



Údarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority

The Road Safety Authority

Autonomous Cars
September 2019

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RESEARCH
& INSIGHT



Research Background & Objectives

This research study, on behalf of the Road Safety Authority, examines the current attitudes of Irish adults in relation to autonomous cars.

A national survey was conducted via B&A's face-to-face Barometer survey with a nationally representative sample of 1,000 adults aged 16 years+.

The survey builds on the results of 2018 research and addressed the following key issues:

- Awareness of 'self-driving' cars
- Current use of self-driving features
- Attitudes towards self-driving cars: safety; '... are a good idea'
- Perceived benefits and concerns around self-driving cars
- Perception of how soon Ireland will get self-driving cars
- Interest in using and owning self-driving vehicles
- Interest in using self-driving public transport vehicles

Each Behaviour & Attitudes Barometer survey is based on a nationally representative quota sample of adults (aged 16 years and over) with a fresh sample used for each fortnightly survey.

All interviewing is conducted by fully trained and experienced members of the Behaviour & Attitudes field-force, who work under direct supervision and are subject to rigorous quality controls (personal, postal and telephone checks). All aspects of our Barometer survey operate to the guideline standards established by the company's membership of the MRS and ESOMAR (the international industry representative body).

Survey interviewing was conducted in September 2019.



Sample Profile: Motorists

Base: All Adults n – 1,000

September
2019



74%



Awareness of self-driving cars

'Self driving cars' (definition provided)



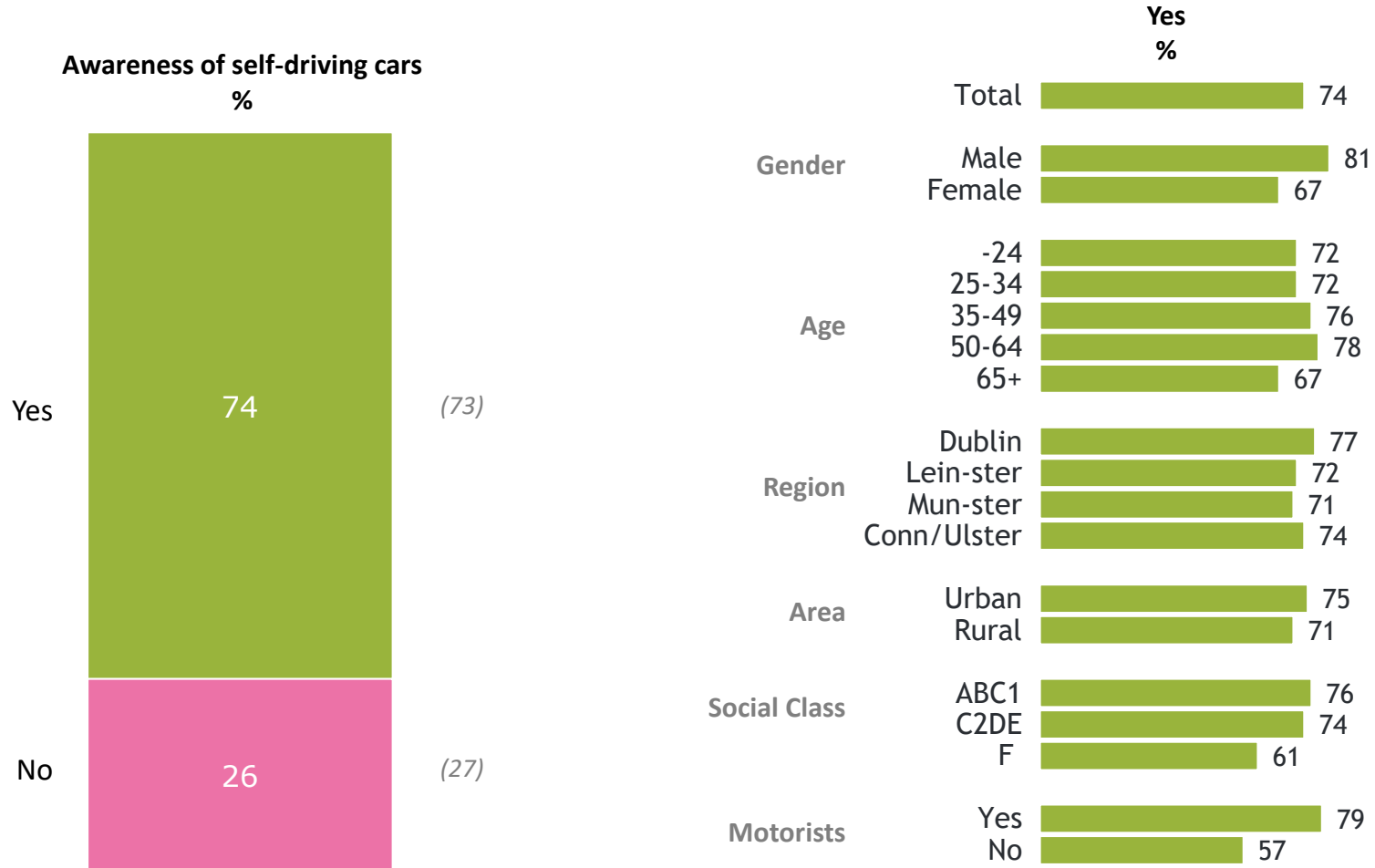
This survey will ask you a series of short questions about 'self-driving' cars, sometimes also referred to as autonomous cars. The term self-driving car is often used to broadly refer to any kind of car where a driver does not have to do certain parts of the driving task, the car does it for them.

For the purpose of this survey, a self-driving car refers to an automated car that can drive in pre-defined traffic situations and roadway conditions, controlling all of the monitoring and driving functions when it is engaged in autonomous mode. When exiting the pre-defined area, the driver would need to take control of the vehicle again.

*Definition slightly modified for 2019 research

Awareness of self-driving cars

Base: All adults aged 16+ N = 988



Very similar to the levels in 2018, 74% of Irish adults are aware of the concept of 'self-driving' cars; rising to 79% of motorists.



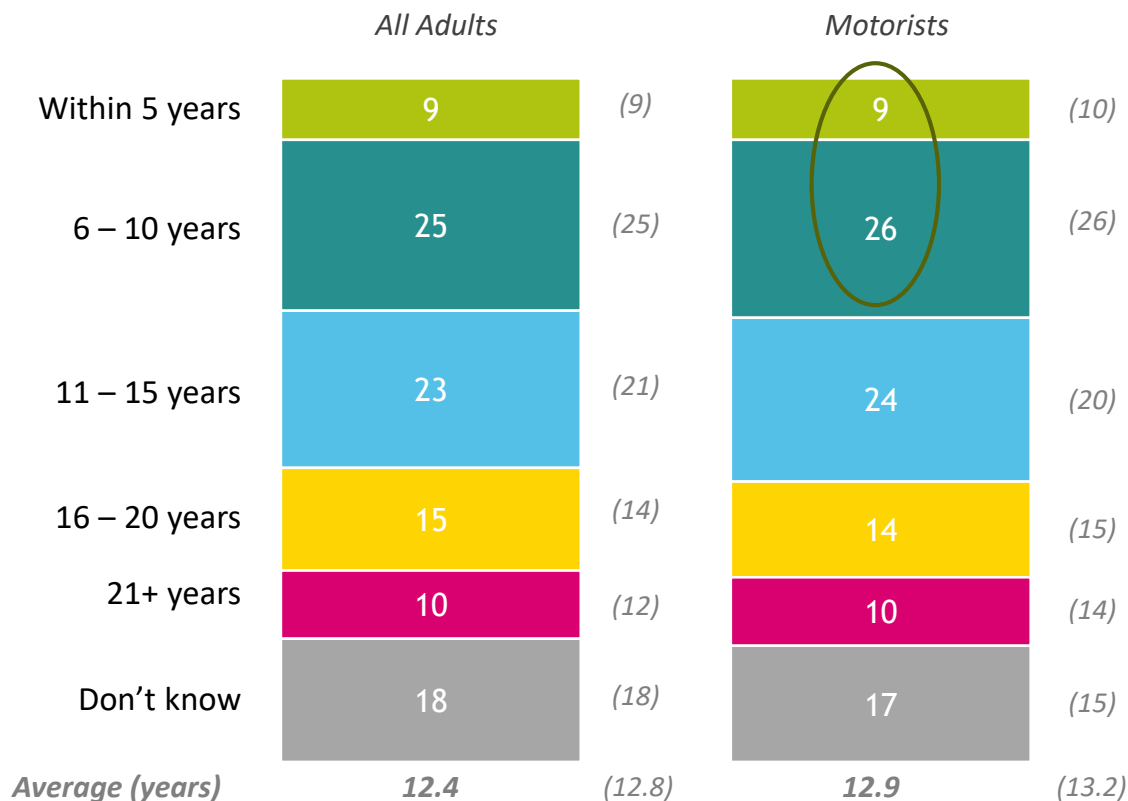
? Q. Before participating in this survey, had you heard of a self-driving car?

