviour. Self-reported data can either refer to prevalence of DUI of alcohol over a specific time period (period based prevalence: e.g. last 30 days, last 12 months) or to prevalence of DUI during a specific recent trip (trip-based prevalence: based on specific recent trips). The derived indicator from self-declared DUI of alcohol is

- Period based: % of drivers [indicating] never to have driven with a blood alcohol concentration over the legal limit [over a specific period]
- Trip based: % of drivers [indicating] not to have driven with a blood alcohol concentration over the legal limit

Questions referring to being “over/under the legal BAC limit” correspond best to the requested KPI for DUI of alcohol (e.g. for period based: In the last x months, how often did you as a driver drive when you may have been over the legal limit for drinking and driving?; for trip based: May you have been over the legal limit for drinking and driving during this journey?). These are thus preferably used for delivering the self-declared DUI of alcohol KPI. The actual considered question(s) for delivering the KPIs may differ though and should be specified in the appropriate cells in the data sheets of aggregate and semi-aggregate datafiles, as well as in the meta data.

The prevalence estimates for declarative surveys should be provided with a 95% confidence interval (upper and lower border) and standard error, like for the roadside measurements. The representativity of the survey should be indicated in the meta-data, by including an explanation on the sampling, analysis and weighting procedures. The sample should at minimum be representative for the MS general population, as a minimum for the age x gender distribution (age x gender interlaced) based on national demographics, and using the proposed Baseline KPI alcohol age categories. In order to correct for disproportionalities data weighs according to the national age x gender distributions should be used. Ideally though, the sample is representative for the national driving population (sampling and/or weights according to national driver demographic info on age x gender). Like for all KPIs a full overview should be given in the meta-data on the survey (type, timing, duration, considered question(s)), sampling (total sample size and according to age category and gender, non-response, if applicable: by vehicle type (min. passenger cars), if applicable: by time period strata and road type strata), data processing, weighting and analysis).

Because of the methodological differences, KPIs originating from trip-based surveys, period-based surveys and roadside measurements will always be presented separately.

Depending on the type of questioning (period based vs. trip based prevalence), specific minimum requirements and stratifications should be considered.

1. Period based prevalence

The only sample requirement for period based prevalence surveys is min. 1000 passenger car drivers, representative for the population (through sampling/weighting).

Generally, period-based questions (like the ESRA questions) do not include a specification of time period or road type. It is possible though that questions referring to the time periods and/or road types are used by adding a specification in the question like “in weekend nights” or even “in weekend nights on rural roads”, cfr. the min. strata for roadside measurements.

The minimum required self-declared KPI is the aggregated KPI for passenger cars (i.e. the minimum vehicle type), and if available also:

- by road type (3 levels: motorways, rural roads, urban roads)
- by time period or day of week and time of day (4 levels: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time)

Furthermore, for this type of questioning it is highly recommended to also deliver the indicator according to the main variables which are also used for sampling:

- by age category
- by gender
- ideally also by age category x gender

It is furthermore recommended to deliver indicators according the combination of the minimum strata if available (road type x time period), also in combination with the main variables: age category, gender, and age category x gender.

Further optional differentiations can be made according to other vehicle types (if available) and all vehicle types (if applicable).

The aggregate datafile includes a) the national declarative KPI for the minimum vehicle type (passenger cars: all ages and both genders), and optionally (because only if available), the indicators according to each minimum stratum (by time period (4) and by road type (3)), as well as b) indicators for passenger cars for the main optional variables: by age category, by gender, by age category x gender, as well as optionally (because only if available), the combinations of the minimum strata and main optional variables for passenger cars (by time period x road type, by time period x age category, by time period x gender, by time period x age category x gender, by road type x age category, by road type x gender, by road type x age category x gender, by time period x road type x age category, by time period x road type x gender, and finally, by time period x road type x age category x gender).

2. Trip based prevalence

The only sample requirement for trip based questioning is min. 2500 passenger car drivers, representative for the population (through sampling/weighting).

Trip based surveys can take the minimum time period and road type strata into account by questioning and selecting individual trips based on (and balanced for) these strata and combinations of these strata. There are no minimum sample requirements for the 4 time periods, nor for the 3 road types, like for the roadside measurements. Ideally though, the strata distributions are balanced enough in the final dataset, and it can nevertheless be recommended to have at least 500 drivers in each of the different strata, like required for roadside measurements. This balance can be controlled and achieved to some extent during the sampling (e.g. sending out surveys in the week as well as in the weekend, asking for trips during the last 24h and when night trips are mentioned, selecting these preferably for more information, because these are more rare than trips during daytime). For the three road types this balancing during sampling could be controlled additionally by asking on which roads the trips were driven, keeping in mind that one trip may include 2 and even the 3 road types. In order to calculate an aggregate KPI, weight factors taking the actual proportions of the different strata** into account should be used.

**Ideally weights are based on official traffic volume data for the different strata, or based on another procedure defined by the MS and approved by Baseline, or based on the weight proposal developed within Baseline – still under construction.

For trip-based surveys the same minimum KPIs are required as for roadside measurements:

- aggregated KPI for passenger cars (i.e. the minimum vehicle type)
- by road type (3 levels: motorways, rural roads, urban roads)
- by time period or day of week and time of day (4 levels: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time)

Furthermore, it is highly recommended to also deliver indicators according to the main variables which are also used for sampling:

- by age category
- by gender
- ideally also by age category x gender

It is also recommended to deliver indicators according the combination of the minimum strata (road type x time period), also in combination with the main variables: age category, gender, and age category x gender.

Further optional differentiations, can be made according to other vehicle types (if available) and all vehicle types (if applicable).

The aggregate datafile includes a) the national declarative KPI for the minimum vehicle type (passenger cars: all ages and both genders), and the indicators according to each minimum stratum (by time period (4) and by road type (3) for all ages and both genders), as well as b) indicators for passenger cars for the main optional variables: by age category, by gender, by age category x gender, as well as the combination of the minimum strata and main optional variables for passenger cars (by time period x road type, by time period x age category, by time period x gender, by time period x age category x gender, by road type x age category, by road type x gender, by road type x age category x gender, by time period x road type x age category, by time period x road type x gender, by time period x road type x age category x gender).

