



RSA

# Motorcyclist & Pedal Cyclist Use of High Visibility Clothing and Helmet Wearing

Observational Survey 2023

February 2024



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# Executive Summary

## Executive Summary

- The results from the 2023 survey showed that 31% of motorcyclists were wearing high visibility clothing overall.
- This represents a very slight increase when compared to the 2022 study, but it is a lower percentage than what had been witnessed in studies prior to 2022.
- 21% of pedal cyclists were wearing high visibility clothing overall. This represents an increase of 10% when compared to the 2022 study. The rate of high visibility clothing usage has varied considerably in studies across the years.
- Very high helmet wearing compliance was observed among motorcyclists, but it must be noted that the rate did drop slightly when compared to 2022.
- Approximately half of the observed pedal cyclists were wearing a helmet, representing an increase of about 7% when compared to the findings from the 2022 study.
- This report provides an analysis of high visibility clothing usage and helmet wearing by gender, time period and region.
- An international comparison of helmet usage is also provided in the report, as well as recent historic rates of high visibility clothing usage and helmet wearing.

## Report Overview

-  Safety Performance Indicators
-  Methodological Approach
-  Analysis of high visibility clothing usage
-  Analysis of helmet wearing
-  International Comparison
-  Historic Rates



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# Safety Performance Indicators

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



- This observational study on the use of high visibility clothing and helmet wearing by motorcyclists and pedal cyclists has been conducted in the context of the SPI approach as part of the Government Road Safety Strategy.
- Use of performance indicators has 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 to determine the rates of helmet wearing by motorcyclists and cyclists.



## EC Projects

- Ireland participated in the EC Baseline Project from 2020 to 2022. A Baseline Project Report was published in early 2023: [Baseline Project Summary](#).
- Trendline is the follow-up to Baseline and will last until 2025. Further details about this project can be found at <https://trendlineproject.eu/>.
- The main aim of these projects is to ensure that a consistent approach to data collection and SPI reporting is adopted across the Member States.
- Ireland will collect and analyse data for the various SPIs over the course of 2023 and 2024, with the intention of delivering data to Trendline in late 2024/early 2025.
- A Trendline Project Report will be published by the end of 2025, and individual SPI reports will also be made available.
- A Helmet Usage SPI was included as part of Baseline and has also been included as part of Trendline.



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# Methodological Approach



## Study Objectives and Methodology

- The aim of this study was to gather observational data on the usage of high visibility clothing and helmet wearing by motorcyclists and pedal cyclists in urban centres on the Irish public road network.
- **Fieldwork: A video approach** has been used since 2022 to observe high visibility clothing usage and helmet wearing by pedal cyclists and motorcyclists. The motorcycle category includes mopeds/scooters, in addition to motorcycles and motorcycles carrying passengers. The pedal cycle category includes electric bikes, public cyclists (i.e., cyclists who are using public bike rental schemes), and private cyclists (i.e., cyclists who are using their own private bicycle).
- **Timeframe:** Observations were conducted at 150 sites, concentrated around 10 major urban centres, in April and May 2023.
- **Locations:** The urban centres were Cork, Dublin, Galway, Limerick, Kilkenny, Midlands (Offaly and Westmeath), Waterford, Kildare, Maynooth, and Newbridge.
- Observations were made on weekdays and weekends (daylight hours only), and the study included 13,066 observations in total. This figure is comprised of 1,604 motorcyclist observations and 11,462 pedal cyclist observations.
- Surveys were undertaken between the hours of 07:30 to 10:30 (AM), 12:00 to 15:00 (Inter-Peak) and 16:00 to 19:00 (PM).
- Fieldwork was conducted by Nationwide Data Collection (NDC) on behalf of the RSA.
- The 2023 study followed the methodology specified by Trendline, and the approach was broadly in line with the method used by the RSA in historic surveys.



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# Analysis of high visibility clothing usage

## Use of high visibility clothing - summary

- For the purpose of this study, high visibility clothing includes vests, jackets, straps, or armbands.
- Overall, 31% of motorcyclists were wearing high visibility clothing in the 2023 study, an increase of 1% when compared to the 2022 study.
- Overall, 21% of pedal cyclists were wearing high visibility clothing in the 2023 study, representing a 10% increase when compared to the 2022 study.
- Rates of high visibility clothing usage by both male and female pedal cyclists increased in the 2023 survey (these rates were both at 11% in 2022).
- **Note** that in the 2023 study, data collection took place in April and May, whereas fieldwork took place in June and July in the 2022 study.