Perception of how soon Ireland will get self-driving cars

Base: All adults aged 16+ n=998



How soon until self-driving cars are on Irish roads
%



35% of Irish motorists think self-driving cars will be on Irish roads in 10 years or less.

Q.9 How soon do you think self-driving cars will be on Irish roads?

(2018 Research)



Current use of self-driving features

Self-driving features



Adaptive Cruise Control

- Adjusts a vehicle's speed to maintain a safe distance from vehicles ahead



Automatic Parking

- Where the car itself can move the car from a traffic lane into a parking spot without driver involvement



Intelligent Speed Adaptation

- Automatically limits the maximum speed of the vehicle



Collision Avoidance System

- Where the car can detect approaching hazards and automatically brake or steer to avoid these, without driver input.



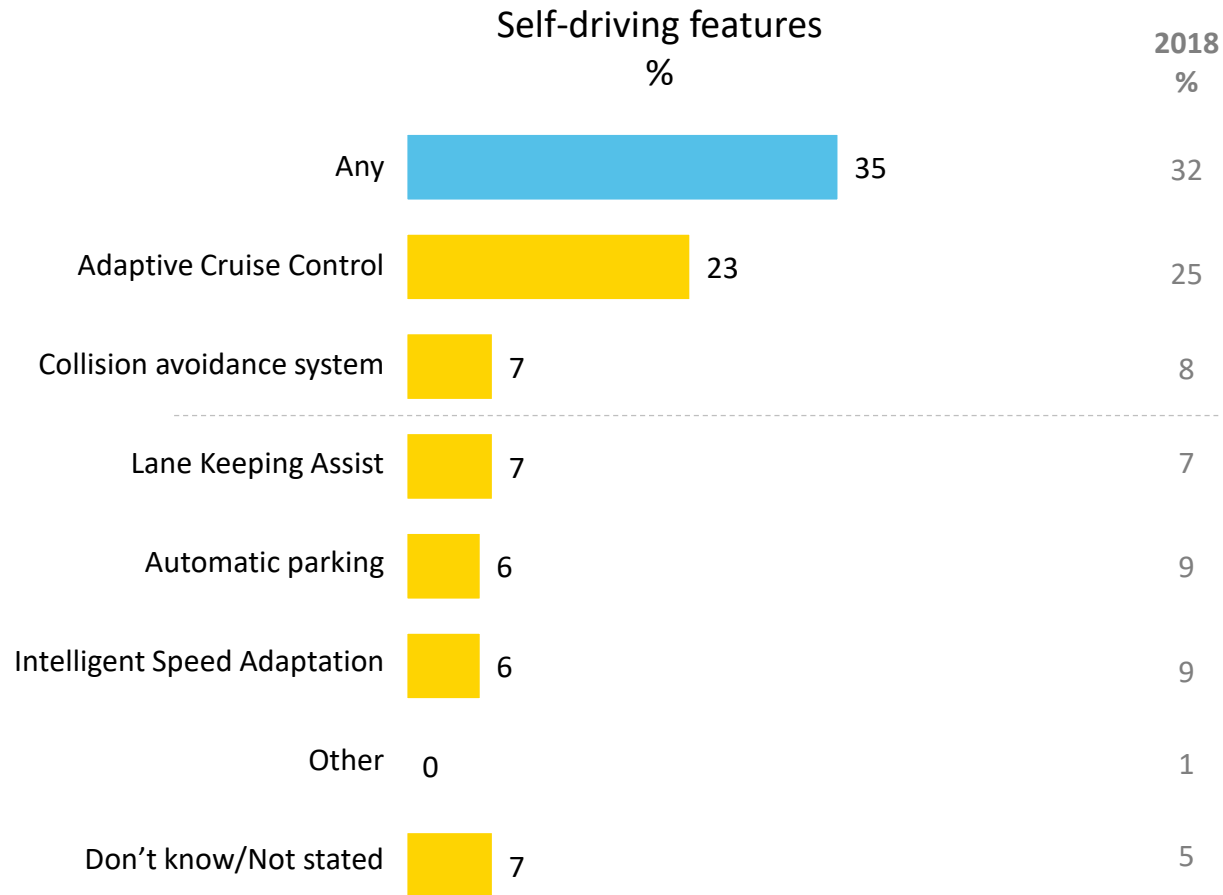
Lane Keeping Assist

- Warns the driver when they unintentionally leave their lane and automatically manoeuvres the vehicle back into its lane



Self-driving features available in current car

Base: All car drivers n=753

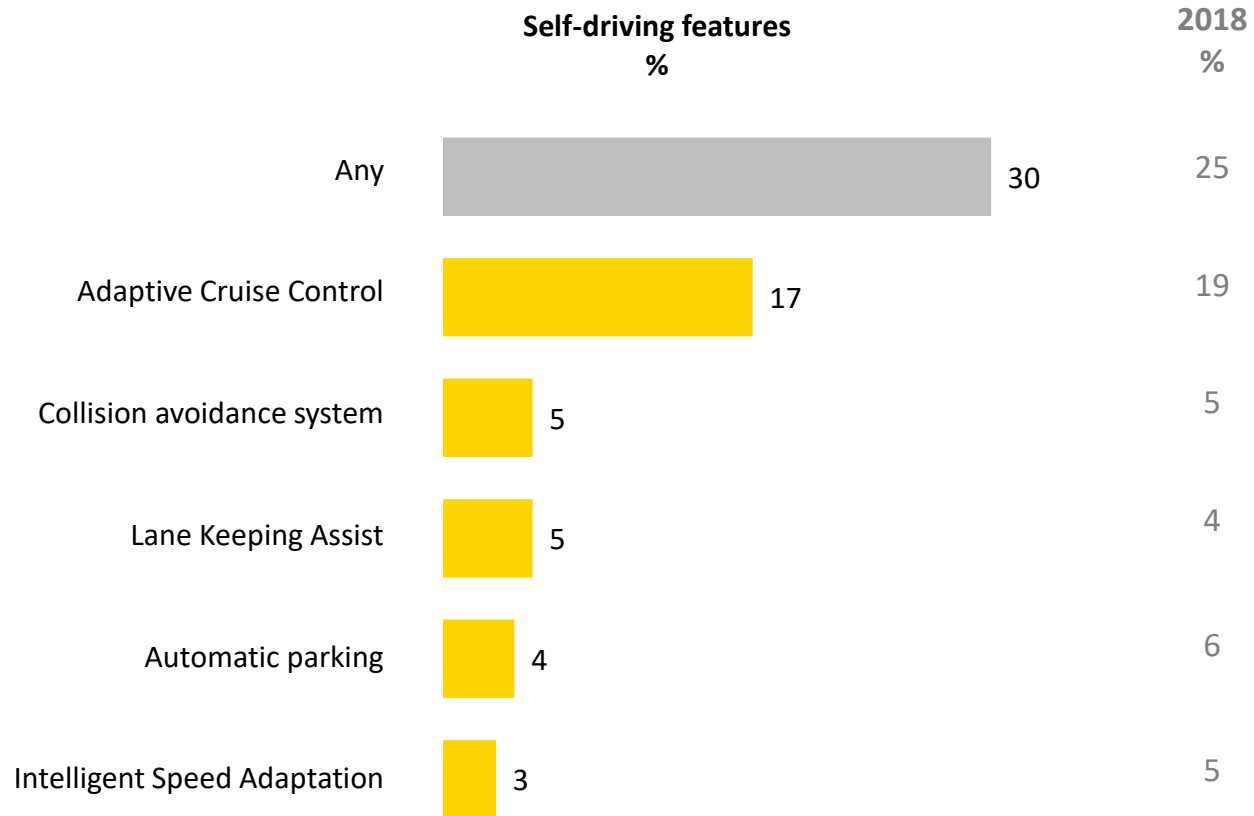


35% of Irish motorists indicate their current car has any of the listed self-driving features – a slight aggregate rise on 2018.

Q.5A Which, if any, of the following features, do you have in the car you usually drive?

Self-driving features ever used

Base: All car drivers n = 753



30% of all car drivers have now used at least one of the self driving features – up from 25% in 2018.



Q.5B And which, if any, of these in-car features have you used?