9.1 Data variables and values

The semi-aggregate datafile includes the following minimum and optional **variables** and respective values:

- Road type: motorways, rural roads, urban roads
- Time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- Vehicle type: passenger car, goods vehicle, bus, motorcycle
- Gender: Male, Female
- Age group: 18-24, 25-65, 65+

Furthermore, the following data are asked:

Original data (cleaned data from measurements):

- N: number of drivers

For estimation of period prevalence:

- N-DUI-at least once (12months): number of drivers reporting at least once in the question: “Over the last 12 months, how often did you as a driver drive after drinking alcohol?”
- N-DUI-never (12months): number of drivers reporting never in the question: “Over the last 12 months, how often did you as a driver drive after drinking alcohol?”
- N-DUI-at least once (30days): number of drivers reporting at least once in the question: “Over the last 30 days, how often did you as a driver drive after drinking alcohol?”
- N-DUI-never (30days): number of drivers reporting never in the question: “Over the last 30 days, how often did you as a driver drive after drinking alcohol?”
- N-over the legal limit-at least once (30days): number of drivers reporting at least once in the question: “Over the last 30 days, how often did you as a driver drive when you may have been over the legal limit for drinking and driving?”
- N-over the legal limit-never (30days): number of drivers reporting never in the question: “Over the last 30 days, how often did you as a driver drive when you may have been over the legal limit for drinking and driving?”

For estimation of trip-based prevalence:

- N-DUI (trip)-positive: number of drivers replying positively on the question “Did you drink alcohol in the period before this journey?”
- N-DUI (trip)-negative: number of drivers replying negatively on the question “Did you drink alcohol in the period before this journey?”
- N-over legal limit (trip)-positive: number of drivers replying positively on the question “May you have been over the legal limit for drinking and driving during this journey?”
- N-over legal limit (trip)-negative: number of drivers replying negatively on the question “May you have been over the legal limit for drinking and driving during this journey?”

Calculated data (from post stratification and statistical analysis):

- KPI: Prevalence estimates (depending the survey method, formulated positively cfr. EC requested KPI “% of drivers driving within the legal limit for blood alcohol concentration”)
- SE: Standard Error
- w: the calculated weighting factor based on traffic volumes used for each level of stratification
- CI (95%): upper and lower bound of the 95% Confidence Interval

KPIs and the respective data can be provided separately for all questioned drivers, novice drivers and professional drivers, if applicable.

9.2 Disaggregation level

MS may opt the disaggregation level that they desire to deliver their KPIs. Based on the methodological requirements, the following levels of disaggregation are considered:

1. Minimum level

In this case, a point estimate as well as a 95% confidence interval is expected for each level of the following stratification variables:

- time period (4 levels)
- road type (3 levels)
- vehicle type (passenger cars)

The following filters should therefore be used for filling in the datafile:

- age group: all ages
- gender: both genders
- vehicle type: passenger car-Total

Thus, KPIs and respective CIs can be provided by type of road and time period (if available), as well as the aggregated KPI.

This version of the table is also available in the aggregate datafile (part a).

In case of delivering the KPI according to the main variables used for sampling (age, gender):

- by gender:

- vehicle type: passenger car, passenger car-Total
- time period: all periods
- road type: all roads
- age group: all ages
- gender: Male-Total, Female-Total

- by age group:

- vehicle type: passenger car, passenger car-Total
- time period: all periods
- road type: all roads
- gender: both genders
- age group: 18-24-Total, 25-65-Total, 65+-Total

- by age group and gender:

- vehicle type: passenger car, passenger car-Total
- time period: all periods
- road type: all roads
- gender: Male, Female
- age group: 18-24, 25-65, 65+

Further crossed-level matrices of the optional levels of disaggregation of all variables (if available) follow at the medium level.

2. Medium level

For each level of disaggregation, the values that should be selected through the filters are shown:

Level 0: includes the KPI for all periods, all roads and all transport modes, without further disaggregation:

- age group: all ages
- gender: both genders
- vehicle type: all modes
- time period: all periods
- road type: all roads

1st level of disaggregation includes national data by the following levels of disaggregation (available data for each stratum/variable):

a) by road type

- age group: all ages
- gender: both genders
- vehicle type: all modes
- time period: all periods
- road type: motorways-Total, rural roads-Total, urban roads-Total

b) by time period

- age group: all ages
- gender: both genders
- vehicle type: all modes
- road type: all roads
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total

c) by vehicle type:

- age group: all ages
- gender: both genders
- time period: all periods
- road type: all roads
- vehicle type: passenger car-Total, bus-Total, goods vehicle-Total, motorcycle-Total

d) by gender:

- age group: all ages
- vehicle type: all modes
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total

e) by age group:

- gender: both genders
- vehicle type: all modes
- time period: all periods
- road type: all roads
- age group: 18-24-Total, 25-65-Total, 65+-Total

2nd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 2 strata/variables crossings):

a) by road type and time period

- age group: all ages
- gender: both genders
- vehicle type: all modes
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total
- road type: motorways, rural roads, urban roads

b) by road type and vehicle type

- age group: all ages
- gender: both genders
- time period: all periods
- vehicle type: passenger car-Total, bus/coach-Total, lights goods vehicle-Total
- road type: motorways, rural roads, urban roads

c) by road type and gender

- age group: all ages
- vehicle type: all modes
- time period: all periods
- gender: Male-Total, Female-Total
- road type: motorways, rural roads, urban roads

d) by road type and age group

- gender: both genders
- vehicle type: all modes
- time period: all periods
- age group: 18-24-Total, 25-65-Total, 65+-Total
- road type: motorways, rural roads, urban roads

e) by time period and vehicle type

- age group: all ages
- gender: both genders
- road type: all roads
- vehicle type: passenger car-Total, bus/coach-Total, lights goods vehicle-Total
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total

f) by time period and age group

- gender: both genders
- vehicle type: all modes
- road type: all roads
- age group: 18-24-Total, 25-65-Total, 65+-Total
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total

g) by time period and gender

- age group: all ages
- vehicle type: all modes
- road type: all roads
- gender: Male-Total, Female-Total
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total

h) by vehicle type and gender

- age group: all ages
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total
- vehicle type: passenger car, goods vehicle, bus, motorcycle

i) by vehicle type and age group

- gender: both genders
- time period: all periods
- road type: all roads
- age group: 18-24, 25-65, 65+
- vehicle type: passenger car, goods vehicle, bus, motorcycle

j) by gender and age group

- vehicle type: all modes
- time period: all periods
- road type: all roads
- age group: 18-24, 25-65, 65+
- gender: Male-Total, Female-Total

3rd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 3 strata/variables crossings):

a) by road type, time period and vehicle type

- age group: all ages
- gender: both genders
- vehicle type: passenger car-Total, bus-Total, goods vehicle-Total, motorcycle-Total
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways, rural roads, urban roads

b) by road type, time period and age group

- gender: both genders
- vehicle type: all modes
- age group: 18-24-Total, 25-65-Total, 65+-Total
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways, rural roads, urban roads

c) by road type, time period and gender

- age group: all ages
- vehicle type: all modes
- gender: Male-Total, Female-Total
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways, rural roads, urban roads

d) by vehicle type, age group and gender

- time period: all periods
- road type: all roads
- age group: 18-24, 25-65, 65+
- gender: Male, Female
- vehicle type: passenger car-Total, bus-Total, goods vehicle-Total, motorcycle-Total

e) by time period, age group and gender

- vehicle type: all modes
- road type: all roads
- age group: 18-24, 25-65, 65+
- gender: Male, Female
- time period: weekday/daytime-Total, weekday/night-time-Total, weekend/daytime-Total, weekend/night-time-Total

f) by road type, age group and gender

- vehicle type: all modes
- time period: all periods
- age group: 18-24, 25-65, 65+
- gender: Male, Female
- road type: motorways-Total, rural roads-Total, urban roads-Total

