



# TyreSafe

## **SAFE TYRES** SAVE LIVES

*Tyres as a causal factor in incidents*





**Stuart Lovatt**

Chair



**Mike Bourne**

Operations Director

# About TyreSafe

TyreSafe is a UK road safety charity dedicated to raising awareness of the dangers of illegal and poorly maintained tyres.

Established in 2006, TyreSafe is the UK's **only** consumer-facing tyre safety organisation.

TyreSafe receives support from vehicle manufacturers, equipment suppliers as well as most major tyre manufacturers, retailers and wholesalers.



## Our Charitable Purpose

Our Objective is to support a zero-harm approach to road safety to reduce the number of incidents on our roads as a result of illegal or unroadworthy tyres by empowering road users and partners with the knowledge and resources to bring about a change in tyre safety behaviour.



## Our Vision

Zero harm to road users on the UK's roads due to illegal and poorly maintained tyres.



## Our Mission

Empower road users with **tyre safety knowledge** to reduce incidents relating to illegal and poorly maintained tyres.



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Our Mission

Empowering road users with tyre safety knowledge to reduce incidents relating to illegal and poorly maintained tyres

Our Goals

- 1) Tyre defects included in the NPCC Roads Policing Strategy
- 2) A UK-wide *THINK!* campaign promoting tyre safety
- 3) An NDORS specific diversion scheme
- 4) Inclusion in Governments forthcoming Road Safety Strategy