Table 1 – Motorcyclist high visibility clothing use

Year	% Wearing High Visibility Clothing	Sample Size
2023	31%	1,604
2022	30%	1,664

Table 2 – Pedal cyclist high visibility clothing use by gender

Year	Gender	% Wearing High Visibility Clothing	Sample Size
2023	Male	21%	9,933
	Female	18%	1,529
	<b>Total</b>	<b>21%</b>	<b>11,462</b>
2022	Male	11%	10,115
	Female	11%	1,774
	<b>Total</b>	<b>11%</b>	<b>11,889</b>



# Use of high visibility clothing by time period

- As part of this study, time periods are defined as follows:
  - AM: 07:30 to 10:30,
  - INTER: 12:00 to 15:00
  - PM: 16:00 to 19:00
- For pedal cyclists, the AM period saw the highest rate of high visibility clothing usage in the 2023 study at 28%, with usage rates dropping below 20% for the other two time periods.
- High visibility clothing rates were up several percentage points across all time periods in the 2023 study when compared to 2022. The largest increase was seen in the AM period (an increase of 17%).
- For motorcyclists, all time periods recorded rates of high visibility clothing usage greater than 30%, with the inter-peak period having the highest usage rate.
- The AM period saw an increase of 6% when compared to the 2022 study, but there was little/no difference across the other time periods.

**Table 3 – High visibility clothing use by time period**

Vehicle Type	Time Period	% Wearing High Visibility Clothing (2022)	Sample Size (2022)
Motorcyclists	AM	32% (26%)	380 (499)
	INTER	34% (35%)	397 (387)
	PM	30% (30%)	827 (778)
Pedal Cyclists	AM	28% (11%)	3,820 (4,051)
	INTER	13% (7%)	1,949 (2,491)
	PM	19% (12%)	5,693 (5,347)



# Use of high visibility clothing by region

- As part of this study, Region 1 is defined as Kilkenny, Midlands (Offaly and Westmeath) and Waterford. Region 2 is defined as Kildare, Maynooth and Newbridge.
- In the 2023 study, usage of high visibility clothing amongst motorcyclists was most likely to be observed in Dublin (34%) and least likely to be observed in Cork (14%).
- The percentage of motorcyclists wearing high visibility clothing was up in Cork and Dublin when compared to the 2022 study (3% for both counties).
- No difference in the rate was observed in Galway and Limerick, while the percentage of motorcyclists wearing high visibility clothing dropped by 9% in Region 1.
- In the 2023 study, usage of high visibility clothing amongst pedal cyclists was most likely to be observed in Cork and Limerick (both 22%) and least likely to be observed in Region 2 (13%).
- For pedal cyclists, all regions, except for Region 2, showed increases in the rates of high visibility clothing use in 2023.
- The highest percentage increase was seen in Dublin (up 11% when compared to the 2022 study).
- It must be acknowledged that there was a degree of variation in the sample size across the country, with the greatest number of observations for both broad categories recorded in Dublin. The decision to focus the efforts of the survey on this particular geographic region was taken to reflect the prevalence of cycling in Dublin.

**Table 4 – High Visibility clothing use by region**

Vehicle Type	Region	% Wearing High Visibility Clothing (2022)	Sample Size (2022)
Motorcyclists	Cork	14% (11%)	118 (72)
	Dublin	34% (31%)	1,286 (1,443)
	Galway	22% (22%)	59 (50)
	Limerick	26% (26%)	27 (47)
	Region 1	22% (31%)	93 (32)
Pedal Cyclists	Cork	22% (12%)	809 (474)
	Dublin	21% (10%)	9,414 (10,140)
	Galway	17% (11%)	616 (595)
	Limerick	22% (14%)	276 (296)
	Region 1	20% (15%)	196 (252)
	Region 2	13% (18%)	151 (132)



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# Analysis of helmet wearing



# Helmet wearing - summary

- Overall, 98% of observed motorcyclists were wearing a helmet, representing a slight drop when compared to the 2022 study.
- Overall, about 1 in 2 of the observed pedal cyclists were wearing a helmet, an increase of about 7% when compared to 2022.
- The helmet wearing rate by male pedal cyclists increased by 8% when compared to 2022.
- The helmet wearing rate by female pedal cyclists increased by 6% when compared to 2022.
- **Note** that in the 2023 study, data collection took place in April and May, whereas fieldwork took place in June and July in the 2022 study.