4th level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 4 strata/variables' crossings):

a) by road type, time period, vehicle type and gender

- age group: all ages
- gender: Female-Total, Male-Total
- vehicle type: passenger car, bus, goods vehicle, motorcycle
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways, rural roads, urban roads

b) by road type, time period, vehicle type and age group

- gender: both genders
- age group: 18-24-Total, 25-65-Total, 65+-Total
- vehicle type: passenger car, bus, goods vehicle, motorcycle
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time
- road type: motorways, rural roads, urban roads

c) by road type, vehicle type, gender and age group

- time period: all periods
- vehicle type: passenger car-Total, bus-Total, goods vehicle-Total, motorcycle-Total
- gender: Male, Female
- age group: 18-24, 25-65, 65
- road type: motorways, rural roads, urban roads

d) by time period, vehicle type, gender and age group

- road type: all roads
- vehicle type: passenger car-Total, bus-Total, goods vehicle-Total, motorcycle-Total
- gender: Male, Female
- age group: 18-24, 25-65, 65
- time period: weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time

5th level of disaggregation includes data by road type, time period, vehicle type, gender and age group (crossed-level matrix for all available crossings between the 5 strata/variables): all options are selected.

10 KPI Distraction

Based on the methodological guidelines of the KPI for Distraction, the main indicator is the percentage of drivers not using a handheld mobile device across all daytimes and road types. The main KPI (national aggregate) should include the three required vehicle types (altogether). Considering the minimum requirements sampling is stratified according to several parameters:

- Road type (3 levels: motorways, rural roads, urban roads)
- Time period (daytime)
- Vehicle type (all modes together: passenger cars, light goods vehicles, buses/coaches)

The aggregate datafile includes a) the key indicators for the minimum strata and the requested national KPI, as well as b) indicators for the combination of the minimum strata with the separate vehicle types (passenger cars, light goods vehicles, buses/coaches).

10.1 Data variables and values

The semi-aggregate datafile includes the following minimum and optional **variables** and respective values:

- Road type: motorways, rural roads, urban roads
- Time period: weekday/daytime peak, weekday/daytime off-peak, weekend/daytime
- Vehicle type: passenger car, bus/coach, light goods vehicle
- Gender: Male, Female
- Age group: 18-24, 25-65, 65+

Furthermore, the following data are asked in both the aggregate and semi-aggregate excels:

Original data (cleaned data from measurements):

- Nr of locations: refers to the number of locations selected for the measurements
- Traffic counts: Number of passing vehicles on the measurement session lane(s) and direction(s) per vehicle type (if applicable). In case of e.g. a 10-minute traffic count per session by human observers, the count result per session should be extrapolated to the duration of the session (e.g. 1 hour session = 10 minute count result x 6). The traffic count variable in the excels refers to the sum of all (extrapolated) counts from all included sessions in the respective stratum.
- Weight proportion: (if applicable) Each individual measurement in each session has a weight in the data analysis (see also *Baseline document Considerations for sampling weights*). The sum of all weights per considered stratification level divided by the total sum of all weights should be provided.
- N: number of drivers observed
- N-use of handheld mobile device: number of drivers using a handheld mobile device while driving
- N-no use of handheld mobile device: number of drivers not using a handheld mobile device while driving

Calculated data (from post stratification and statistical analysis):

- KPI: the percentage of drivers not using a handheld mobile device while driving
- SE: Standard Error
- CI (95%): upper and lower bound of the 95% Confidence Interval

KPIs and the respective data should be provided for all drivers observed, and (optionally) for private drivers and professional drivers, if applicable.

10.2 Disaggregation level

MS may opt the disaggregation level that they desire to deliver their KPIs. Based on the methodological requirements, the following levels of disaggregation are considered:

1. Minimum required level

In this case, point estimates for all the minimum required observation categories should be provided. The following filters should therefore be used for filling in the datafile:

- Age group: all ages
- Gender: both genders
- Vehicle type: all modes
- Time period: all periods (daytime)
- Road type: all options (3 road types and all roads)

Thus, as a minimum, the KPIs and respective CIs can be provided by type of road (referring to all periods) and at national level (all periods and all roads) for all vehicle types together.

This version of the table is also available in the aggregate datafile (part a).

2. Medium level

For each level of disaggregation, the values that should be selected through the filters are shown:

Level 0: includes the national KPI for all modes, all roads and all periods.

1st level of disaggregation includes national data by the following levels of disaggregation (available data for each stratum/variable):

a) by road type

- age group: all ages
- gender: both genders
- vehicle type: all modes
- time period: all periods
- road type: motorways-Total, rural roads-Total, urban roads-Total

b) by time period

- age group: all ages
- gender: both genders
- vehicle type: all modes
- road type: all roads
- Time period: weekday/daytime peak-Total, weekday/daytime off-peak-Total, weekend/daytime-Total

c) by vehicle type:

- age group: all ages
- gender: both genders
- time period: all periods
- road type: all roads
- vehicle type: passenger car-Total, lights goods vehicle-Total, bus/coach-Total

d) by gender:

- age group: all ages
- vehicle type: all modes
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total

e) by age group:

- gender: both genders
- vehicle type: all modes
- time period: all periods
- road type: all roads
- age group: 18-24-Total, 25-65-Total, 65+-Total

2nd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 2 strata/variables crossings):

a) by road type and time period:

- age group: all ages
- gender: both genders
- vehicle type: all modes
- time period: weekday/daytime peak-Total, weekday/daytime off-peak-Total, weekend/daytime-Total
- road type: motorways, rural roads, urban roads

b) by road type and vehicle type:

- age group: all ages
- gender: both genders
- time period: all periods
- vehicle type: passenger car-Total, bus/coach-Total, light goods vehicle-Total
- road type: motorways, rural roads, urban roads

c) by road type and gender:

- age group: all ages
- vehicle type: all modes
- time period: all periods
- gender: Male-Total, Female-Total
- road type: motorways, rural roads, urban roads

d) by road type and age group:

- gender: both genders
- vehicle type: all modes
- time period: all periods
- age group: 18-24-Total, 25-65-Total, 65+-Total
- road type: motorways, rural roads, urban roads

e) by time period and vehicle type:

- age group: all ages
- gender: both genders
- road type: all roads
- vehicle type: passenger car-Total, light goods vehicle-Total, bus/coach-Total
- time period: weekday/daytime peak, weekday/daytime off-peak, weekend/daytime

f) by time period and age group:

