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# Investigating the impact of the Cycling Proficiency Scheme in schools in Northern Ireland, 2023



### **Analysis, Statistics and Research Branch**

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### Analysis Statistics & Research Branch, Dfl Investigating the impact of the Cycling Proficiency Scheme in Northern Ireland 2023

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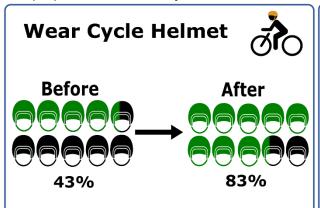
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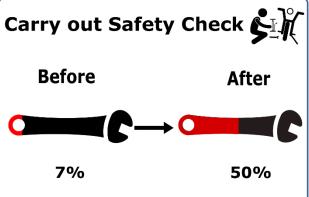
#### **Infographics**

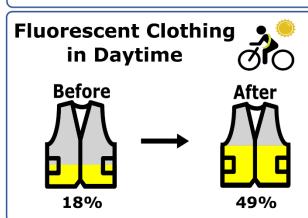
Pupils were asked six questions about their cycling behaviours before and after they completed the Cycling Proficiency Scheme (CPS). The questions were:

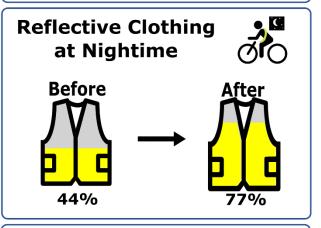
- Do you wear your cycle helmet every time you ride your bicycle?
- Do you carry out a safety check on your bicycle each time before you ride it?
- Do you wear something fluorescent and bright when riding your bike in the daytime?
- Do you wear something reflective and bright when riding your bike at night?
- When cycling, do you keep about a metre away from the kerb / road side verge?
- When cycling, do you look over your shoulder before signalling or moving?

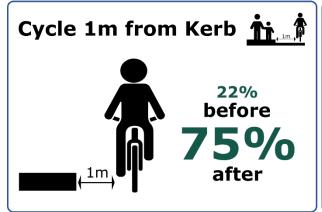
The proportions who said 'yes' before and after CPS are presented in the Infographics below:

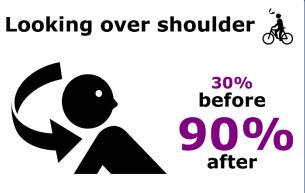










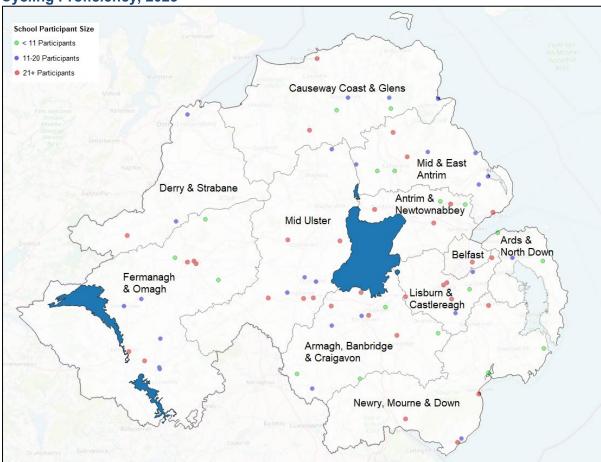


For the eighth year, a survey of school children who took part in the CPS in Northern Ireland was carried out to consider the attitudes of the children towards various aspects of road safety before and after completion of the scheme.

#### **Participating schools**

In 2023, 212 schools in Northern Ireland registered their intention to deliver the Cycling Proficiency Scheme and out of the 145 schools sampled for this survey, 77 schools responded. See Survey Methodology on page 16 for more information. Figure 1 maps the location of the 77 schools that completed and returned the cycling proficiency survey.

Figure 1: Map of Northern Ireland plotting the schools that completed the survey for Cycling Proficiency, 2023



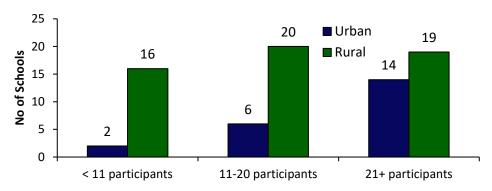
The majority of schools who completed the survey were located in a rural area (71%), while the remaining 29% were in urban areas (55 and 22 schools, respectively). Over a sixth of the schools were in Fermanagh and Omagh District (17% or 13 schools). There were more schools in the large groups, 21 or more participants (43% or 33 schools). Schools with 11-20 participants accounted 34% (26) and schools with 10 or less participants accounted for 23% (18). See Figure 2 overleaf.