- /Autonomous
- /Sensing
- /Consumption
- /Battery
- /Navigation
- /Airless
- /Ecology

Autopilot mode

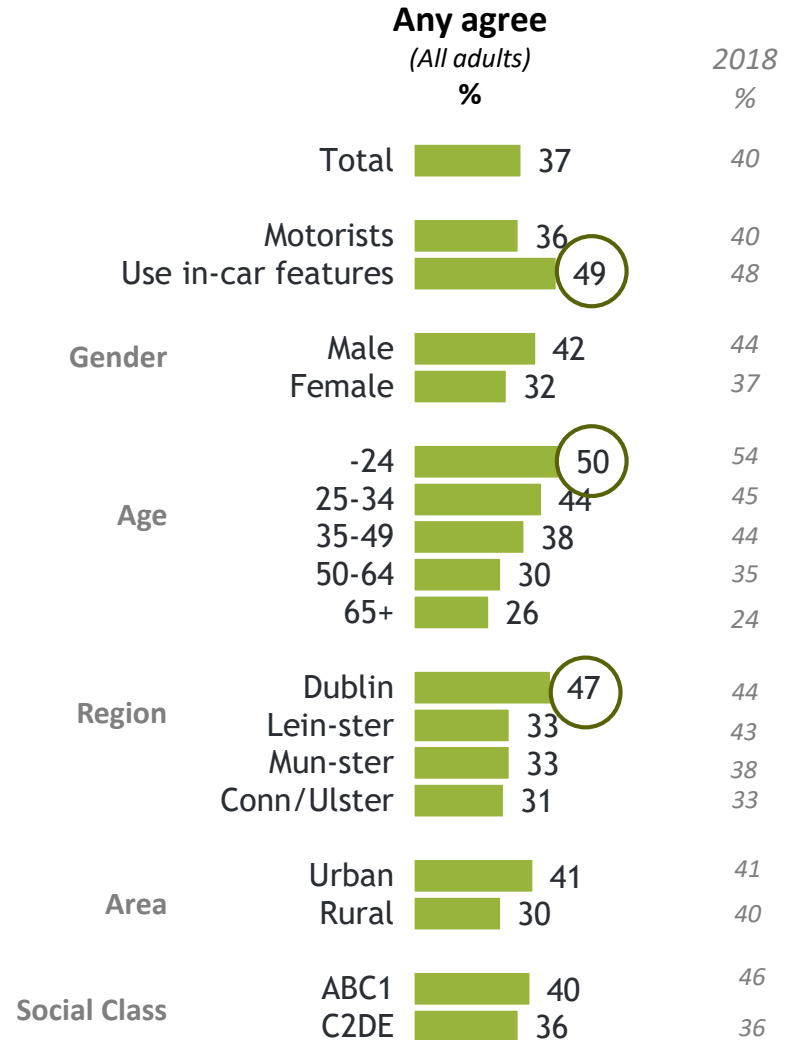
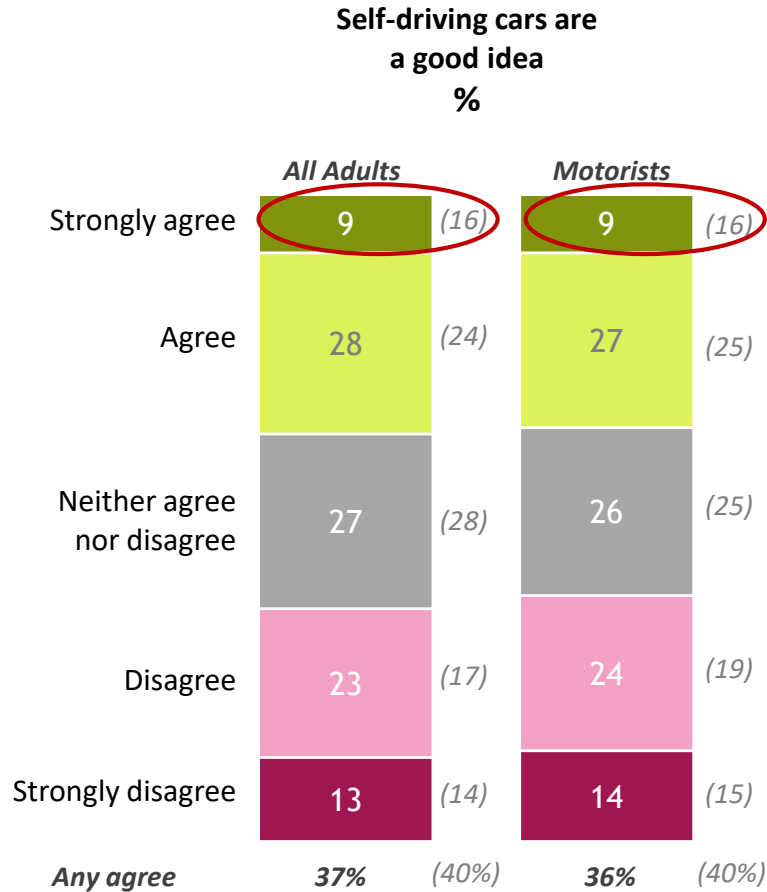
Interest in self-driving vehicles

Level of agreement 'self-driving cars are a good idea'

Base: All adults aged 16+ n = 988



AUTONOMOUS CARS



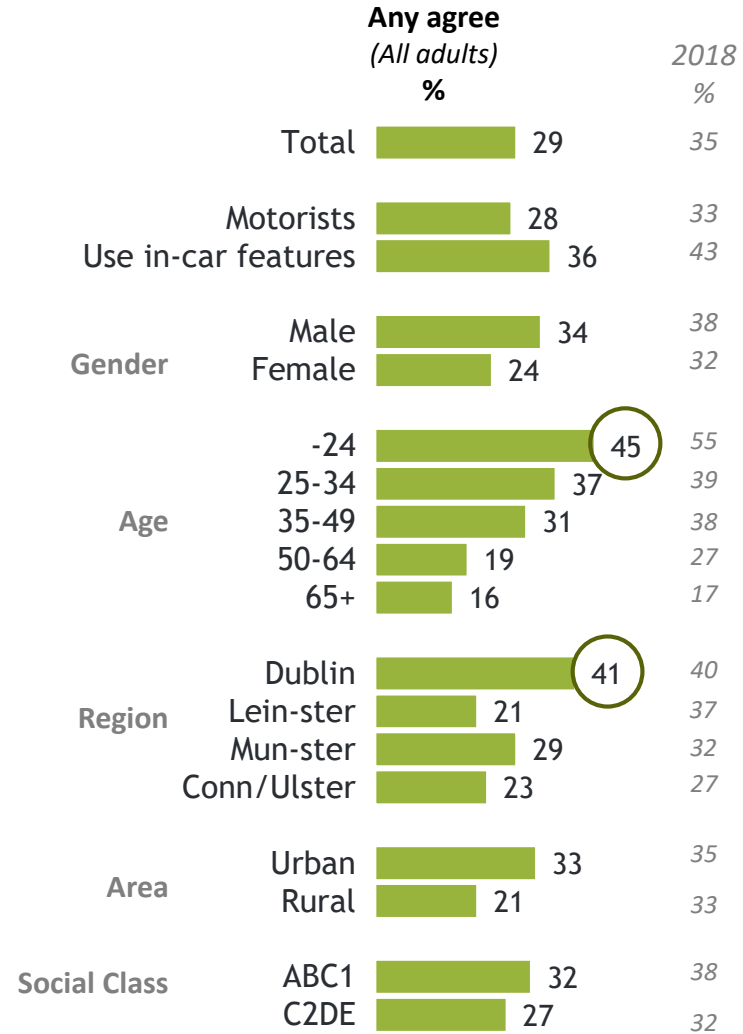
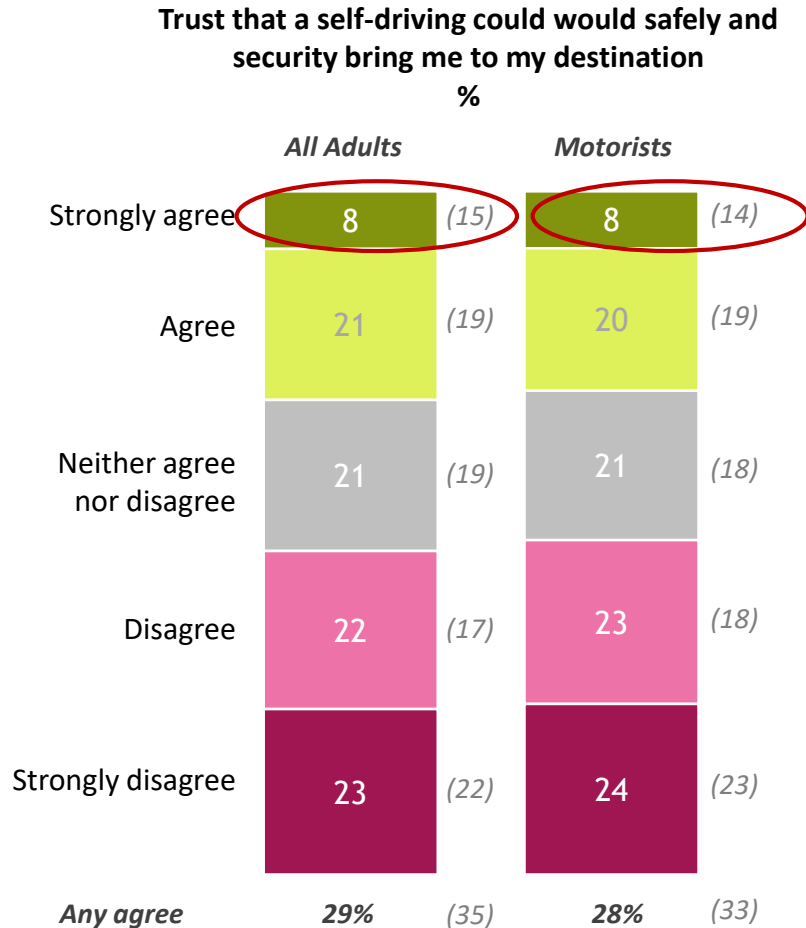
The perception that 'self driving cars are a good idea' has reduced in 2019 to 37% of all adults. The year on year decline is especially evident in relation to 'strongly agree'.