- gender: both genders
- vehicle type: all modes
- road type: all roads
- age group: 18-24-Total, 25-65-Total, 65+-Total
- time period: weekday/daytime peak, weekday/daytime off-peak, weekend/daytime

g) by time period and gender:

- age group: all ages
- vehicle type: all modes
- road type: all roads

- gender: Male-Total, Female-Total
- time period: weekday/daytime peak, weekday/daytime off-peak, weekend/daytime

h) by vehicle type and gender:

- age group: all ages
- time period: all periods
- road type: all roads
- gender: Male-Total, Female-Total
- vehicle type: passenger car, light goods vehicle, bus/coach

i) by vehicle type and age group:

- gender: both genders
- time period: all periods
- road type: all roads
- age group: 18-24-Total, 25-65-Total, 65+-Total
- vehicle type: passenger car, light goods vehicle, bus/coach

j) by age group and gender:

- vehicle type: all modes
- time period: all periods
- road type: all roads
- age group: 18-24-Total, 25-65-Total, 65+-Total
- gender: Male, Female

3rd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 3 strata/variables crossings):

a) by road type, time period and vehicle type:

- age group: all ages
- gender: both genders
- vehicle type: passenger car-Total, bus/coach-Total, light goods vehicle-Total
- time period: weekday/daytime peak, weekday/daytime off-peak, weekend/daytime
- road type: motorways, rural roads, urban roads

b) by road type, time period and age group:

- gender: both genders
- vehicle type: all modes
- age group: 18-24-Total, 25-65-Total, 65+-Total
- time period: weekday/daytime peak, weekday/daytime off-peak, weekend/daytime
- road type: motorways, rural roads, urban roads

c) by road type, time period and gender:

- age group: all ages
- vehicle type: all modes
- gender: Male-Total, Female-Total
- time period: weekday/daytime peak, weekday/daytime off-peak, weekend/daytime
- road type: motorways, rural roads, urban roads

d) by vehicle type, age group and gender:

- time period: all periods
- road type: all roads
- vehicle type: passenger car-Total, light goods vehicle-Total, bus/coach-Total
- gender: Male, Female
- age group: 18-24, 25-65, 65+

e) by time period, age group and gender:

- vehicle type: all modes
- road type: all roads
- age group: 18-24, 25-65, 65+
- gender: Male, Female
- time period: weekday/daytime peak-Total, weekday/daytime off-peak-Total, weekend/daytime-Total

f) by road type, age group and gender:

- vehicle type: all modes
- time period: all periods
- age group: 18-24, 25-65, 65+
- gender: Male, Female
- road type: motorways-Total, rural roads-Total, urban roads-Total

4th level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 4 strata/variables' crossings):

a) by road type, time period, vehicle type and gender:

- age group: all ages
- gender: Female-Total, Male-Total
- vehicle type: passenger car, bus/coach, light goods vehicle
- time period: weekday/daytime peak, weekday/daytime off-peak, weekend/daytime
- road type: motorways, rural roads, urban roads

b) by road type, time period, vehicle type and age group:

- gender: both genders
- age group: 18-24-Total, 25-65-Total, 65+-Total
- vehicle type: passenger car, bus/coach, light goods vehicle
- time period: weekday/daytime peak, weekday/daytime off-peak, weekend/daytime
- road type: motorways, rural roads, urban roads

c) by road type, vehicle type, gender and age group:

- time period: all periods
- vehicle type: passenger car, light goods vehicle, bus/coach
- gender: Male, Female
- age group: 18-24-Total, 25-65-Total, 65+-Total
- road type: motorways, rural roads, urban roads

d) by time period, vehicle type, gender and age group:

- road type: all roads
- vehicle type: passenger car, light goods vehicle, bus/coach
- gender: Male, Female
- age group: 18-24-Total, 25-65-Total, 65+-Total
- time period: weekday/daytime peak, weekday/daytime off-peak, weekend/daytime

5th level of disaggregation includes data by road type, time period, vehicle type, gender and age group (crossed-level matrix for all available crossings between the 5 strata/variables): all options are selected.

11 KPI Vehicle Safety

Based on the methodological guidelines of KPI Vehicle Safety, the main indicator is the percentage of new passenger cars with a Euro NCAP safety rating equal or above a predefined threshold. As to the safety threshold, two thresholds are suggested to be used:

- a 'moderate' threshold, corresponding with a 4-star rating
- a 'strong' threshold corresponding with a 5-star rating.

If the Euro NCAP rating is not available for (almost) all vehicles and/or it is not possible to assign a Euro NCAP rating to each vehicle, two alternative KPIs can be accepted: (a) Average age of the total fleet of car passengers and (b) Percentage of the passenger cars that are roadworthy.

KPI percentages for 2019 and 2020 are requested by MS.

11.1 Data variables and values

Thus, the semi-aggregate datafile includes the following **variables** and respective values:

- Year: 2019, 2020
- Make: the brand/manufacture of the brand (e.g. Renault, BMW, Volkswagen, Fiat, Volvo, Seat, Skoda, etc.)
- Model: specific model of the Make (e. Renault Clio, Volkswagen Tiguan, Volvo V40, etc.)

Furthermore, the following data are asked:

Original data (cleaned data from measurements):

- Number of new passenger cars by model: number of newly registered cars by model for each year (no star rating cars also included)
- Number of 1-3 - star passenger cars: Total number of new registered passenger cars with Euro NCAP safety rating equal to 1-3 stars
- Number of 4-star passenger cars: Total number of new registered passenger cars with Euro NCAP safety rating equal to 4 stars
- Number of 5-star passenger cars: Total number of new registered passenger cars with Euro NCAP safety rating equal to 5 stars

Calculated data (from data analysis):

- Total passenger cars (excl.no rating): The sum of new registered cars for which a rating of 1-5 stars has been assigned (cars with no rating are excluded)
- Total passenger cars: Total number of new registered cars per year
- KPI percentage-threshold of 4 stars (a): total number of new passenger cars that meet the threshold of 4 stars per the total number of new passenger cars registered in a specific year (ignoring the cars for which no star rating is available)
- KPI percentage-threshold of 4 stars (b): total number of new passenger cars that meet the threshold of 4 stars per the total number of new passenger cars registered in a specific year (including the cars for which no star rating is available)
- KPI percentage-threshold of 5 stars (a): total number of new passenger cars that meet the threshold of 5 stars per the total number of new passenger cars registered in a specific year (ignoring the cars for which no star rating is available)
- KPI percentage-threshold of 5 stars (b): total number of new passenger cars that meet the threshold of 5 stars per the total number of new passenger cars registered in a specific year (including the cars for which no star rating is available)
- Average age of the vehicle fleet: Average age of passenger car fleet per year
- KPI roadworthy (a): the average distance driven (in km) by vehicles undergoing technical inspection, based on odometer reading
- KPI roadworthy (b): the average time between the theoretical date of inspection and the actual one
- KPI roadworthy (c): % of vehicles inspected with any major or dangerous deficiency in technical inspections
- KPI roadworthy (d): % of vehicles inspected with any major or dangerous deficiency in roadside inspections
- KPI roadworthy (e): % of vehicles not showing up to the periodical inspection

11.2 Disaggregation level

Aggregate data on number of new registered passenger cars by model both the standard indicator and the roadworthiness indicators are asked per year.