Figure 2: Breakdown of Schools that completed the CPS survey in 2023.

Location		Urban 29%	Rural 71%								
School Participant size		< 11 23%	11-20 34%								
	0%		40%	60%	80%	100%					

Figure 3 shows the breakdown by participant size in 2023 across urban and rural schools. The most frequent group size in a rural school area was those with 11-20 participants (36%). Within the under 11 group size, the majority (89%) were in rural areas. Of the twenty-two urban schools who completed the survey, two had a group size of fewer than 11 (9%), fourteen had a group size of 21 or more (64%) while the remaining six had a participant size of 11-20 (27%).

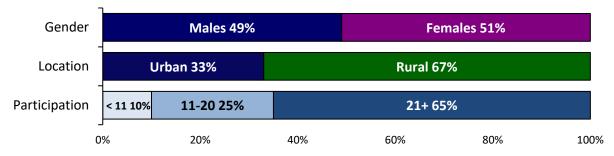
Figure 3: Schools who completed the CPS survey by participant size and urban/rural location, 2023.



#### **Participating pupils**

There were 670 boys (49%) and 685 girls (51%) who completed the survey, comprising 1,355 pupils from the 77 schools (a rise of 753 pupils from 2022; an increase of 125%). Two thirds (67%) of these pupils were from a school in a rural area and 33% from an urban area school. In terms of group size, 887 were taught in groups of 21 or more (65%), 336 were in groups of 11 to 20 participants (25%) and schools with fewer than 11 participants made up the final 132 (10%). See breakdown below:

Figure 4: Breakdown of pupils who completed the survey, 2023.



#### **Findings**

The Cycling Proficiency Scheme aims to promote safe cycling behaviours among children. The training seems to have been very effective – 98% of pupils said their knowledge of cycling safety had increased as a result of completing the CPS training. This is higher than the 93% reported in 2022. The children reported a positive shift in all six safe cycling behaviours on completion of the course. Figure 5 below illustrates a clear increase in the proportions of pupils who answered 'yes' to each of the questions after completing the CPS.

98%

said their cycling safety knowledge had increased

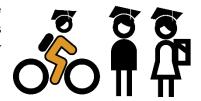
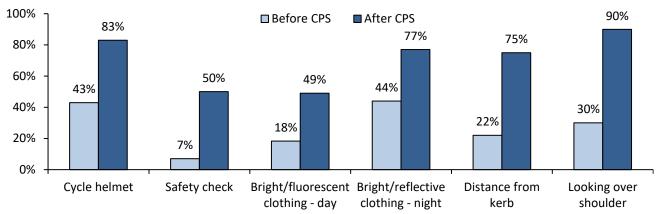


Figure 5: Proportion of pupils who answered 'yes' to each question before and after CPS, 2023.



#### **Key Points**

- The behaviours in all six disciplines all increased greatly following the Cycling Proficiency Scheme with wearing a cycle helmet, wearing bright/reflective clothing at night and looking over the shoulder all increasing to over 75%.
- The highest pre-course score was for those pupils who wore bright and reflective clothing at night with 44%; this increased on completion of the Scheme to 77%. The highest post-course score was looking over shoulder with 90% of pupils complying with this after CPS.
- The discipline of carrying out a safety check showed the greatest proportionate increase following CPS. Seven times more pupils than before training indicated that they now performed a safety check before cycling.
- Children from an urban school were more likely to wear a cycle helmet than rural school children. Pupils from urban schools were also more likely to carry out a safety check on their bicycle. In contrast, children in rural schools were more likely to keep a metre away from the kerb / roadside verge.
- Girls were more likely to wear a helmet than boys. Girls were also more likely to carry
  out a safety check on their bicycle, keep a metre away from the kerb / roadside verge
  and look over their shoulder before signalling or moving.



# Question 1: Cycle Helmet - Do you wear your cycle helmet every time you ride your bicycle?

Before completing the CPS, just under two fifths of all pupils (43%) said they wore their helmets every time they ride their bike. After completing the CPS this proportion nearly doubled, with 83% now saying they wear their helmets.