Our Strategy

Research and Data Collection

Compile existing data

Conduct our own research

Evidence based

Cost-benefit analysis

Evaluation

Communication

Develop Clear Messaging

Public awareness campaigns

Social Media & Website Development

In Person Events

Evaluation

Advocacy

Engage with stakeholders

Partner with road safety organisations

Leverage industry Support

Committees & Boards

Evaluation



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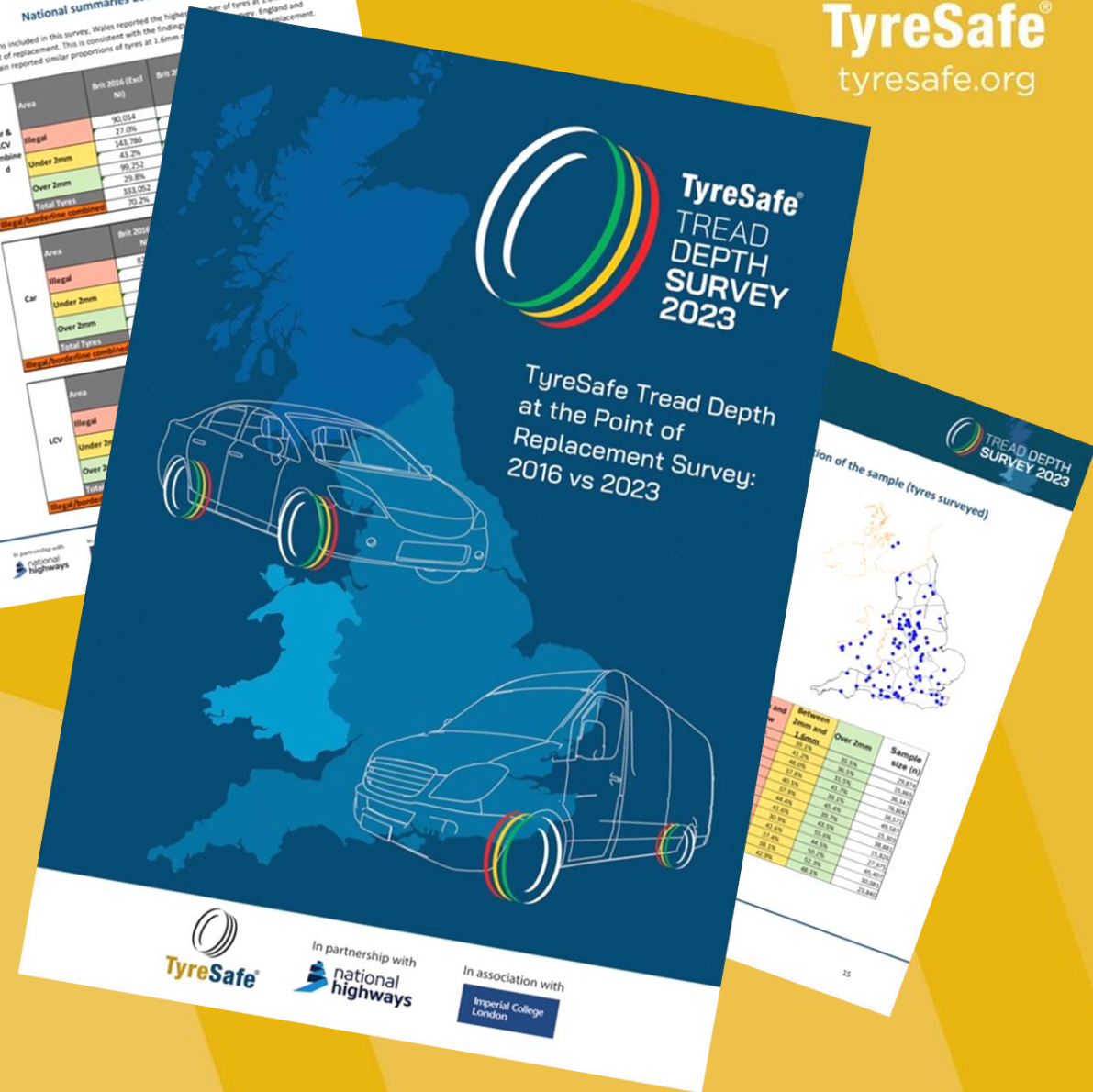
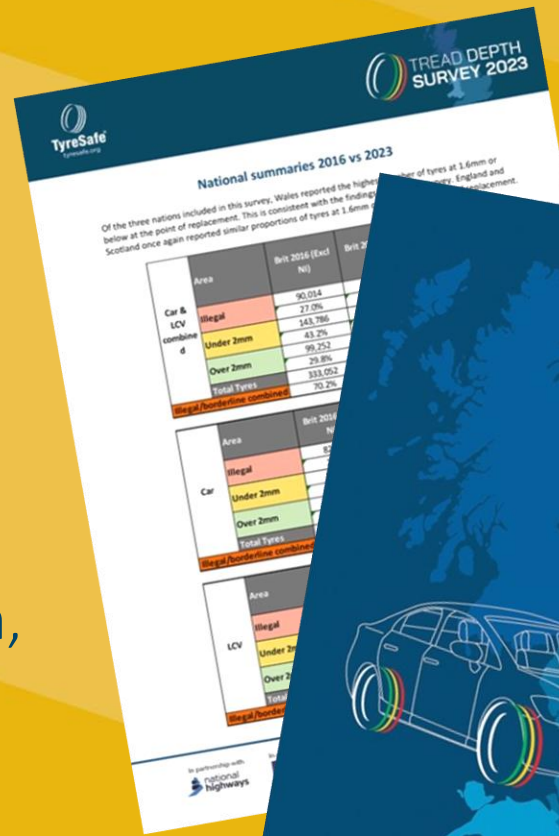
# Gaining gravitas and visibility

We have a seat at the tables  
that influence road safety  
decision making.



# What we do – Research & Studies

Support and challenge existing research, whilst conducting our own high quality, primary research to qualify our case for action and frame our goals.