**Table 5 – Motorcyclist helmet wearing**

Year	% Wearing Helmet	Sample Size
2023	98%	1,604
2022	99%	1,664

**Table 6 – Pedal cyclist helmet wearing by gender**

Year	Gender	% Wearing Helmet	Sample Size
2023	Male	49%	9,933
	Female	54%	1,529
	<b>Total</b>	<b>49%</b>	<b>11,462</b>
2022	Male	41%	10,115
	Female	48%	1,774
	<b>Total</b>	<b>42%</b>	<b>11,889</b>



## Helmet wearing by bike category

- Very high helmet wearing rates were observed across the motorcycle categories, which includes mopeds/scooters. This was similar to the findings in the 2022 study and is consistent with the results from historic studies.
- In the pedal cycle category, only 13% of riders of public bikes were seen wearing a helmet, but this is up by 2 percentage points on the 2022 rate.
- The rate rises to 42% for riders of electric bikes and 52% for riders of private bicycles in the 2023 study.
- The helmet wearing rate for electric bike users is down by 5% when compared to 2022, while the rate for private pedal cyclists is up by nearly 10% when compared to 2022.

Table 7 – Helmet wearing by bike category

Bike Category	% Wearing Helmet (2022)	Sample Size (2022)
Mopeds/Scooters	98% (99%)	389 (696)
Motorcycles	98% (99%)	1,215 (968)
Electric Bikes	42% (47%)	279 (189)
Public Bikes	13% (11%)	597 (417)
Private Bicycles	52% (43%)	10,586 (11,283)



# Helmet wearing by time period

- As part of this study, time periods are defined as follows:
  - AM: 07:30 to 10:30,
  - INTER: 12:00 to 15:00
  - PM: 16:00 to 19:00
- Very high rates of helmet wearing was observed by motorcyclists across all time periods in 2023. This was similar to the findings in the 2022 study and is consistent with the results from historic studies.
- For pedal cyclists, the AM period saw the highest rate of helmet wearing in the 2023 study at 58%, with rates dropping below 50% for the other time periods.
- Rates of helmet wearing by pedal cyclists increased across all time periods in 2023, with the biggest increase seen in the inter period (an increase of 12%).

**Table 8 – Helmet wearing by time period**

Vehicle Type	Time Period	% Wearing Helmet (2022)	Sample Size (2022)
Motorcyclists	AM	99% (99%)	380 (499)
	INTER	99% (98%)	397 (387)
	PM	97% (99%)	827 (778)
Pedal Cyclists	AM	58% (50%)	3,820 (4,051)
	INTER	41% (29%)	1,949 (2,491)
	PM	46% (41%)	5,693 (5,347)



# Helmet wearing by region

- As part of this study, Region 1 is defined as Kilkenny, Midlands (Offaly and Westmeath) and Waterford. Region 2 is defined as Kildare, Maynooth and Newbridge.
- Very high helmet wearing rates were seen by motorcyclists across all regions in 2023. This was similar to the findings in the 2022 study and is consistent with the results from historic studies.
- In the 2023 study, helmet wearing amongst pedal cyclists was most likely to be observed in Dublin (51%), with high rates also observed in Cork and Galway (both 45%), and least likely to be observed in Region 1 (24%).
- For pedal cyclists, all regions showed increases in the rates of helmet wearing in 2023. Dublin showed an increase of 8%, which is a meaningful change given the large sample size.

**Table 9 – Helmet wearing by region**

Vehicle Type	Region	% Wearing Helmet (2022)	Sample Size (2022)
Motorcyclists	Cork	100% (94%)	118 (72)
	Dublin	98% (99%)	1,286 (1,443)
	Galway	98% (100%)	59 (50)
	Limerick	100% (96%)	27 (47)
	Region 1	100% (94%)	93 (32)
Pedal Cyclists	Cork	45% (44%)	809 (474)
	Dublin	51% (43%)	9,414 (10,140)
	Galway	45% (31%)	616 (595)
	Limerick	35% (26%)	276 (296)
	Region 1	24% (22%)	196 (252)
	Region 2	35% (33%)	151 (132)