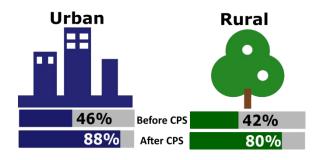
Figure 6: Proportion of pupils who said they wore a cycle helmet, by gender, 2023.



A greater percentage of **females** said they wore a cycle helmet in both the pre and post CPS training groups.

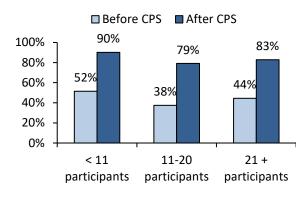
In addition, there was a **significant difference** in the number of males and females who responded 'yes' **after CPS** training.

Figure 7: Proportion of pupils who said they wore a cycle helmet, by location, 2023.

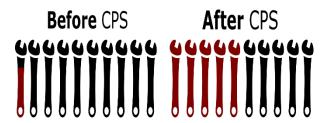


The proportion who responded 'yes' to this question before CPS training was greater for urban schools (46% urban; 42% rural). This trend continued for urban schools following training (88% urban; 80% rural). There was also a significant difference between urban and rural schools post training.

Figure 8: Proportion of pupils who said they wore a cycle helmet, by the number of CPS participants in the school, 2023.

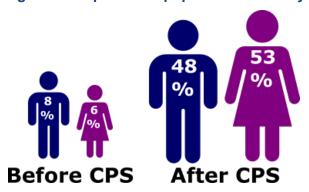


On completion of the course, all participant groups reported a **significant increase** in proportions of helmet wearing, with those pupils taught in group sizes of **11-20 (79%) reporting lower compliance** than class sizes of fewer than 11 (90%) or classes of 21 or more pupils (83%).



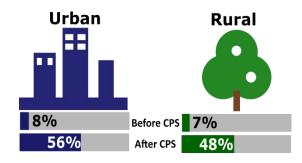
Prior to completing the CPS, only 95 of the 1,355 (7%) pupils responded 'yes' to carrying out a safety check on their bicycle before using it. This **increased to half** the number of pupils with 682 (50%) stating they now did this **upon completion of the scheme**.

Figure 9: Proportion of pupils who said they carried out a safety check, by gender, 2023.



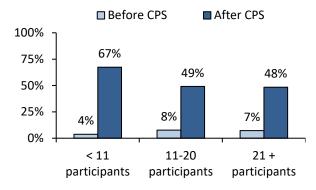
The proportion who responded 'yes' was very low for both males (8%) and females (6%) before completing the CPS; this **increased** considerably to 48% and 53%, respectively, **following training**; to represent a significant difference between both genders.

Figure 10: Proportion of pupils who said they carried out a safety check, by location, 2023.



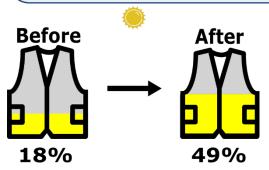
**Following CPS training,** pupils from an **urban school** were **more likely** to perform a safety check each time they rode their bike (56%) than those who went to a rural school (48%). These figures represent a significant difference between urban and rural schools.

Figure 11: Proportion of pupils who said they carried out a safety check, by the number of CPS participants in the school, 2023.



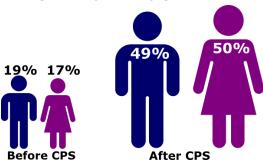
Prior to CPS training, pupils taught in groups of 11 -20 participants (8%) were more likely to carry out a safety check than other group sizes. Upon completion of the training all participant groups reported a significant increase in the proportion of those who performed a safety check. Those in groups of less than 11 (67%) were most likely to carry out this check.

### Question 3: Fluorescent Clothing- Do you wear something fluorescent & bright when riding your bike in the daytime?



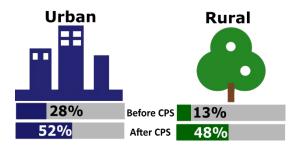
Before completing the CPS, only 18% of pupils responded 'yes' to wearing something fluorescent and bright while riding their bike in the daytime. This increased to 49% on completion of the scheme.

Figure 12: Proportion of pupils who said they wore fluorescent and bright clothing during the daytime, by gender, 2023.