Q.6a How much do you agree or disagree with the following statement: ...Self-driving cars are a good idea.

(2018 Research)

Level of agreement 'I would trust a self-driving car to bring me safely and securely to my destination'

Base: All adults aged 16+ n = 988

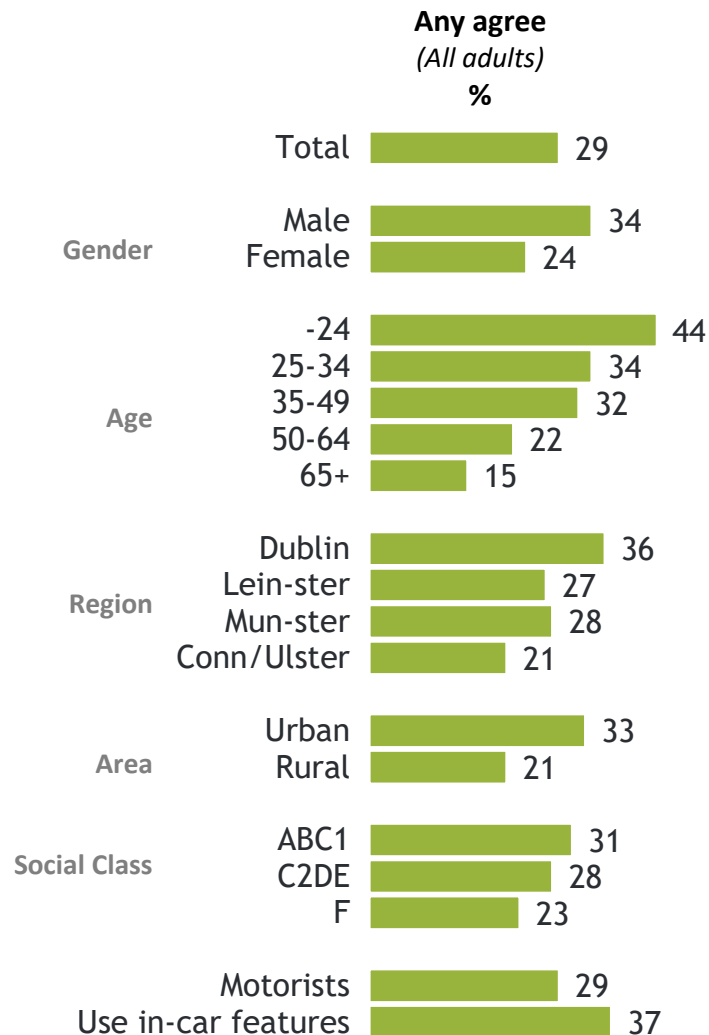
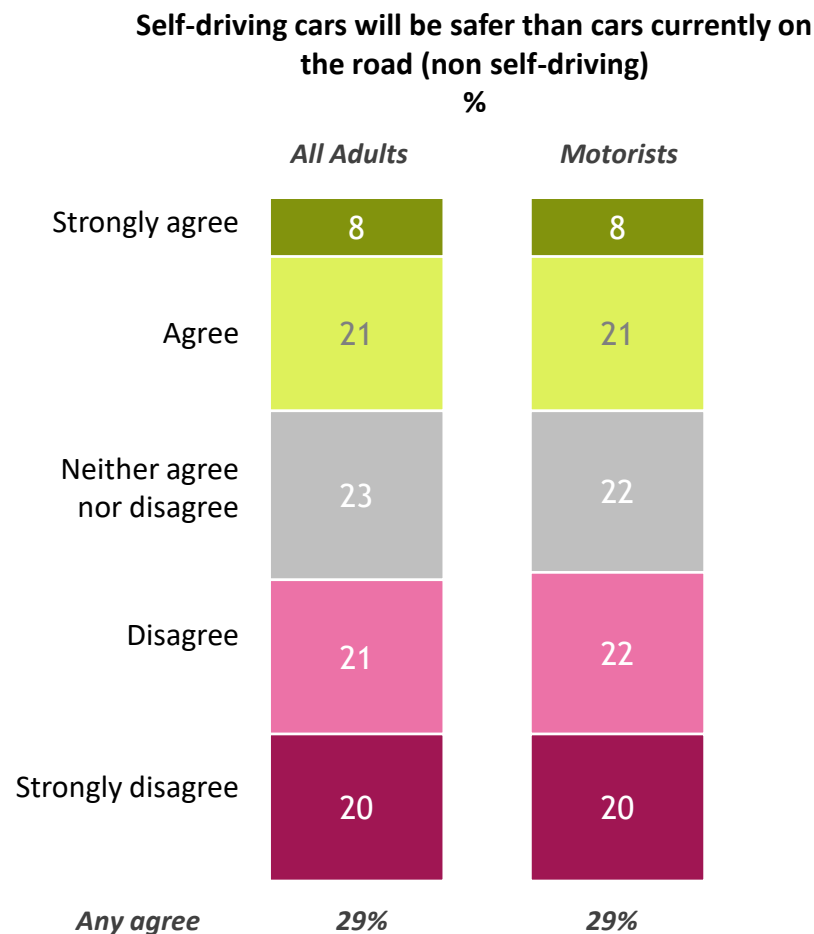


Public trust in self driving cars' ability to safety transport people has reduced to 29% in 2019. Levels of 'trust' vary particularly in & outside of Dublin and across urban and rural areas.

Q.6b How much do you agree or disagree with the following statement:
I would trust a self-driving car to bring me safely and securely to my destination.

Level of agreement that 'self-driving cars will be safer than cars currently on the road (non self driving)'.

Base: All adults aged 16+ n = 988

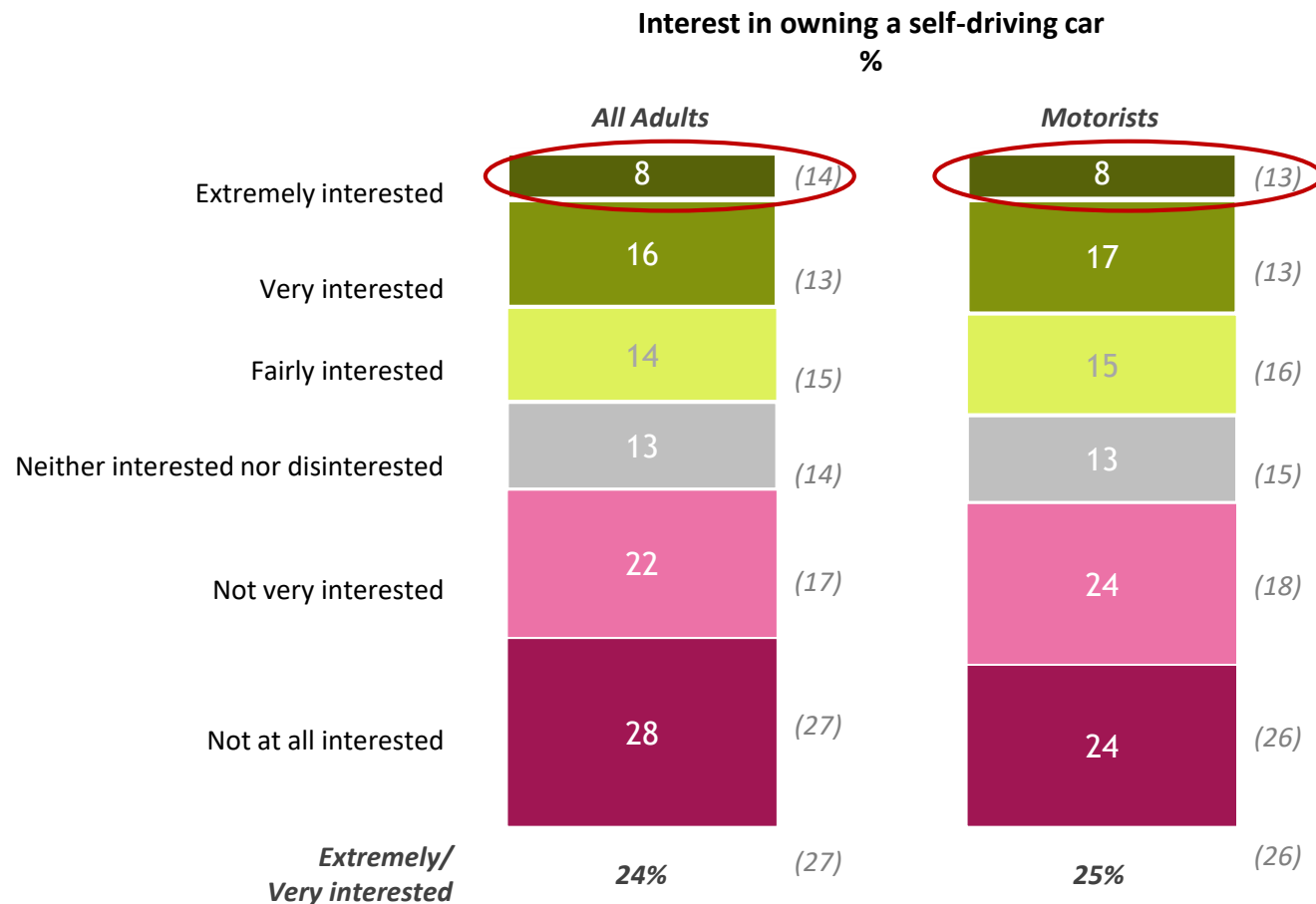


Only 29% of adults currently agree that self driving cars will constitute an improvement in safety from 'cars currently on the road' – again note the more negative sentiment ex Dublin and in rural areas.