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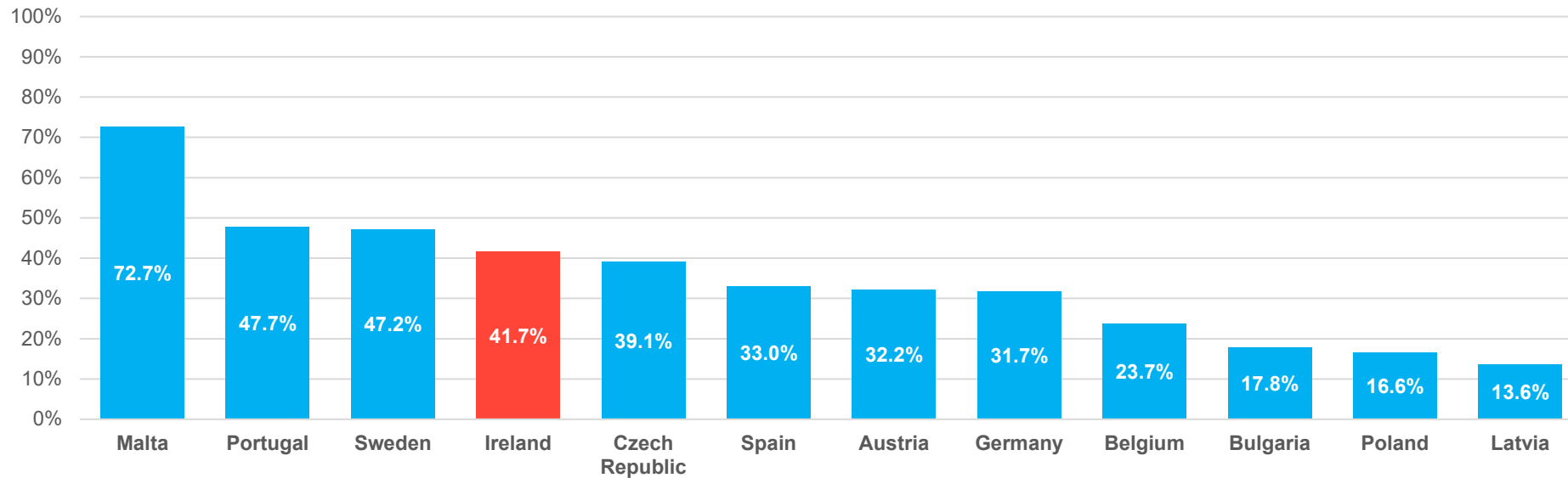


# International Comparison

# EU Baseline Project

- The following graph is an extract from the Baseline Helmet Use SPI Report, and it shows the percentage of helmet use among **cyclists** on urban roads. Ireland's rate of approximately 42% is the fourth highest across the Member States.
- Very high helmet usage rates were witnessed among **PTW riders** (motorcyclists and moped/scooter riders) on urban roads across many of the Member States, and Ireland's rate was also close to full compliance, at approximately 99%.
- The Baseline results for Ireland are based on data collected by the RSA in June and July 2022. Results for other countries is based on data collection in both 2021 and 2022.