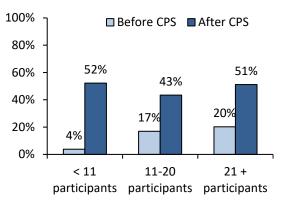
There was **only a 2% difference** to report between the responses of boys (19%) and girls (17%) prior to CPS training. This gap narrowed slightly, falling to a 1% difference post-CPS training (49% of boys and 50% of girls). The wearing of fluorescent and bright clothing during the day time **increased for both genders after training.** 

Figure 13: Proportion of pupils who said they wore fluorescent and bright clothing during the daytime, by location, 2023.



The proportion of pupils who wore fluorescent and bright clothing during the daytime was **higher in urban areas**, both prior to (28%) and post CPS Training (52%). The percentage also **increased for rural areas** from 13% prior to training to 48% post training.

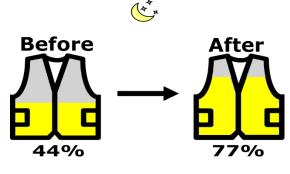
Figure 14: Proportion of pupils who said they wore fluorescent and bright clothing during the daytime, by the number of CPS participants in the school, 2023.



Following training, schools with fewer than 11 participants (52%) reported a higher post-test score than the other participant groups. Those with 21 or more participants (51%) also reported a higher compliance than those with 11-20 participants (43%). There was a significant difference between all size groups when comparing compliance for pre and post training.



## Question 4: Reflective Clothing- Do you wear something reflective & bright when riding your bike at night?



More pupils wore reflective and bright clothing at night time compared to during the day. **Before training, 44% of pupils** reported they always wore something reflective and bright when cycling at night. This proportion increased **after CPS to 77%.** 

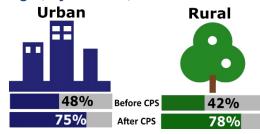
Figure 15: Proportion of pupils who said they wore reflective and bright clothing at night by gender, 2023.



On completion of the course, girls (79%) indicated they were more likely than boys (75%) to comply with the wearing of reflective and bright clothing during night-time hours.

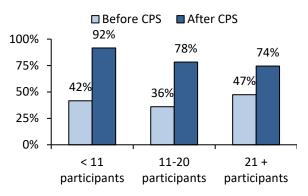
The percentage increased for both genders post CPS Training.

Figure 16: Proportion of pupils who said they wore reflective and bright clothing at night, by location, 2023.



**Before training,** pupils from an **urban school** (48%) were more likely to wear fluorescent and bright clothing at night, compared with 42% of pupils from a rural school. However, following training, pupils from a rural school (78%) were more likely than those from an urban school (75%) to wear fluorescent and bright clothing at night.

Figure 17: Proportion of pupils who said they wore reflective and bright clothing at night, by the number of CPS participants in the school, 2023.



Before CPS, those in the 21 participants and over group (47%) were more likely to wear reflective and bright clothing during night-time hours than groups with 20 or less participants. Following training, those taught in groups of less than 11 reported higher compliance (92%) than those taught in larger group sizes. There was a significant difference between all size groups when comparing compliance for pre and post training.

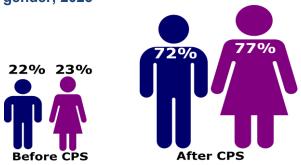


Question 5: Distance from Kerb - when cycling do you keep about a metre away from the kerb/roadside verge?



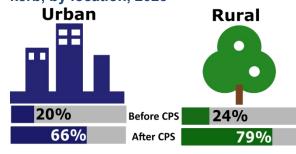
The CPS appears to have had a very positive impact on this particular procedure, with those pupils who cycled one metre from the kerb increasing from 22% prior to CPS to 75% post training.

Figure 18: Proportion of pupils who said they kept a metre away from the kerb by gender, 2023



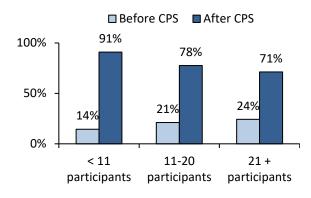
There was a **significant difference** between males and females **after CPS**. The proportion of those who cycled a metre away from the kerb also increased substantially following training.