12 KPI Infrastructure

Based on the methodological guidelines of the KPI Infrastructure, four alternative indicators are suggested:

KPI (1): Percentage of the distance driven over roads with a safety rating above an agreed threshold

KPI (2): Percentage of the road network length of roads with a safety rating above an agreed threshold

KPI (3): Percentage of the distance driven over roads either with opposite traffic separation (by barrier or area) or with a speed limit equal to or lower than xx km/h in relation to total distance travelled [on all roads]

KPI (4): Percentage of the road network length of roads either with opposite traffic separation (by barrier or area) or with a speed limit equal to or lower than xx km/h in relation to the total road network length.

12.1 Data variables and values

The semi-aggregate datafile includes the following **variables** and respective values:

- Region (if applicable)
- Type of road: motorways, rural roads, urban roads. Alternative types of classification of roads can be used instead of these variables, as suggested in the methodological guidelines:
 - Classification by functional class: Principal arterial, Secondary arterial, Collector, Local, Other
 - Classification by speed limits: < 30 km/h, 30-50 km/h, 51-80 km/h, 81-100 km/h, 101-120 km/h, > 120 km/h, No speed limit
 - Classification by type of carriageway: Single carriageway - one way street, Single carriageway - two way street, Single carriageway - not specified, Dual carriageway
- Road segments: road sections used for the calculation of the KPI

Furthermore, the following data are requested:

- Total number of road segments (N) selected per road type

KPI (1):

- Exposure per road segment
- DSi: Dichotomization of the safety rating, DSi = 1 if the threshold is achieved or superseded, and DSi = 0 if the threshold is not achieved
- Exposure on roads with safety rating above the threshold: total exposure calculated on roads with safety rating above the threshold
- Ei: national traffic exposure per road category
- Si: Safety rating obtained per road category (after weighting)
- KPI (1): as defined above
- CI (95%): upper and lower bound of the 95% Confidence Interval

KPI (2):

- Length of each road segment selected
- DSi: Dichotomization of the safety rating, DSi = 1 if the threshold is achieved or superseded, and DSi = 0 if the threshold is not achieved
- Road length with safety rating above the threshold: total length of road network with safety rating above the threshold
- Li: total length per road category
- Si: Safety rating obtained per road category (after weighting)
- KPI (2): as defined above
- CI (95%): upper and lower bound of the 95% Confidence Interval

KPI (3):

- Distance driven on roads RL (30/50/70): distance driven on roads with speed limit lower than the threshold (i.e. 30km/h, 50km/h, 70km/h respectively)
- Distance driven on roads RH (30/50/70): distance driven on roads with speed limit higher than the threshold without opposite traffic separation (i.e. 30km/h, 50km/h, 70km/h respectively)
- Distance driven on roads RS (30/50/70): distance driven on roads with speed limit higher than the threshold with opposite traffic separation (i.e. 30km/h, 50km/h, 70km/h respectively)

- $ERSi / (ERL_{Li} + ERH_{Li} + ERS_{Li}) (\%)$: Percentage of the distance driven over roads with opposite traffic separation (RS roads) as part of the total distance driven
- $ERL_{Li} / (ERL_{Li} + ERH_{Li} + ERS_{Li}) (\%)$: Percentage of the distance driven over roads with a safe speed limit 30/50/70 (RL roads) as part of the total distance driven
- $ERL_{30} / (ERL_{30} + ERH_{30}) (\%)$: Percentage of the distance driven over RL30 roads as part of the total distance driven over RL30 and RH30 roads
- $ERL_{50} / (ERL_{50} + ERH_{50}) (\%)$: Percentage of the distance driven over RL50 roads as part of the total distance driven over RL50 and RH50 roads
- $ERL_{70} / (ERL_{30} + ERH_{70}) (\%)$: Percentage of the distance driven over RL70 roads as part of the total distance driven over RL70 and RH70 roads
- KPI (3): as defined above
- CI (95%): upper and lower bound of the 95% Confidence Interval

KPI (4):

- Length of roads RL (30/50/70): length roads with speed limit lower than the threshold (i.e. 30km/h, 50km/h, 70km/h respectively)
- Length of roads RH (30/50/70): length of roads with speed limit higher than the threshold without opposite traffic separation (i.e. 30km/h, 50km/h, 70km/h respectively)
- Length of roads RS (30/50/70): Length of roads with speed limit higher than the threshold with opposite traffic separation (i.e. 30km/h, 50km/h, 70km/h respectively)
- $LRS_{Li} / (LRL_{Li} + LRH_{Li} + LRS_{Li}) (\%)$: Percentage of the length of RS roads (with opposite traffic separation) in relation to the total road network length
- $LRL_{Li} / (LRL_{Li} + LRH_{Li} + LRS_{Li}) (\%)$: Percentage of the length of RL roads (other roads with a safe speed limit 30/50/70 km/h) in relation to the total road network length
- $LRL_{30} / (LRL_{30} + LRH_{30}) (\%)$: Percentage of the total length of RL30 roads as part of the length of RL30 and RH30 roads combined
- $LRL_{50} / (LRL_{50} + LRH_{50}) (\%)$: Percentage of the total length of RL50 roads as part of the length of RL50 and RH50 roads combined
- $LRL_{70} / (LRL_{30} + LRH_{70}) (\%)$: Percentage of the total length of RL70 roads as part of the length of RL70 and RH70 roads combined
- KPI (4): as defined above
- CI (95%): upper and lower bound of the 95% Confidence Interval

12.2 Disaggregation level

Aggregate data can be provided by region, road type, road segment and at national level. In case that the regions are not taken into account, then national data can be filled in for region 1.

For each level of disaggregation, the values that should be selected through the filters are shown:

1st level of disaggregation includes data by type of road:

- Road segments: all segments
- Region: all regions
- road type: motorways-Total, rural roads-Total, urban roads-Total

2nd level of disaggregation includes data by region and type of road:

- Road segments: all segments
- Region: Region 1, Region 2, ..., Region k
- road type: motorways-Total, rural roads-Total, urban roads-Total

3rd level of disaggregation includes data by region (if applicable), road type and road segment: all options are selected.

