



RSA

# Free Speed Survey 2021

Safe Speeds

June 2023









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## Executive Summary

- Excessive speed continues to be a leading contributory factor in fatal and serious injury collisions in Ireland and internationally.
- It has been estimated that 10-15% of all collisions and 30% of fatal collisions are the result of speeding or inappropriate speed (ERSO, 2020). Therefore, tracking speeding compliance rates is critical.
- The RSA has been conducting free speed surveys since 2006. Rates of non-compliance have typically been higher on urban roads (approximately 50%) than on rural roads and motorways (where the rate of non-compliance has generally been under 30%).
- One of the key findings from the Free Speed Survey 2021 was that rates of compliance with the speed limit were particularly poor on urban 50km/h roads.
- The rates of compliance were considerably higher on both 100km/h roads and motorways (120km/h).
- However, it was noticeable that even on these road types where compliance rates were higher, that drivers of HGVs tended to have much greater rates of speeding when compared to drivers of other vehicle types.
- Speeding rates tended to be higher at the weekend (Saturday and Sunday) on both urban 50km/h and 100km/h roads, whereas speeding rates were slightly lower at the weekend on motorways.
- An analysis of speeding by time of day and degree of violation by road and vehicle type is also provided in this report.



## Report Overview

-  Safety Performance Indicators
-  Baseline Project
-  Study Objectives
-  Methodology and Sampling Approach
-  Analysis by Road Type
-  Key Results



# Safety Performance Indicators (SPIs) in the Government Road Safety Strategy, 2021-2030



- This observational study on free speed has been conducted in the context of the SPI approach as part of the Government Road Safety Strategy.
- Use of performance indicators have been recommended in international guidance from global organisations, including ETSC and ITF/OECD.
- It is critical that SPIs have an evidence base and established relationship with safety performance (i.e., death and serious injury reduction).
- They reflect elements of the operational and safety context to better understand the road traffic system.
- In an Irish context, SPIs will be used to measure our performance in specific areas, known to contribute to death and serious injury reduction, to help us refine our policy interventions.
- An SPI has been developed as part of the Safe Speeds intervention area to determine the incidence of drivers of all vehicle types driving on Irish roads while speeding, and, therefore, presenting a road safety risk.



## EU funded consortium: Baseline Project

- The methodology for the Irish free speed survey is in line with recommendations from the EC, as part of the Baseline Project. Further details about this project can be found at <https://www.baseline.vias.be/>.
- A Speeding SPI was included as part of this project.
- Baseline is an EU funded consortium of Member States created to assist authorities in the collection and harmonised reporting of SPIs co-ordinated by VIAS Institute in Belgium.
- The RSA have been participating in Baseline on behalf of Ireland since July 2020.
- The following research/methodology components are key elements of the Project:
  - Detailed methodological guidelines provided to Member States to ensure consistency of approach
  - Data collection methodologies considered best practice, developed by research experts at EC level, and overseen by 3 experienced road safety research institutes
  - Consistency in methodology across Europe to ensure benchmarking is possible
  - Consistency year-on-year ensures comparability of performance can be measured
- Trendline is the follow up project funded by the EU and will continue the work of Baseline until 2025.

## Study Objectives

- Speed surveys are designed to monitor changes in the free speeds of vehicles on urban roads, rural roads, and motorways, and also to measure drivers' choice of speed.
- Free speed can be defined as the speed at which drivers choose to travel when unconstrained by road geometry (e.g., sharp bends, intersections, or hills), or traffic conditions (e.g., congestion).
- This report will outline the methodology used for the 2021 Free Speed Survey and will present the findings from the study.