Helmet Use Among Cyclists on Urban Roads



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# Historic Rates

# Historic Rates – Use of High Visibility Clothing

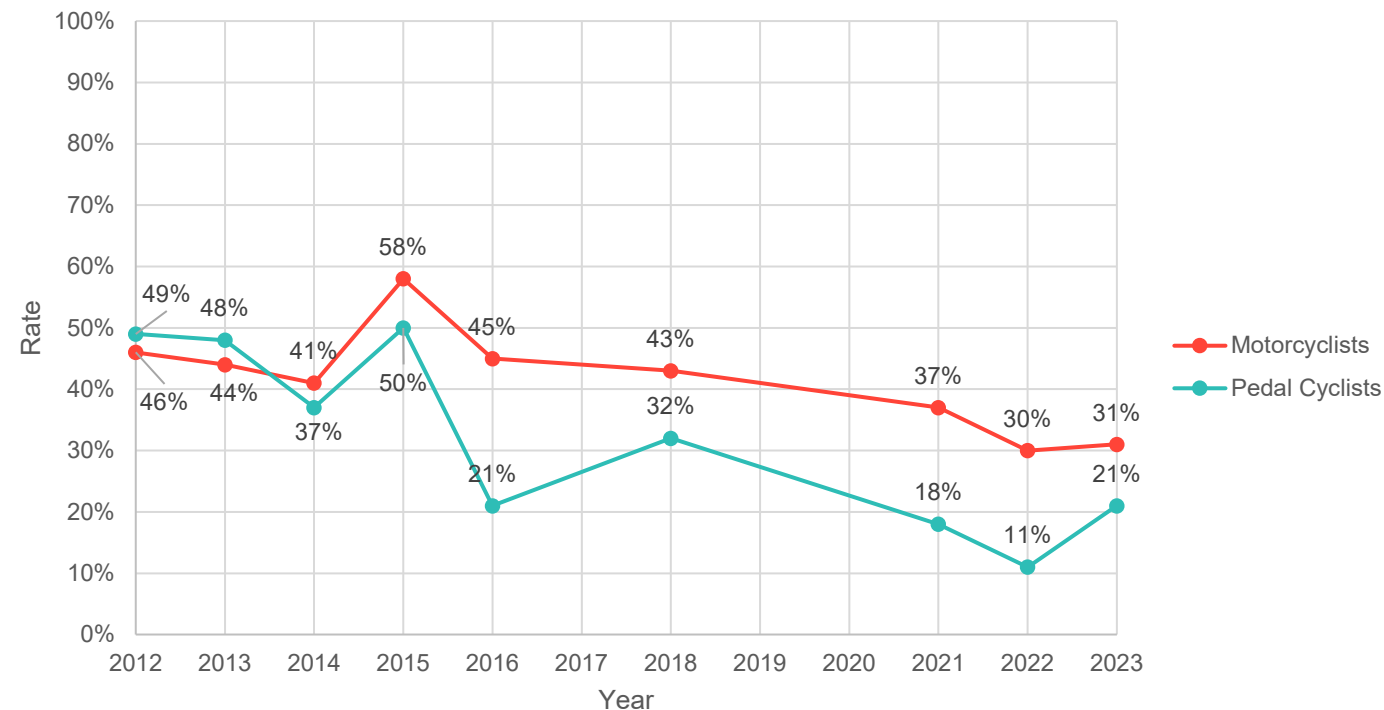
Year	Vehicle Type	% Wearing High Visibility Clothing	Year	Vehicle Type	% Wearing High Visibility Clothing
2023	Motorcyclists	31%	2015	Motorcyclists	58%
	Pedal Cyclists	21%		Pedal Cyclists	50%
2022	Motorcyclists	30%	2014	Motorcyclists	41%
	Pedal Cyclists	11%		Pedal Cyclists	37%
2021	Motorcyclists	37%	2013	Motorcyclists	44%
	Pedal Cyclists	18%		Pedal Cyclists	48%
2018	Motorcyclists	43%	2012	Motorcyclists	46%
	Pedal Cyclists	32%		Pedal Cyclists	49%
2016	Motorcyclists	45%			
	Pedal Cyclists	21%			



# Historic Rates – High Visibility Clothing Usage

- As can be seen in the graph below, usage rates tend to be higher among motorcyclists, with considerably more variation in the rate of usage among pedal cyclists. A steady decline in usage rates has been apparent since 2015.
- **Note** that a video approach was used for the 2022 and 2023 studies. A manual data collection approach, involving trained enumerators, was used in studies prior to 2022.
- Seasonality in relation to the time of year of the fieldwork must also be considered when interpreting the historic rates, as the month of data collection has typically varied.

High Visibility Clothing Usage Rates



# Historic Rates – Helmet Wearing

Year	Vehicle Type	% Wearing Helmet
2023	Motorcyclists	98%
	Pedal Cyclists	49%
2022	Motorcyclists	99%
	Pedal Cyclists	42%
2021	Motorcyclists	100%
	Pedal Cyclists	53%
2018	Motorcyclists	99%
	Pedal Cyclists	47%
2016	Motorcyclists	100%
	Pedal Cyclists	22%