13 KPI Post crash care

Based on the methodological guidelines of KPI Post-crash care, the main indicator is the time elapsed in minutes and seconds between the emergency call following a road crash resulting in personal injury and the arrival at the scene of the road crash of the emergency services (to the value of the 95th percentile). Due to COVID-19 pandemic, 2020 is an exceptional year, thus, it is requested to provide the KPI for 2019 if possible (or an earlier year of the data if 2019 is not yet available).

The minimum requirement is to provide the 95th percentile of the time elapsed between the emergency call and the arrival of the emergency services at the crash scene. Where sampling is used, it is also required to provide a 95% confidence interval for this 95th percentile value.

If available, the Commission proposes to make a breakdown by road type (urban, non-urban roads, motorways). Additionally, further breakdowns are also suggested to be provided related to the location of crash, time of arrival, e-call warning, crash severity, type of emergency services, transport mode and crashes with or without motorized vehicles involved.

13.1 Data variables and values

Thus, the semi-aggregate datafile includes the following **variables** and respective values:

- Year: 2019, 2020
- Road type: urban, non-urban, motorway/highway
- Month: January-December
- Time period: weekday/daytime, weekday-night-time, weekend/daytime, weekend-night-time
- E-call warning: was the dispatching centre notified of the crash via e-call (yes/no)

Further columns with other variables for which national data exist may be added according the respective Baseline methodological guidelines, e.g.:

- Type of emergency services: Medical Emergency Services, Fire and Rescue Services, both,
- Presence of emergency physician at crash: yes/no,
- EMS vehicle equipment: mobile intensive care unit, basic life support unit, regular ambulance.

Additionally, location of crash can be provided by the following alternative variables:

- Area type: cities, towns & suburbs, rural areas – or predominantly urban, intermediate, predominantly rural
- NUTS3 region of the location of the crash
- Municipality

Furthermore, the following data are asked:

- 95th percentile: the 95th percentile of response times between the emergency calls following a road crash resulting in personal injury and the arrival of the emergency services at the scene of the crash
- 25th percentile (optional)
- 50th percentile (optional)
- 75th percentile (optional)
- 85th percentile (optional)
- 99th percentile (optional)
- 95% CI: upper and lower bound of the 95% Confidence Interval (if case sampling is used) for all indicators
- Number of casualties: number of casualties in the crash (optional)
- Number of fatalities on arrival at crash location (optional)
- Number of fatalities on arrival at the hospital (optional)
- Number of accidents

13.2 Disaggregation level

MS may opt the disaggregation level that they desire to deliver their KPIs. Based on the methodological requirements, two levels of disaggregation are recommended:

1. Minimum level

In this case, the 95th percentile of response times between the emergency calls following a road crash resulting in personal injury and the arrival of the emergency services at the scene of the crash for the whole country for 2019 and if possible a breakdown by road type. The following filters should therefore be used for filling in the datafile:

- E-call warning: all options
- Time period: all periods
- Month: all months
- Road Type: urban-Total, non-urban-Total, motorway/highway-Total, all roads
- Year: 2019

Thus, KPI and respective CIs (if applicable) can be provided by type of road and at national level (all roads).

2. Medium level

Please select the year for which data are available. For each level of disaggregation, the values that should be selected through the filters are shown:

Level 0: includes the national KPI for all roads and all periods.

1st level of disaggregation includes national data by each of the following optional levels of disaggregation (available data for each stratum/variable):

a) by road type

- e-call warning: all options
- time period: all periods
- month: all months
- road type: urban-total, non-urban-total, motorway/highway -total

b) by month

- e-call warning: all options
- time period: all periods
- road type: all roads
- month: Jan-total - Dec-total

c) by time period

- e-call warning: all options
- month: all months
- road type: all roads
- time period: weekday/daytime-Total, weekday-night-time-Total, weekend/daytime-Total, weekend-night-time-Total

d) by e-call warning

- time period: all periods
- month: all months
- road type: all roads
- e-call warning: Yes-total, No-total

2nd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 2 strata/variables crossings):

a) by road type and month

- e-call warning: all options
- time period: all periods

- month: Jan-Total - Dec-Total
- road type: urban, non-urban, motorway/highway

b) by road type and time period

- e-call warning: all options
- month: all months
- time period: weekday/daytime-Total, weekday-night-time-Total, weekend/daytime-Total, weekend-night-time-Total
- road type: urban, non-urban, motorway/highway

c) by road type and e-call warning

- time period: all periods
- month: all months
- e-call warning: Yes-Total, No-Total
- road type: urban, non-urban, motorway/highway

3rd level of disaggregation includes a crossed-level matrix of the following optional levels of disaggregation (available data for 3 strata/variables crossings):

a) by road type, month and time period

- e-call warning: all options
- time period: weekday/daytime, weekday-night-time, weekend/daytime, weekend-night-time
- month: Jan-Total - Dec-Total
- road type: urban, non-urban, motorway/highway

b) by road type, month and e-call warning

- time period: all periods
- e-call warning: Yes-Total, No-Total
- month: Jan-Dec
- road type: urban, non-urban, motorway/highway

4th level of disaggregation includes all combinations of e-call warning, time period, month and road type (crossed-level matrix for all available crossings between the 4 strata/variables): all options are selected.

14 Metadata

In this chapter, the requested metadata per KPI are described. In the datafile, an example of the filled in metadata for the KPI Speed is also provided.

14.1 Behavioural KPIs

KPIs Definition and Methodology

- **Name the KPIs delivered (per type of road, user, vehicle, time period) - including the main national KPI:** the MS should fill in the calculated national KPI and further KPIs per type of road, user, vehicle, time period that are delivered
- **Data collection method:** the MS should opt from a drop-down list the methodology followed for the KPI data collection. If other methodology - not included in the list - has been followed, it should be recorded in the notes. The data collection methodologies included are: Roadside observations/measurements by researchers (including also speed measurements using speed/laser guns operated by observers); Automated measurements (e.g. automated radars for speed); Self-reported behaviour; Observations/measurements by the police; Analysis of video images; Analysis of existing databases; Other (please specify). In the case of KPI Alcohol, where questionnaire survey has been used, the values included are: Roadside interviews; Telephone interviews; Online survey; Other (please specify)
Note: If more than one method per KPI has been used for the collection of different types of data, MS should add further columns and fill in the metadata separately for each type of data collection method (e.g. analysis of video images for speed of motorcycles and roadside observations for speed of passenger cars).
- **Type of survey:** This applies to the KPI on Alcohol, in the case a questionnaire survey has been used for the data collection. MS should select between period-based and trip-based prevalence survey.
- **Definition of road types selected for observations:** The MS should provide the national definition of three road types selected for the KPI measurements and provide their characteristics: urban roads, rural roads, motorways.
- **Definition of time periods selected for observations:** The potentially different time periods selected for the data collection should be defined (days and hours): weekday/daytime, weekday/night-time, weekend/daytime, weekend/night-time, weekday/daytime peak, weekday/daytime off-peak.
- **Define child groups used for cycle helmet use:** This applies to the KPI on Cycle Helmet. The age groups for children considered in the data collection should be defined.
- **Actual max speed limits (km/h) on measurement locations by road type and vehicle type** (in case sections with different speed limits are selected per road type, please fill in all related values): This applies to the KPI on speed. The actual maximum permitted speed limits in the locations of measurements are requested. If the speed limits of the selected locations for each road type differ, then please record all the related values.
- **Actual questions included:** This applies to the KPI on Alcohol, in the case a questionnaire survey has been used for the data collection. The questions included in the survey should be filled in.