Figure 19: Proportion of pupils who said they who said they kept a metre away from the kerb, by location, 2023



Following CPS, pupils from a rural school (79%) were more likely than those from an urban school (66%) to cycle a metre away from the kerb. These figures also represent a significant difference between urban and rural schools post training.

Figure 20: Proportion of pupils who said they kept a metre away from the kerb, by the number of CPS participants in the school, 2023.



Pupils taught in group sizes of fewer than 11 pupils had a lower compliance of cycling one metre away from the kerb before training than those in larger class sizes. Following the delivery of the scheme, 91% of pupils in class sizes fewer than 11 reported that they now cycled a metre away from the kerb, this was a significantly higher post-test score than those with larger participant groups.

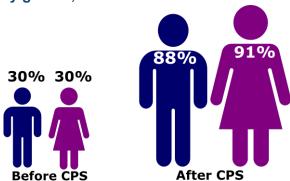


### Question 6: Looking over shoulder - When cycling do you look over your shoulder before signalling or moving?



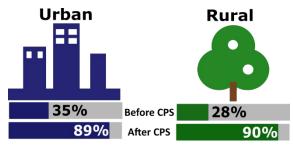
There was a **significant increase** in the proportion of children who responded 'yes' to this question after CPS training. **Before training**, **30% of pupils** reported looking over their shoulder before moving or signalling which **increased to 90%** following the CPS.

Figure 21: Proportion of pupils who said they looked over their shoulder before moving, by gender, 2023



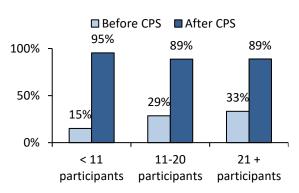
Before CPS training, an equal percentage (30%) of boys and girls said they looked over their shoulder before moving. This increased to 88% for boys and 91% for girls following the delivery of the course. These figures represent a significant increase between the two genders after CPS training.

Figure 22: Proportion of pupils who said they who said they looked over their shoulder before moving, by location, 2023



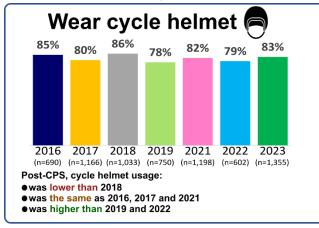
Prior to CPS training, 35% of pupils in urban schools and 28% in rural schools said they looked over their shoulder before moving. Following training, pupils from an rural school (90%) were more likely to do so than those taught in rural schools (89%).

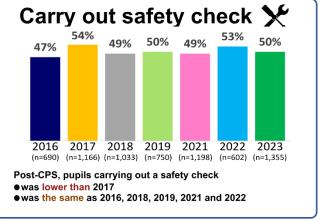
Figure 23: Proportion of pupils who said they looked over their shoulder before moving by the number of CPS participants in the school, 2023.

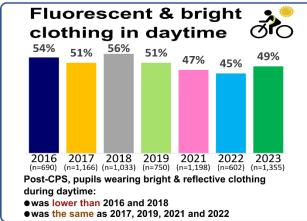


School groups with more than 21 participants (33%) reported a higher percentage of pupils looking over their shoulder prior to CPS than smaller group sizes. In contrast, following training, 95% of pupils taught in groups of less than 11 stated that they now looked over their shoulder. There was a significant difference between all age groups when comparing compliance for pre and post training.

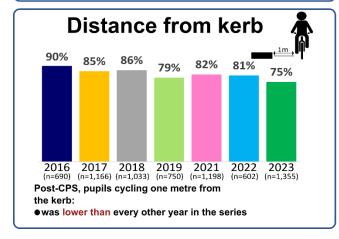
#### Post CPS Training – 2023 Comparison with previous years

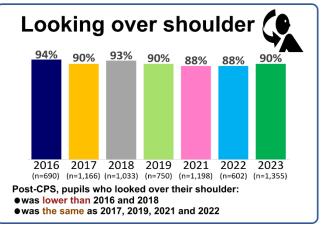












The above infographic illustrates comparisons between this year and previous years for each discipline, using significance tests.

As shown above, when compared with 2022, there has been a **significant increase** in pupils **wearing a helmet**. However, it should be noted that comparisons between the years should be viewed with caution, as the study population varies each year, and there were a larger number of schools and pupils involved in the study this year than previous years.