Q.6c How much do you agree or disagree with the following statement: ...Self-driving cars will be safer than cars currently on the road (non self-driving)

Interest in owning self-driving vehicles

Base: All adults aged 16+ n = 988



Top level interest in owning a self driving car has also declined in 2019 with only 8% of Irish adults and motorists indicating the highest level of interest.



Q.10 If cost was not a barrier, how interested would you be in owning a self-driving car?

Interest in owning a self-driving vehicle

Base: All adults aged 16+ n = 998



	Total	Gender		Age					Social Class			Region				Car Drivers	Features
		Male	Female	-24	25-34	35-49	50-64	65+	ABC1	C2DE	F	Dublin	Leinster	Munster	Conn/Ulster	Yes	ANY
Base	988	481	507	110	155	318	228	177	489	446	53	287	253	281	167	753	176
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Extremely interested	8	11	5	20	12	6	4	4	10	6	10	9	6	10	7	8	11
Very interested	16	19	12	22	21	19	9	7	17	15	12	25	11	13	10	17	17
Fairly interested	14	16	12	10	14	18	16	8	18	12	4	15	14	15	11	15	22
Neither interested nor disinterested	13	12	13	13	11	15	12	11	14	11	13	10	16	13	10	13	14
Not very interested	22	20	24	18	22	21	26	22	24	21	17	15	27	19	30	24	17
Not at all interested	28	22	33	18	21	20	34	48	17	34	44	26	26	29	32	24	20
Extremely/ Very interested	24	30	17	42	33	25	13	11	27	21	22	34	17	23	17	25	28

Interest in owning a self-driving vehicle declines significantly by age reducing to C. 1 in 10 adults aged 50+ years.



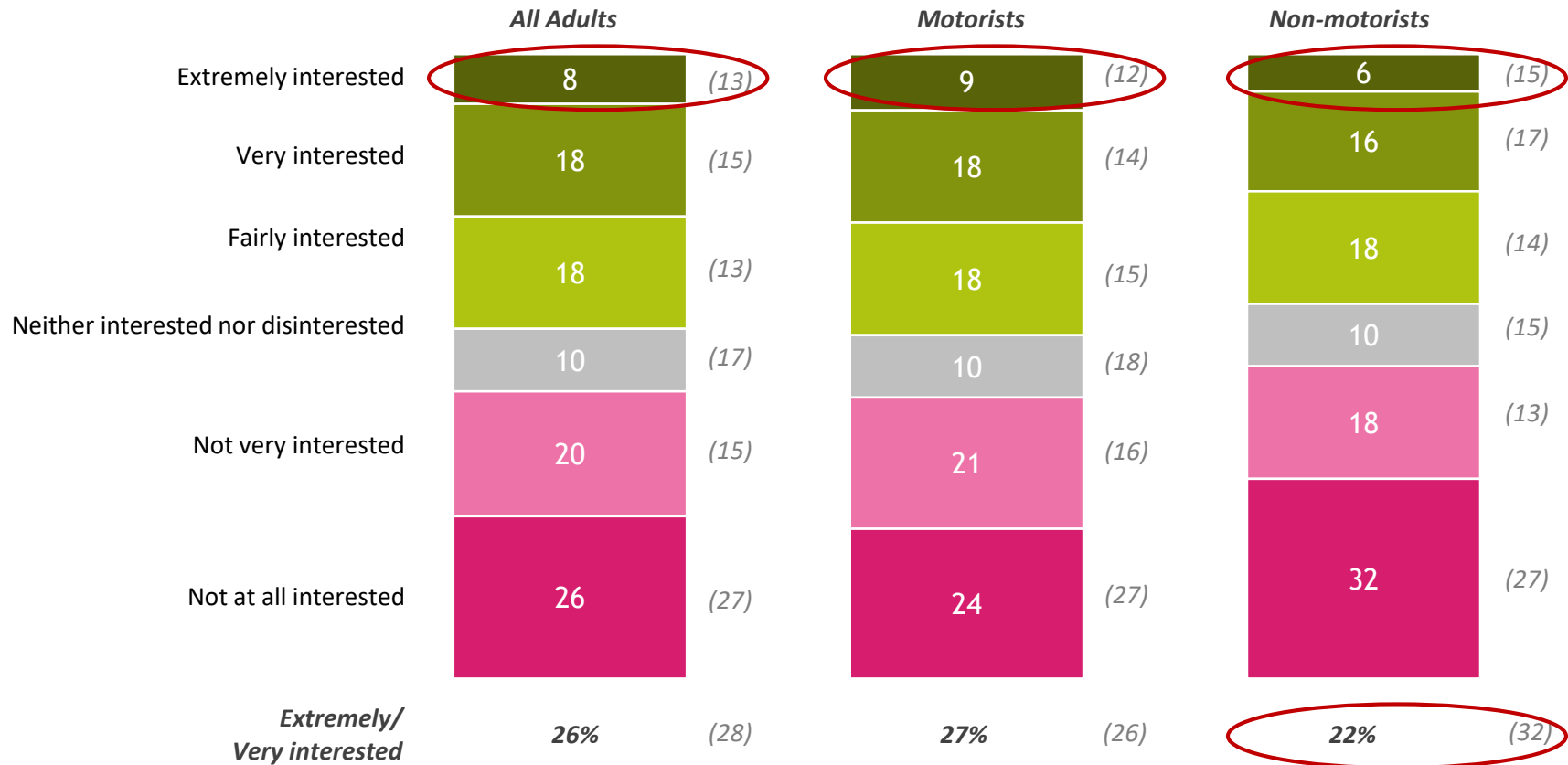
? Q.10 If cost was not a barrier, how interested would you be in owning a self-driving car?

Interest in using self-driving public transport

Base: All adults aged 16+ n=988



Interest using self-driving public transport
%



The year on year decline in using self driving public transport is most evident among non – motorists.



Q.11 If cost was not a barrier, how interested would you be in using self-driving public transport vehicles?

(2018 Research)