Sample design

- **Define sampling units:** The MS should select from a drop-down list the sampling units observed for the KPI data collection. The sampling units included are: Vehicle; Driver; Rider; Passenger; Driver and Passenger; Rider and Passenger; Other (please specify)
- **Sampling of locations:** The MS should select from a drop-down list the method followed for the selection of the locations for the KPI data collection. The sampling methods for the locations are: Simple random (proportional to traffic volume in the different strata); Stratified random (disproportional to actual traffic volume in the strata, e.g. same number of locations/sessions in the different strata); Other (please specify)
- **Type of locations selected for in-vehicle inspections of CRS (e.g. parking lots, rest areas, etc.):** This applies on the KPI on child restraint systems in case of in-vehicle inspections for the data collection. The location type(s) selected for the in-vehicle inspections should be filled in.
- **Total sample size:** The exact total sample size for the calculation of the KPIs should be filled in.
- **Stratification levels (please specify):** The selected stratification levels (e.g. per road type, time period, vehicle type etc.) should be filled in.
- **Total sample size per minimum stratification level:** The total sample size per stratification level should be filled in and in more detail per road type, period time, vehicle type (if applicable).
- **For online/telephone alcohol survey:**

- Sample source: The MS should fill in the source of the sample for the online/telephone alcohol survey, e.g. online research panel, national population register, etc.
- Sample descriptive data: The MS should fill in the following descriptive data concerning the sample
 - Total sample size by age and gender (and by vehicle type if applicable)
 - non-response rate (if applicable)
- Brief description on the sampling and sample representativity (min. for age and gender based on national demographics): The MS should briefly describe the sampling procedure and sample representativity based on national demographics.

Data collection

- **Observation/Survey period:** The start-end date (dd/mm/yy) of the time period selected for the data collection should be provided, as well as the timeslots (hh:mm - hh:mm) when the data collection took place.
- **Number of locations for measurements:** The number of locations selected for the data collection per road type (urban roads, rural roads, motorways) should be filled in.
- **Number of measurement sessions (if applicable):** The number of measurement sessions per road type and/or time period should be filled in.
- **Average duration of measurements/sessions (in hours: hh:mm):** The average duration of the measurements or sessions of data collection should be filled in hh:mm.
- **Number of locations for in-vehicle inspections of CRS (if applicable):** The total number of selected locations for the in-vehicle inspections should be filled in. This applies to the KPI on child restraint systems, in case of in-vehicle inspections for the data collection.
- **Vehicle types observed:** The different types of vehicles observed per KPI should be filled in.
- **Source of traffic volume data:** The selected source of traffic volume data should be selected from a drop-down list (more than one options can be selected if applicable). The sources included are: National mobility survey; Automatic traffic measuring points; Traffic counts during measurements; Other (please specify)
- **If national traffic volume data are available, please describe the existing data** (e.g. by road type, time period, road type x time period, vehicle types included, etc.): In case national traffic volume data exist and used for the KPIs calculation (weighting), a description of the available data is requested (e.g. the proportion of traffic volume on the different road types and/or time spans).
- **Traffic count duration per session:** If traffic counts of passing relevant vehicles during measurements take place, the duration of the traffic count(s) per session should be defined. For most of the behavioural KPIs the min. is a 10 min count of passing relevant traffic in each session.
- **Traffic conditions (short description - included/excluded situations):** A short description of the traffic conditions during the measurements should be provided. It is recommended to refer to all included or excluded situations (e.g. for speed: only free ride situations, no speed reducers in the road infrastructure, no traffic jams...).
- **Weather conditions (short description - included/excluded situations):** A short description of the weather conditions during the measurements should be provided. It is recommended to refer to all included or excluded situations (e.g. no heavy rain, freezing temperatures or snow).
- **For online/telephone alcohol survey:**
 - Brief description on data collection: (open)

Data analysis

- **Total traffic count results per vehicle type:** The number of vehicles counted during the measurements by vehicle type should be provided. If the traffic count result is not differentiated by vehicle type (e.g. all passing traffic was counted together, regardless of vehicle types), this should be mentioned. So this refers to the sum of all actual traffic counts (by vehicle type).
- **Total traffic count results per vehicle type extrapolated to total duration of all sessions:** If the traffic count was limited to e.g. a 10 minute count per session (min. requirement), then the count result per session should be extrapolated to the total measurement duration in that session. The extrapolated traffic count results per session are then summed up and should be provided.
- **Traffic volume (total and per stratum) based on national data (if applicable):** Traffic volume based on national data (e.g. national mobility surveys, automatic traffic counts etc.) used in the data analysis. Available data (or proportions) by road type, time period, vehicle type, road type x time period etc. are requested.

- **Estimate of length of relevant road network (total and per road type stratum) (if applicable):** An estimate of the actual proportion of each road type based on length on the total of all included road types in the national road network.
- **Brief description of post stratification weighting and statistical analysis:** A brief description on the methodology of post-stratification weighting (see also *Baseline document on considerations for sampling weights*, in preparation) and the statistical analysis used for the calculation of the KPIs should be provided. The weighting variables and weighting formula should be provided. With regard to statistical analysis, the models used should be provided (e.g. models for two-stage stratified sampling - 1st stage random location selection and 2nd stage random driver selection within locations, or approximations assuming simple random sampling...). Weighting in online/telephone alcohol surveys is used in order to reach representativity of the sample in terms of minimum age and gender, which differs from the weighting procedure in the roadside behavioural KPI measurements.
- **Total weight:** (See also *Baseline document on considerations for sampling weights*, in preparation) Each individual measurement in each session has a weight in the data analysis. The total sum of all the individual weights should be provided.
-

Country characteristics

- **Related laws, regulations and procedures:** In this field, MS should briefly describe the laws, regulations and procedures that are related to the KPIs collected (e.g. max. speed limits per road type, allowed max. BAC limits, age category for obliged cyclist helmet use, etc.).

14.2 KPI on Vehicle Safety

KPI Definition and Methodology

- **Name the KPIs on vehicle safety delivered (definition selected):** MS should fill in the definition that was selected for the KPI on vehicle safety (standard indicator, roadworthiness indicators).
- **Year(s) data refer to:** MS should fill in the year(s) that collected data and KPI refer to.
- **Data collection method:** the MS should opt from a drop-down list the methodology followed for the KPI data collection.