### Analysis Statistics & Research Branch, Dfl Investigating the impact of the Cycling Proficiency Scheme in Northern Ireland 2023

Tables: Pupil responses for each Cycling Proficiency Scheme question before and after training by school participant size, gender and urban/rural school area

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Yes         126         38         266         79         26         8         165         49         57         17         146         43         121         36         263         78         71         21         261         78         96         29         298         89           No         124         37         21         6         266         79         58         17         186         55         69         21         104         31         140         42         42         13         141         42         9         3           Sometimes         86         26         49         15         44         13         113         34         93         28         121         36         111         33         31         9         125         37         33         10         99         29         29         9           Missing         0 <th></th> <th></th> <th></th> <th></th> <th>1</th> <th></th> <th>·20 pai</th> <th></th> <th></th> <th></th> <th></th> <th>ticipan</th> <th></th> <th colspan="4"></th> <th colspan="4"></th> <th colspan="4"></th>					1		·20 pai					ticipan														
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No       217       24       49       6       658       74       206       23       531       60       231       26       288       32       138       16       455       51       70       8       401       45       39       4         Sometimes       273       31       103       12       162       18       251       28       174       20       201       23       177       20       88       10       215       24       184       21       189       21       59       7         Missing       5       1       2       0       3       0       2       0       3       0       2       0       3       0       2       0	Ves												-		- 1								- 1			
Sometimes         273         31         103         12         162         18         251         28         174         20         201         23         177         20         88         10         215         24         184         21         189         21         59         7           Missing         5         1         2         0         3         0         2         0         3         0         2         0         3         0         2         0							-																			
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	Total	887	100	887	100	887	100	887	100	887	_	887	100	887	100	887	100	887	100	887	100	887	100	887	100	

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Tables cont'd: Pupil responses for each Cycling Proficiency Scheme question before and after training by school participant size, gender and urban/rural school area

	Q1 Helmet Usage Q2 Safety Equipment						Q3 Fluorescent & bright				Q4 Reflective & bright						from		Q6 Looking						
		ØÎ	Ċ			\$ <u>_</u> _	ĬĹ		clothing – day time				clothir night-t	_		Ö		<u>Îi.</u>	<u>ım</u> ,		over shoulder				
		Ma	les			Mal	les			Ma	es		Males					Mal	les		Males				
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	
Yes	272	41	535	80	52	8	319	48	125	19	328	49	276	41	503	<i>75</i>	150	22	483	72	202	30	587	88	
No	205	31	45	7	496	74	145	22	398	59	177	26	232	35	107	16	328	49	68	10	328	49	30	4	
Sometimes	190	28	89	13	121	18	205	31	146	22	164	24	161	24	59	9	191	29	118	18	139	21	52	8	
Missing	3	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	
Total	670	100	670	100	670	100	670	100	670	100	670	100	670	100	670	100	670	100	670	100	670	100	670	100	
		Fema	ales			Fema	ales			Fema	ales			Fema	ales			Fema	ales		Females				
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	
Yes	314	46	583	85	43	6	363	53	116	17	340	50	319	47	540	79	154	23	529	77	208	30	624	91	
No	169	25	29	4	522	76	131	19	397	58	150	22	200	29	73	11	352	51	52	8	296	43	18	3	
Sometimes	200	29	72	11	118	17	190	28	170	25	194	28	164	24	71	10	177	26	103	15	179	26	42	6	
Missing	2	0	1	0	2	0	1	0	2	0	1	0	2	0	1	0	2	0	1	0	2	0	1	0	
Total	685	100	685	100	685	100	685	100	685	100	685	100	685	100	685	100	685	100	685	100	685	100	685	100	
		Urb	an			Urb	an			Urb	an		Urban				Urban				Urban				
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	
Yes	206	46	399	88	34	8	252	56	128	28	235	<i>52</i>	219	48	338	<i>75</i>	90	20	297	66	159	35	401	89	
No	74	16	15	3	290	64	101	22	250	55	136	30	123	27	66	15	197	44	30	7	197	44	17	4	
Sometimes	172	38	37	8	128	28	98	22	74	16	80	18	110	24	47	10	165	<i>37</i>	124	27	96	21	33	7	
Missing	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	1	0	
Total	452	100	452	100	452	100	452	100	452	100	452	100	452	100	452	100	452	100	452	100	452	100	452	100	
		Rur	al			Rur	al		Rural				Rur	ral			Rur	al			Rur	al			
	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	Before	%	After	%	
Yes	380	42	719	80	61	7	430	48	113	13	433	48	376	42	705	78	214	24	715	79	251	28	810	90	
No	300	33	59	7	728	81	175	19	545	60	191	21	309	34	114	13	483	53	90	10	427	47	31	3	
Sometimes	218	24	124	14	111	12	297	33	242	27	278	31	215	24	83	9	203	22	97	11	222	25	61	7	
Missing	5	1	1	0	3	0	1	0	3	0	1	0	3	0	1	0	3	0	1	0	3	0	1	0	