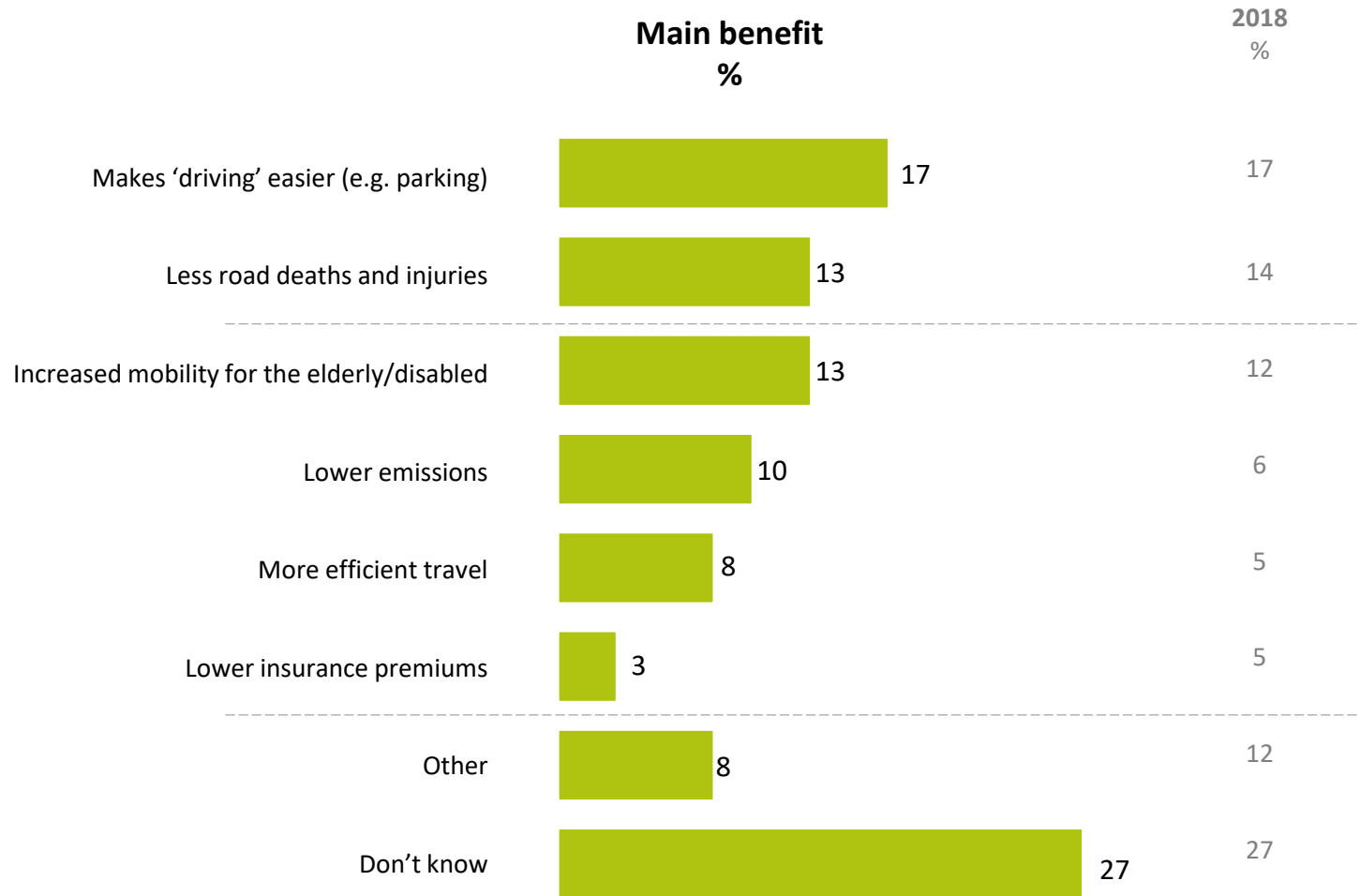


**Autonomous
mode**

Benefits and concerns around self-driving cars

Main benefits of self-driving cars

Base: All adults aged 16+ n = 998



The 'main' benefits associated with self driving cars are rather broad and undefined (27% don't know); 13% spontaneously volunteer 'less road deaths and injuries'.

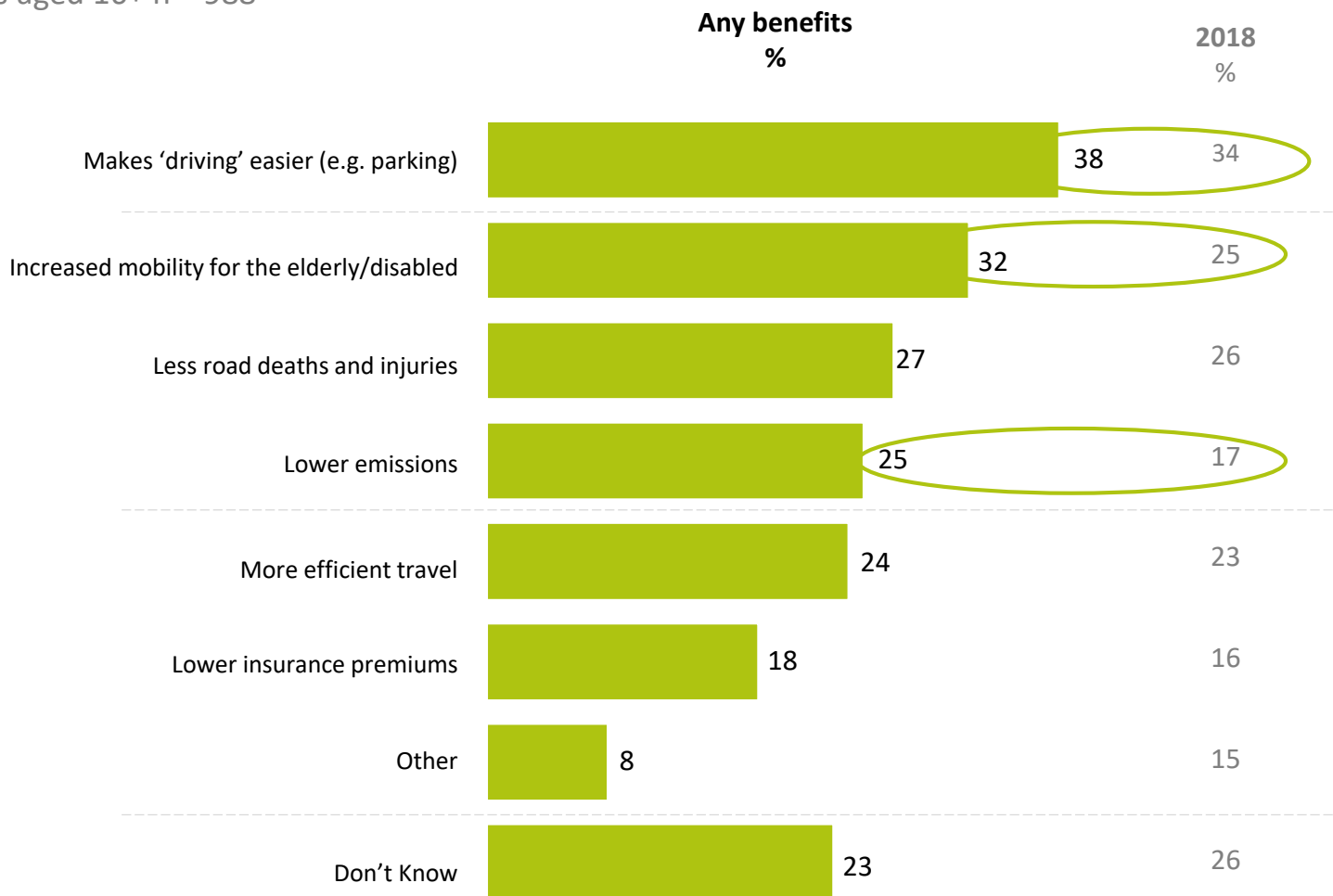


Q.7A What do you think is the *main* benefit of self-driving cars?

Q.7B Any others?

Any benefits of self-driving cars

Base: All adults aged 16+ n = 988



In total, 26% of adults nominate 'less road deaths & injuries' as a benefit. The year on year increases relate to 'ease', 'mobility' and 'emissions'.



Q.7A What do you think is the **main** benefit of self-driving cars?

Q.7B Any others?

Any benefits of self-driving cars

Base: All adults aged 16+ n=991



	Total	Gender		Age					Social Class		Region				Area	
		Male	Female	-24	25-34	35-49	50-64	65+	ABC1	C2DE	Dublin	Leinster	Munster	Conn/Ulster	Urban	Rural
UNWTD	988	481	507	110	155	318	228	177	489	446	287	253	281	167	631	357
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Makes 'driving' easier (e.g. parking)	38	40	36	52	45	37	33	26	39	38	35	35	43	38	40	34
Increased mobility for the elderly/disabled	32	33	31	27	37	35	27	31	34	31	34	37	28	27	31	33
Less road deaths and injuries	27	30	24	28	28	32	21	21	31	24	34	23	23	24	31	18
Lower emissions	25	29	20	33	26	28	17	21	29	22	29	23	26	17	26	22
More efficient travel	24	27	20	27	31	25	19	15	28	21	31	21	26	11	26	18
Lower insurance premiums	18	19	17	14	23	19	17	14	21	15	26	11	18	14	20	14
No benefits	3	5	2	-	2	5	4	5	1	4	3	3	4	3	3	5
Other (please below)	2	2	2	-	1	3	2	3	3	1	0	3	3	1	1	4
Don't know	23	19	27	17	22	17	27	32	18	25	19	21	21	35	20	28

All age groups more likely to associate autonomous cars with the benefit of easier driving than less road deaths and injuries.

Q.7A What do you think is the **main** benefit of self-driving cars?
 Q.7B Any others?