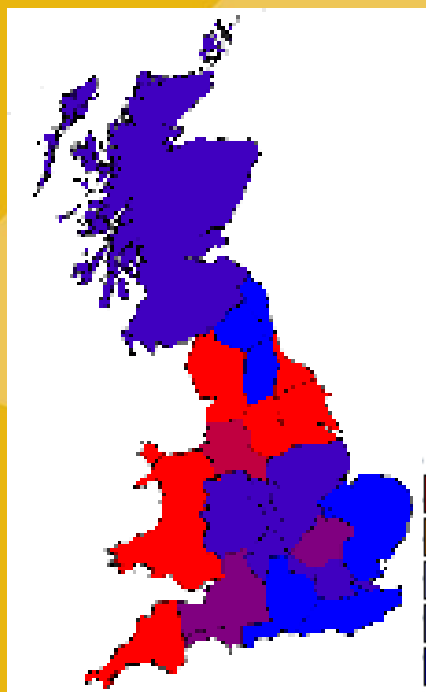


# TyreSafe tread depth survey at the point of replacement 2023

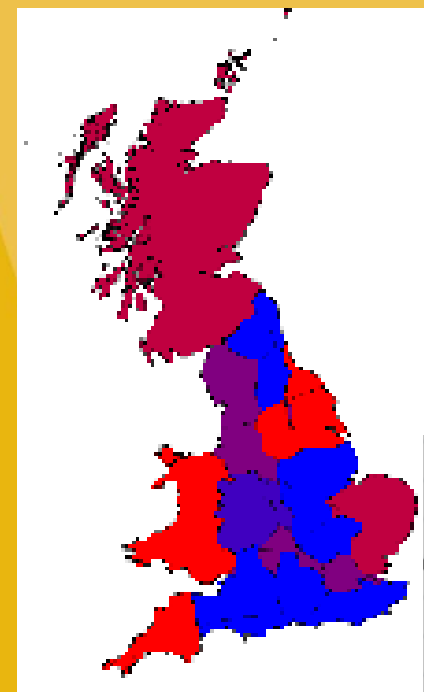
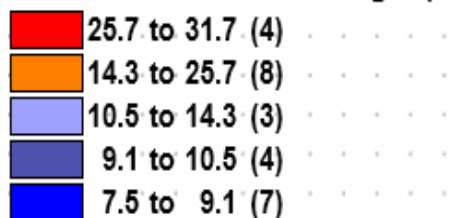
TyreSafe tread depth survey at the point of replacement 2023 results							
Country	Cars and Vans on the road	Total tyres (4 per vehicle)	% of Illegal at replacement	Illegal tyres replaced annually	Illegal tyres replaced daily	Sample size (tyres)	Sample size as a percentage of car parc
England	31,205,200	124,820,800	16.7	5,211,268	14,277	466,363	1.49%
Wales	1,854,600	7,418,400	21.48	398,368	1,091	47,852	2.58%
Scotland	2,879,100	11,516,400	16.41	472,460	1,294	35,343	1.23%
<b>Britain</b>	<b>35,938,900</b>	<b>143,755,600</b>	<b>17.1</b>	<b>6,145,552</b>	<b>16,837</b>	<b>549,558</b>	<b>1.53%</b>



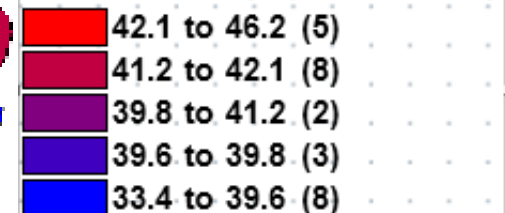
6 million+ = 1 in 5 illegal tyres on Britain's roads every year



Network: Cars+Vans Illegal (%)



Cars + Vans (% , borderline)

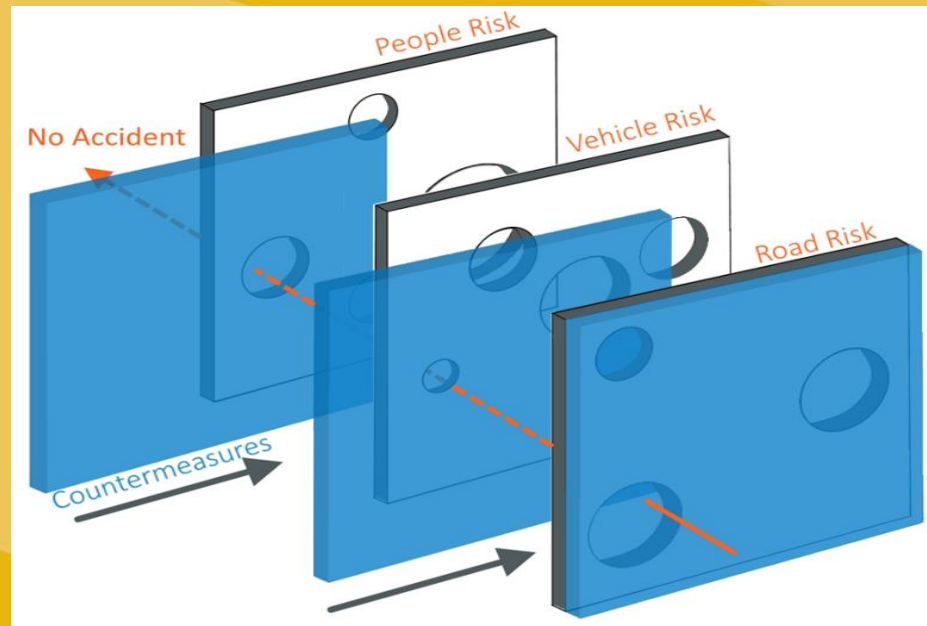




# FATAL COLLISIONS ON THE SRN (National Highways)

973 fatal collisions (1954 vehicles and 2630 occupants)