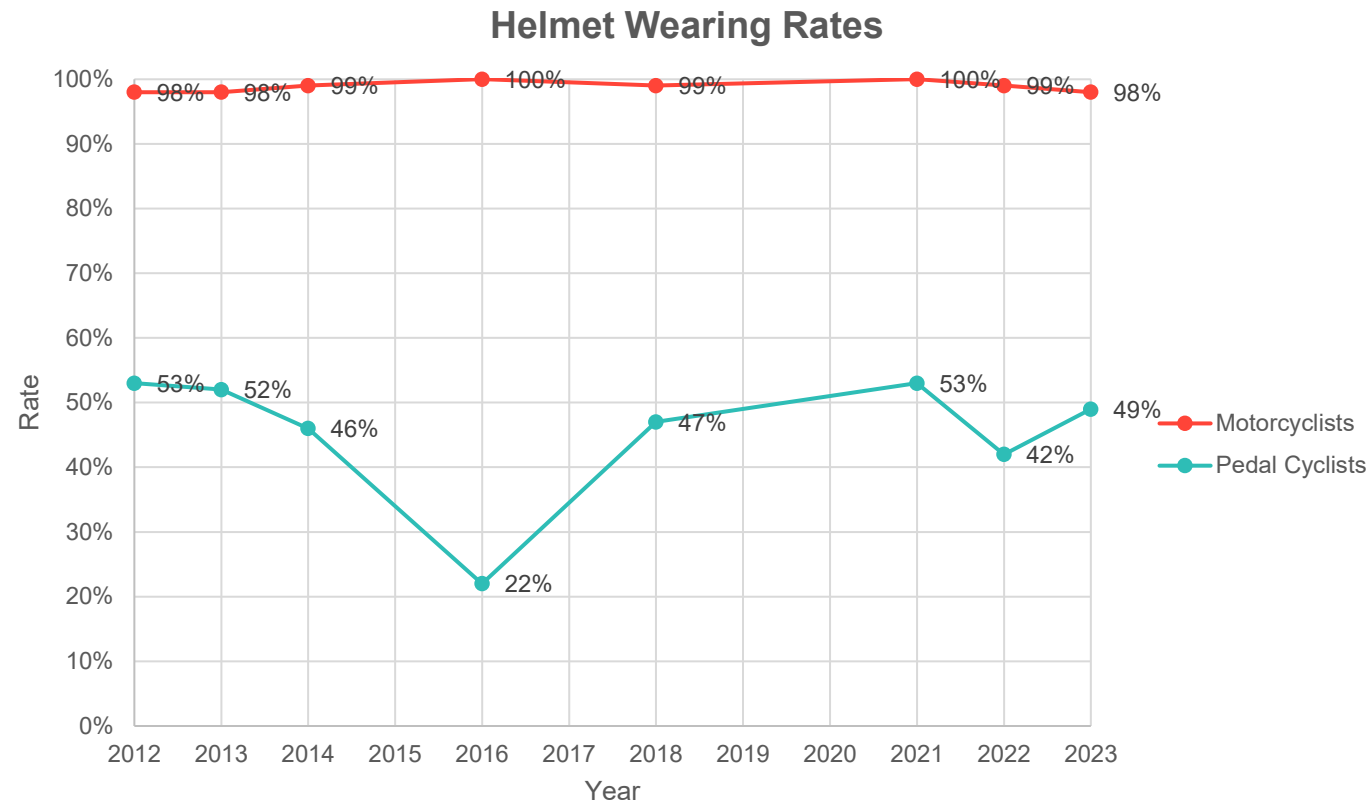
Year	Vehicle Type	% Wearing Helmet
2014	Motorcyclists	99%
	Pedal Cyclists	46%
2013	Motorcyclists	98%
	Pedal Cyclists	52%
2012	Motorcyclists	98%
	Pedal Cyclists	53%





# Historic Rates – Helmet Wearing

- The graph below clearly illustrates the consistently high rates of helmet wearing among motorcyclists, typically close to full compliance.
- Rates of helmet wearing among pedal cyclists shows considerably more variation however, ranging from as low as 22% to as high as 53%.
- **Note** that a video approach was used for the 2022 and 2023 studies. A manual data collection approach, involving trained enumerators, was used in studies prior to 2022.
- Seasonality in relation to the time of year of the fieldwork must also be considered when interpreting the historic rates, as the month of data collection has typically varied.



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## Key Results

## Key Results

- Overall, 31% of motorcyclists were wearing high visibility clothing in the 2023 study, representing a similar rate to the one observed in the previous year's study.
- 21% of pedal cyclists were wearing high visibility clothing overall in this year's study. This represents an increase of more than 10% when compared to the 2022 study.
- Helmet wearing compliance was very high once again among motorcyclists in this year's study, and this result is consistent with the findings of historic studies.
- Helmet wearing compliance was much lower among pedal cyclists, at 49%. However, this rate represents an increase of 7% when compared to the 2022 study.
- Results from Baseline indicate that the percentage of helmet use among cyclists on urban roads in Ireland is quite high relative to other countries participating in the project.



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# Appendix

# County/Region Matrix

■ The tables below provide a breakdown of the number of sites used in the study by county/region.

County	Number of sites
Cork	20
Dublin	70
Galway	15
Kildare	3
Kilkenny	5
Limerick	15

County	Number of sites
Maynooth	4
Offaly	2
Newbridge	3
Waterford	10
Westmeath	3