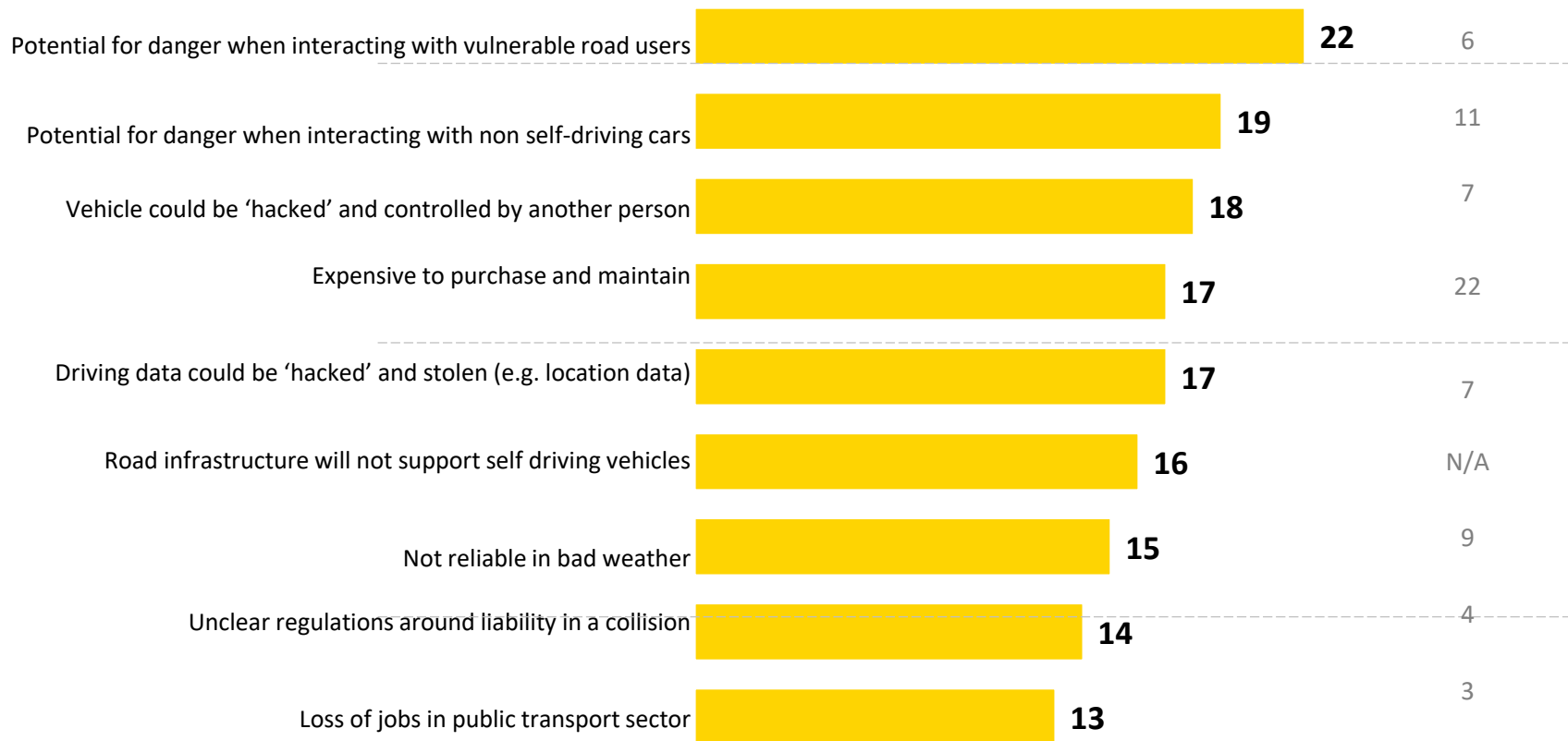
Main concern of self-driving cars

Base: All adults aged 16+ n=988



2018
%

Main concern %



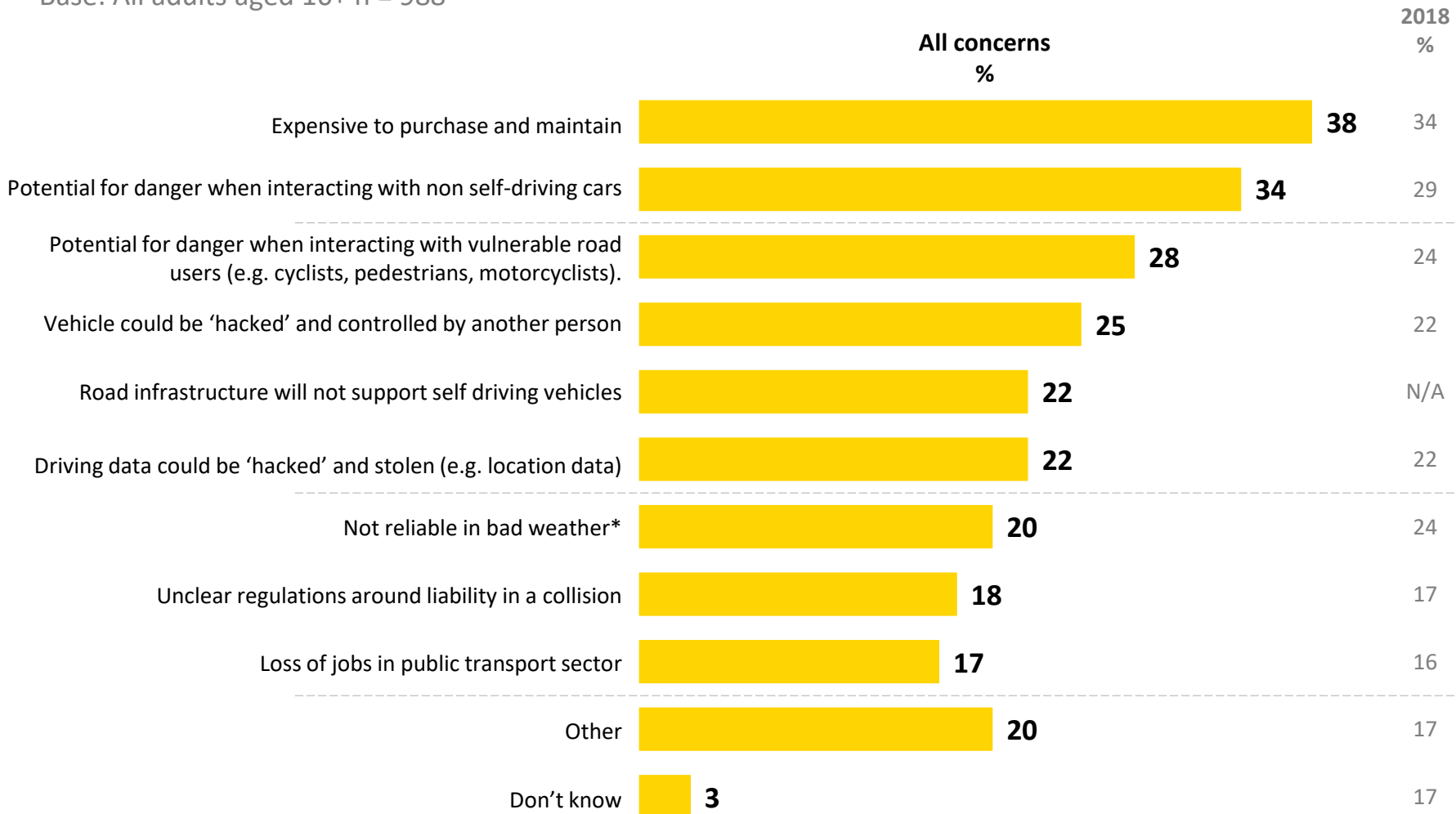
All the volunteered 'main' concerns with self driving cars have risen in 2019.

? Q.8A What do you think is the main concern around self-driving cars?

* Statement rephrased in 2019

All concerns with self-driving cars

Base: All adults aged 16+ n = 988



Seven of the concerns with self-driving cars are nominated by at least 20% of adults.



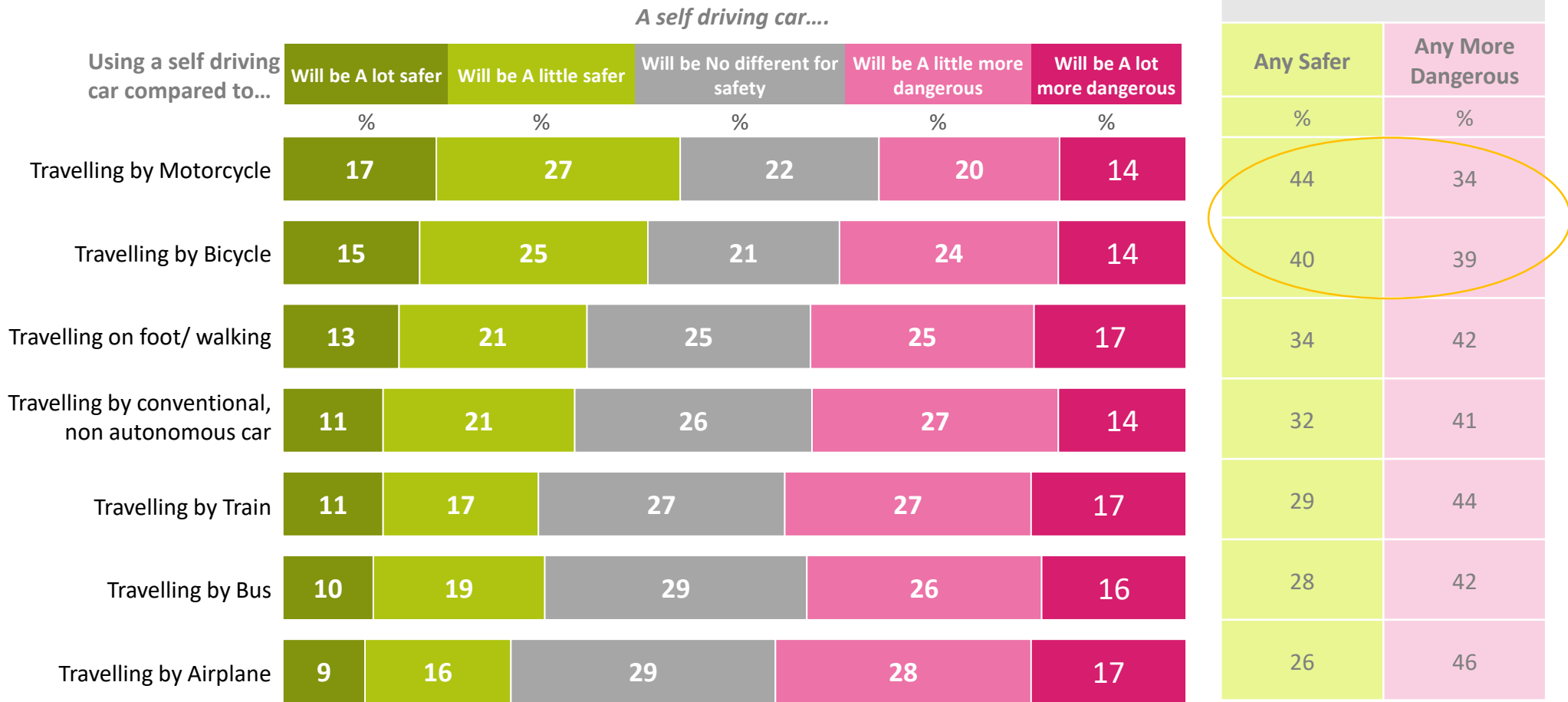
? Q.8B TOTAL CONCERNS (incl Q8a) - Concerns around self-driving cars?