## Methodology and Sampling Approach

- A Free Speed pilot study was conducted on urban 50km/h roads over a 9-day period in October 2021, using the methodology specified as part of the Baseline Project.
- Automatic Traffic Counters (ATCs) were used for data collection at 11 sites, allowing observations to be captured for a 24-hour period at each site. As a result, data was collected during daylight and nighttime hours across the entire week (including at weekends).
- Data for 100km/h roads and motorways (120km/h) was analysed using Transport Infrastructure Ireland's (TII) traffic count data.
- Data for 100km/h roads was collected at 11 sites and data for motorways was collected at 10 sites.
- The time period for which this data was analysed was the same 9-day period in October 2021.
- TII's traffic count data system involves detecting the speed of vehicles as they pass over loops embedded in the road surface, and this approach also allowed for comprehensive data collection at all times across the week (including at weekends).
- A sampling approach was adopted to select a representative subset of the datasets for analysis. This involved selecting several 2-hour time periods for each site across the entire week and analysing the data during these time periods.



## Overall Results

- Overall, 77% of drivers (all vehicle types) were found to have driven in excess of the speed limit on urban 50km/h roads.
- Rates of compliance with the speed limit were higher on both 100km/h roads and motorways, with 29% and 15% of motorists exceeding the respective speed limit.
- The following table provides a high-level summary of speeding rates on each of the road types, and each of these road types will be analysed in greater detail in the remainder of this report.

Road Type	% Speeding	% Not Speeding	Sample Size
Urban Roads	77%	23%	9,203
Rural Roads	29%	71%	8,141
Motorways	15%	85%	14,654



## Urban 50km/h Roads Summary

- On urban 50km/h roads, rates of compliance with the speed limit were low across all major vehicle types, as can be seen in the following table.

Vehicle Type	% Speeding	% Not Speeding	Sample Size
Passenger Cars	78%	22%	8,259
LGVs	75%	25%	616
HGVs and Buses	79%	21%	236

- Rates of compliance with the speed limit were lower at weekends on this road type. 76% of motorists broke the speed limit on urban 50km/h roads during the week, with this figure rising to 80% at the weekend (Saturday and Sunday).



## Time of day breakdown – urban 50km/h roads

- The table below captures the speeding rates by time of day on urban 50km/h roads.
- 85% of motorists exceeded the speed limit on urban 50km/h roads between the hours 4am-8am, and 81% were driving over the speed limit between the hours 4pm-8pm.

Time of day	% Speeding	% Not Speeding	Sample Size
12am-4am	80	20	140
4am-8am	85	15	514
8am-12pm	73	27	3092
12pm-4pm	78	22	1856
4pm-8pm	81	19	2059
8pm-12am	77	23	1542



## Degree of violation on urban 50km/h roads

- The table below captures the degree of violation on urban 50km/h roads.
- As can be seen from the data, almost 40% of motorists exceeded the speed limit by up to 10km/h.
- 25% exceeded the speed limit by between 10 and 20km/h.

Degree of violation	%
Not Speeding	22.6
>50km/h & <=55km/h	19.9
>55km/h & <=60km/h	19.1
>60km/h & <=70km/h	25.2
>70km/h & <=80km/h	9.8
>80km/h	3.4



## 100km/h Summary

- Overall, rates of compliance with the speed limit were much higher on 100km/h roads when compared to urban 50km/h roads.
- Compliance was higher for drivers of passenger cars and LGVs. However, as can be seen in the following table, 75% of HGV drivers exceeded the speed limit on 100km/h roads where HGV drivers are required to travel at speeds of no more than 80km/h.

Vehicle Type	% Speeding	% Not Speeding	Sample Size
Passenger Cars	25%	75%	6,245
LGVs	26%	74%	1,019
HGVs	75%	25%	770

- Rates of compliance with the speed limit were slightly lower at weekends on this road type. 29% of motorists broke the speed limit on 100km/h roads during the week, with this figure rising to 31% at the weekend (Saturday and Sunday).

## Time of day breakdown – 100km/h roads

- The table below captures the speeding rates by time of day on 100km/h roads.
- 34% of motorists were found to have exceeded the speed limit on rural roads during the following time periods: 8pm-12am, 12am-4am, and 4am-8am.