Standard Indicator

- **Source of data:** The source of data on new registered passenger cars should be filled in.
- **Database covers the whole country:** The MS should fill in whether the available data cover the whole country territory (yes/no)
- **Types and models of cars missing from database** (e.g. due to incomplete database, no Euro NCAP ratings available, etc.): The types and models of cars missing from the database should be filled in. It is recommended to provide a short description with the reasons of missing vehicle types and models.
- **Percentage of the new registered passenger cars missing** (e.g. due to incomplete database, no Euro NCAP ratings available, etc.): The percentage of the new registered passenger cars missing in the database used for the calculation of the KPI per the total number of new registered passenger cars should be filled in.
- **Issues encountered during the linking process:** A description with the potential issues encountered during the linking process and how they were tackled should be provided.
- **Percentage of new vehicles in relation to the entire vehicle fleet per year:** The percentage of the new registered vehicles per the total vehicle fleet for each year (2019, 2020) is requested.

Roadworthiness Indicators

- **Source of data:** The source of related data should be filled in.
- **Database covers the whole country:** The MS should fill in whether the available data cover the whole country territory (yes/no)
- **Roadworthiness criteria used:** MS should specify which roadworthiness criteria have been used for the calculation of the KPI.
- **Are only passenger cars included?:** MS should clarify whether the delivered KPI concerns only passenger cars or total vehicle fleet.

- **Which part of the fleet is excluded from the data?:** A description of the part of fleet excluded from the data used for the calculation of the KPI (e.g. no need for vehicle inspection) should be provided (e.g. type of vehicles, percentage of missing fleet per total vehicle fleet, etc.)
- **Why is this part of the fleet missing (e.g. no need for vehicle inspection)?:** A description of the reasons of excluding the aforementioned part of the fleet should be provided.
- **Issues encountered during the calculation process:** A description with the potential issues encountered during the calculation process and how they were tackled should be provided.

14.3 KPI on Infrastructure

KPI Definition and Methodology

- **Name the KPIs on Infrastructure delivered (definition selected):** MS should fill in the definition that was selected for the KPI on infrastructure (according to the methodological guidelines).
- **Year(s) data refer to:** MS should fill in the year(s) that collected data and KPI refer to.
- **Data collection method:** the MS should opt from a drop-down list the methodology followed for the KPI data collection.
- **Type of road classification used:** the MS should opt from a drop-down list the road classification type selected. The types of road classification included are: Area of the road; Functional class; Speed limits; Type of carriageway; Other (Please specify)
- **Methodology of safety rating (if applicable):** If safety rating is used for the calculation of the KPI, the methodology used should be defined.
- **Thresholds used (if applicable):** The thresholds used in case of safety rating should be defined.
- **Urban areas included in the calculation of KPI:** MS should fill in whether urban areas are included in the calculation of the KPI on Infrastructure (yes/no)

Data Collection

- **Source of traffic exposure data:** The source of traffic exposure data used for the calculation of the KPI should be provided.
- **How traffic exposure is measured/estimated in the country:** A description of how traffic exposure is measured or estimated at national level should be provided.
- **Traffic counts duration (if applicable):** If traffic counts take place, the duration of the traffic counts per session should be provided.
- **Source of road length data:** The source of road length data used for the calculation of the KPI should be provided.
- **Source of accident data (if applicable):** The source of road crash data used for the calculation of the KPI should be provided.
- **Sampling has been used:** MS should fill in whether a sampling has been used for the calculation of the KPI (yes/no)

Sampling

- **Sample includes all types of roads:** MS should specify whether the sample selected includes all road types and recommended to specify which types of road are not included in the sample.
- **Description of sampling design principles used and weighting variables:** A brief description of the sampling design and the weighting variables used for the calculation of the KPI should be provided.

14.4 KPI on Post-Crash Care

Methodology

- **Data collection method:** the MS should opt from a drop-down list the methodology followed for the KPI data collection.
- **Source of data:** The source of post-crash care data used for the calculation of the KPI should be provided.
- **Administrative database covers the whole country:** MS should fill in whether the database used covers the whole national territory (yes/no).
- **Year(s) data refer to:** MS should fill in the year(s) that collected data and KPI refer to.

- **Sampling has been used:** MS should fill in whether a sampling has been used for the calculation of the KPI (yes/no)
- **EMS response times refer only to road crashes:** MS should fill in whether data on EMS response times used for the calculation of the KPI refer only to road crashes (yes/no)
- **All EMS related interventions (with and without a medical doctor) included:** Some EMS response units have a medical doctor (emergency physician) on board, some do not. MS should fill in whether both types of intervention (with and without a medical doctor) are included in the data (yes/no).
- **Definition of road types used (if applicable):** The MS should provide the national definition of the road types included and provide their characteristics: urban roads, rural roads, motorways/highways.
- **Definition of time period of day (if applicable):** The MS should provide the definition of the different time periods used (daytime, night-time).

Sample design

- **Sampling of EMS stations:** In case of sampling, the methodology for the selection of the sample of EMS stations used should be defined.
- **Total sample size:** The total sample size used for the calculation of the KPI should be filled in.
- **Stratification levels (please specify):** The stratification levels used for the sampling should be specified (e.g. per region, road type, etc.)
- **Is the sample biased in some way? Please specify:** A brief description on whether and how the sample is biased should be provided.

Data

- **Time period that data refer to:** The exact time period (mm/yy) that data and KPI refer to should be filled in.
- **Number of EMS stations:** The total number of EMS stations used for the data collection should be filled in.
- **Number of EMS cases (unweighted):** The unweighted total number of EMS cases included in the database should be filled in.
- **Number of EMS cases (unweighted) per stratum:** the unweighted number of EMS cases per stratum included in the database should be filled in.

Data analysis

- **Brief description of post stratification weighting and statistical analysis:** A brief description on post stratification weighting and the statistical analysis for the calculation of the KPI should be provided.
- **Proportion of interventions for which the response times are unknown/ erroneous:** The percentage of the interventions for which the response times are unknown/ erroneous per the total number of interventions should be filled in.
- **Has a recalculated or estimated value been provided?:** MS should fill in whether a recalculated or estimated value has been provided (yes/no).
- **Please describe the estimation method:** A brief description of the estimation method should be provided.

Contextual information

The requested contextual information includes the following data at national level:

- number of dispatching centres
- number of EMS transportation units
- number of EMS stations
- annual number of emergency calls
- annual number of emergency calls related to road crashes
- % of emergency calls relating to road crashes within the total number of emergency calls
- % of interventions for which the timestamp 'emergency call' is unknown
- % of interventions for which the timestamp 'arrival at the scene of the road crash' is unknown
- % of interventions for which both the timestamps are unknown