#### **Survey Methodology**

#### **Pupil Survey**

The Cycling Proficiency Scheme (CPS) has operated in Northern Ireland schools for over 50 years, training approximately 450,000 pupils. Early road safety education is crucial in keeping children safe on the roads. The purpose of the scheme is to help children develop their skills, increase their confidence as cyclists and identify risks they may come across on the roads. The CPS is delivered by school staff and instructors who are trained and approved by, and registered with, DFI Active Travel. For the eighth year, a survey of school children who took part in CPS in Northern Ireland was carried out to consider the attitudes of the children towards various aspects of road safety before and after completion of the scheme. The questions were designed to assess how much the scheme had changed the attitudes and actions of participants in respect of various safety aspects of cycling such as wearing a helmet and reflective clothing, carrying out safety checks on bicycles and specifics of manoeuvring on the roads. This analysis monitors the effectiveness of the Scheme, allowing the Department to identify positive changes in participants' behaviour as well as areas requiring improved support and guidance. As with previous years, the cycling survey responses in 2023 were obtained through a show of hands in the classroom. When this new methodology was introduced in 2016, there were concerns that results could potentially suffer from bias as responses were not anonymous and participants may be hesitant responding in front of their classmates. However, the method was one that teachers could easily facilitate in order to get timely feedback and ensure a high response rate. Results in previous years were not significantly different, and Analysis, Statistics and Research Branch therefore concluded that the revised methodology could be continued.

A stratified sample was taken of 212 schools in Northern Ireland who had announced their intention to take part as of May 2023. A stratified random sampling methodology on these 212 schools (stratified based on gender, urban v rural and course participant size) was used to choose the sample of 145 schools (68%). Responses were received from 77 of these, giving a response rate of 53%. This is 39 more schools than took part in the survey in 2022, and as a result, the number of pupils responding increased from 602 to 1,355 (an increase of 125%) representing the most pupils participating since the CPS was first reported on in 2015.

The table below shows the percentage of respondent schools by gender, urban/rural classification and number taking part compared with the 212 CPS sampled schools.

	CPS School Profile (n=77)	Sample School Profile (n=212)
Male	49%	49%
Female	51%	51%
Urban	71%	71%
Rural	29%	29%
< 11 participants	23%	18%
11-20 participants	34%	40%
21+ participants	43%	42%

The figures show that the respondent profile is broadly representative of all 212 sampled schools, with no groups particularly over or under-represented in terms of their gender or

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urban/rural classification<sup>1</sup>. Also, whilst a proportionate stratification by former Education and Library Board (ELB) area was not a key survey aim, nevertheless a good geographical spread of schools was achieved in the final sample. See the map of schools provided in Figure 1 of this report (Page 4). There was no need, therefore, to weight the results prior to undertaking the analysis.

Note that as the findings are derived from a sample survey and hence subject to sampling error, all differences reported in the commentary were tested to ensure that they were statistically significant (i.e., there was a less than one in twenty chance that they occurred through random factors alone). This means that, when comparing differences between subgroups with small numbers of respondents, some apparently large differences may not actually be statistically significant.

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<sup>&</sup>lt;sup>1</sup> Location defined using NISRA Central Postcode Directory urban/rural classification. Boundaries are available for Northern Ireland as defined by the Planning Service. These areas are defined from Settlement Development Limits (SDLs) which are a statistical classification and delineation of settlements. See <a href="review-of-the-statistical-classification-and-delineation-of-settlements-march-2015.pdf">review-of-the-statistical-classification-and-delineation-of-settlements-march-2015.pdf</a> (nisra.gov.uk) for more information.