Time of day	% speeding	% Not Speeding	Sample Size
12am-4am	34	66	169
4am-8am	34	66	938
8am-12pm	24	76	2433
12pm-4pm	30	70	1515
4pm-8pm	28	72	1638
8pm-12am	34	66	1448



## Degree of violation on 100km/h roads

- The tables below capture the degree of violation on 100km/h roads.
- As can be seen from the data, almost 76% of motorists (excluding HGV drivers) did not exceed the speed limit, and approximately 18% of these motorists exceeded the speed limit by up to 10km/h.
- Over 55% of HGV drivers broke the speed limit of 80km/h by up to 10km/h, and about 19% of HGV drivers broke the speed limit by over 10km/h.

Degree of violation (all vehicles, excluding HGVs)	%
Not Speeding	75.6
>100km/h & <=110km/h	17.7
>110km/h & <=120km/h	4.5
>120km/h	2.3

Degree of violation (HGVs)	%
Not Speeding	25.5
>80km/h & <=90km/h	55.5
>90km/h	19.1





# Motorways Summary

- As was the case on 100km/h roads, rates of compliance with the speed limit were also much higher on motorways when compared to urban 50km/h roads.
- Compliance was higher for drivers of passenger cars and LGVs, similar to the findings on 100km/h roads. However, as can be seen in the following table, almost 30% of HGV drivers exceeded the speed limit on motorways (where the speed limit for HGVs is 90km/h).

Vehicle Type	% Speeding	% Not Speeding	Sample Size
Passenger Cars	12%	88%	10,285
LGVs	15%	85%	1,854
HGVs	28%	72%	2,311



## Time of day breakdown – motorways

- The table below captures the speeding rates by time of day on motorways.
- 18% of motorists were found to have exceeded the speed limit on motorways between the hours 12am-4am, and 17% were driving in excess of the speed limit during the following time periods: 4am-8am and 8am-12pm.

Time of day	% speeding	% Not Speeding	Sample Size
12am-4am	18	82	309
4am-8am	17	83	1069
8am-12pm	17	83	4399
12pm-4pm	15	85	2628
4pm-8pm	11	89	3398
8pm-12am	14	86	2851



## Degree of violation on motorways

- The table below captures the degree of violation on motorways.
- As can be seen from the data, almost 88% of motorists (excluding HGV and bus drivers) did not exceed the speed limit, and approximately 10% of motorists exceeded the speed limit by up to 10km/h.

Degree of violation (all vehicles, excluding HGVs and buses)	%
Not Speeding	87.9
>120km/h & <=130km/h	9.8
>130km/h	2.3



## Degree of violation on motorways cont.

- The tables below capture the degree of violation on motorways for drivers of HGVs and buses.
- Almost 22% of HGV drivers broke the speed limit of 90km/h by up to 10km/h, and about 13% of bus drivers broke the speed limit of 100km/h by up to 10km/h.

Degree of violation (HGVs)	%
Not Speeding	72.1
>90km/h & <=100km/h	21.9
>100km/h & <=110km/h	2.7
>110km/h	3.4

Degree of violation (Buses)	%
Not Speeding	79.9
>100km/h & <=110km/h	13
>110km/h & <=120km/h	5.3
>120km/h	1.8



## Key Results

- 77% of motorists were found to have driven in excess of the speed limit of 50km/h on urban roads.
- 80% of motorists broke the speed limit on urban 50km/h roads at the weekend.
- 40% of drivers exceeded the speed limit by up to 10km/h on urban 50km/h roads, and 25% of drivers exceeded the speed limit by between 10km/h and 20km/h on urban 50km/h roads.
- Rates of compliance with the speed limit were higher on both 100km/h roads and motorways, with 29% and 15% of drivers found to have driven in excess of the limit.
- 75% of observed HGV drivers broke the speed limit on 100km/h roads.
- 28% of observed HGV drivers broke the speed limit on motorways.



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