* Statement rephrased in 2019

Expected safety of self driving cars relative to other travel options



Base: All car drivers n = 753

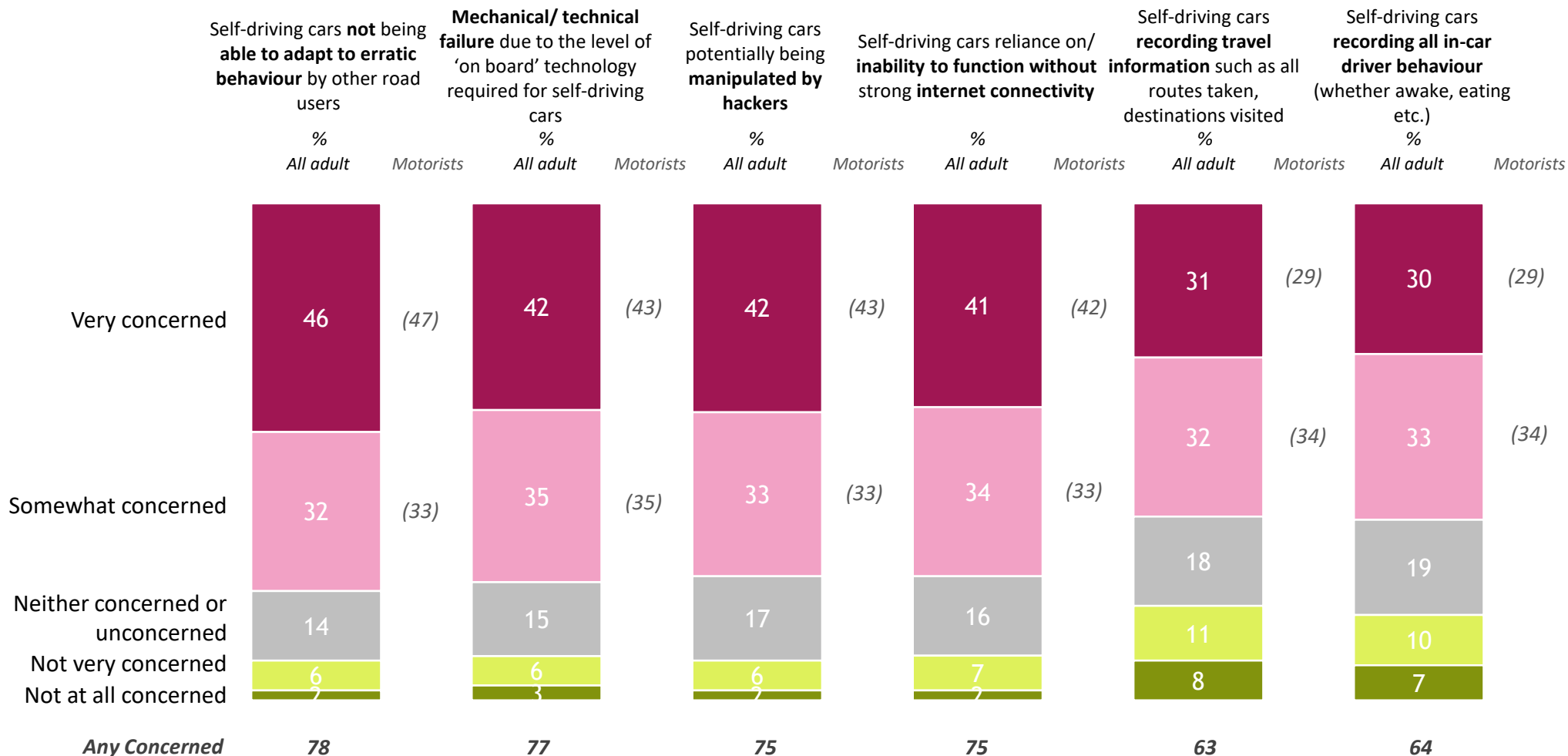


On balance, motorists expect self driving cars only to be safer than motorcycles & bicycles.

Q.12 How safe do you expect using a self-driving car will be compared to the following travel options?

Prompted concerns with self driving cars

Base: All adults aged 16+ N = 988



All the concerns are given considerable prominence at a national level.

Q.13 To what extent are you concerned about the following matters relating to self-driving cars?

Prompted concerns with self driving cars

Base: All adults aged 16+ N = 988

Very Concerned	Total	Gender		Age			Social Class			Region				Area	
		Male	Female	-34	35-49	50+	ABC1	C2DE	F	Dublin	Leinster	Munster	Conn/Ulster	Urban	Rural
<i>Base</i>	988	481	507	265	318	405	489	446	53	287	253	281	167	631	357
	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
Self-driving cars not being able to adapt to erratic behaviour by other road users	42	41	44	38	43	45	40	42	62	31	47	44	51	38	51
Mechanical/ technical failure due to the level of 'on board' technology required for self-driving cars	41	39	44	34	45	44	40	39	61	30	44	45	49	37	49
Self-driving cars potentially being manipulated by hackers	46	43	48	38	49	49	43	45	71	34	49	47	57	42	53
Self-driving cars reliance on/ inability to function without strong internet connectivity	42	37	46	37	43	45	39	42	59	31	45	45	49	39	48
Self-driving cars recording travel information such as all routes taken, destinations visited	31	27	34	24	30	37	25	34	45	25	30	31	40	29	35
Self-driving cars recording all in-car driver behaviour (whether awake, eating etc.)	30	27	34	21	32	36	26	32	49	25	28	33	38	27	37

All the concerns peak among older motorists

Q.13 To what extent are you concerned about the following matters relating to self-driving cars? ...



Summary & Conclusions



Summary & Conclusions

- Very similar to the levels in 2018, 74% of Irish adults are aware of the concept of 'self-driving' cars; rising to 79% of motorists;
- 35% of Irish motorists think self-driving cars will be on Irish roads in 10 years or less; 35% of Irish motorists also indicate their current car has any of the listed self-driving features.
- The positive perceptions around self-driving cars have declined somewhat in 2019:
 - ❖ That 'self-driving cars are a good idea' has reduced in 2019 to 37% of all adults. The year on year decline is especially evident in relation to 'strongly agree'.
 - ❖ Public trust in self driving cars' ability to safely transport people has reduced to 29% in 2019. Levels of 'trust' vary particularly in & outside of Dublin and across urban and rural areas.
 - ❖ Only 29% of adults currently agree that self-driving cars will constitute an improvement in safety from 'cars currently on the road' – again a more negative sentiment ex Dublin and in rural areas.
 - ❖ Top level interest in owning a self-driving car has also declined in 2019 with only 8% of Irish adults and motorists indicating the highest level of interest.



Summary & Conclusions

- The 'main' benefits associated with self-driving cars are rather broad and undefined (27% don't know); 13% spontaneously volunteer 'less road deaths and injuries'.
- All the volunteered 'main' concerns with self-driving cars have risen in 2019. Seven of the concerns are nominated by at least 20% of adults; outside of expense, the chief concerns relate to the potential for danger when interacting with non-self-driving cars and vulnerable road users.
- On balance, self-driving cars are only currently predicted to be safer than travelling by motorcycles and bicycles.
- A selection of prompted concerns are all given prominence at a national level with concern peaking in relation to 'Self-driving cars not being able to adapt to erratic behaviour by other road users.'



Thank you.



RESEARCH
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Delve Deeper