- 159 vehicles had a mechanical defect
- 80 of them were deemed to be tyre defects
- 38 instances where tyre defects were the cause:
  - 3.9% of the fatal collisions



## Top 3 'Vehicle' Causation Factors

**Defective tyres**

**Defective brake system**

**Defective suspension**

# OUR PARTNERS

Imperial College  
London



Those vehicles involved in incidents of whatever severity (not impounded or confiscated)

81 vehicles inspected -  
Only 15 had no tyre defects



- Faults identified on 56% of tyres (varying severity)
- Nearly 10% likely to have been part worns
- Oldest tyre made in 42<sup>nd</sup> week of 1981 (41 years)

# Case for Action

**75% of tyre defects  
were due to lack of  
maintenance**

in FATAL incidents where car tyres  
were a causal factor and 61% in all  
other vehicles

Source: National Highways Fatals database (2014 to 2022), verified by Transport Research Laboratory (1,954 vehicles examined by forensic investigators)



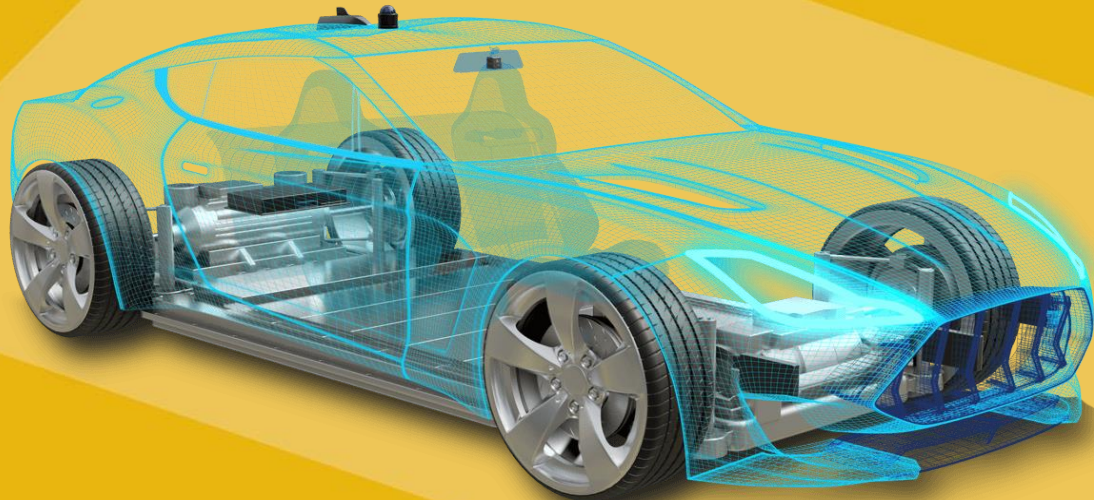
# The future Remains human TYRE checks

EVs, Connectivity, ADAS, automation

Great tech **BUT...**

Acceleration, Braking and Steering  
inputs are transferred to the road

**VIA THE TYRES**



Intelligent tyres are on the way but for many years to come, all vehicles will need tyres checked by a human



# We continue to build our evidence base.

## Snowdonia crash

Post-mortem examinations revealed none of the teenagers had significant external or internal injuries and they had died as a result of drowning.

Ian Thompson, a collisions investigator at North Wales police, said Morris's driving was "significant" and the accident was "avoidable". He said the car had had "no catastrophic mechanical failures", but both rear tyres had only half the required extra pressure for carrying four people.

Thompson told the court that although the speed limit on the road was 60mph, the critical speed for the bend was 38mph.

"The vehicle has come into the bend a little bit too quickly and has understeered," he said.

# The ideal

All are working at their optimum for the best grip performance from that tyre on that vehicle

These considerations are key criteria in the selection of a vehicle manufacturer's selection of tyre size and air pressure settings in relation to vehicle load

These settings are critical to the vehicle manufacturer as all optimal official performance, emissions and economy figures for that vehicle are ultimately determined by its tyres



New tyres can disperse up to 30 litres of water a second at 49 miles per hour or 80 kilometres per hour.

## Low tread depth? Low braking performance!

Safe driving in wet weather conditions is affected by the tread depth, the pattern design and the rubber compound of the tread of your tyres. On wet roads braking performance will progressively decline and aquaplaning will increase with lower tread depths.

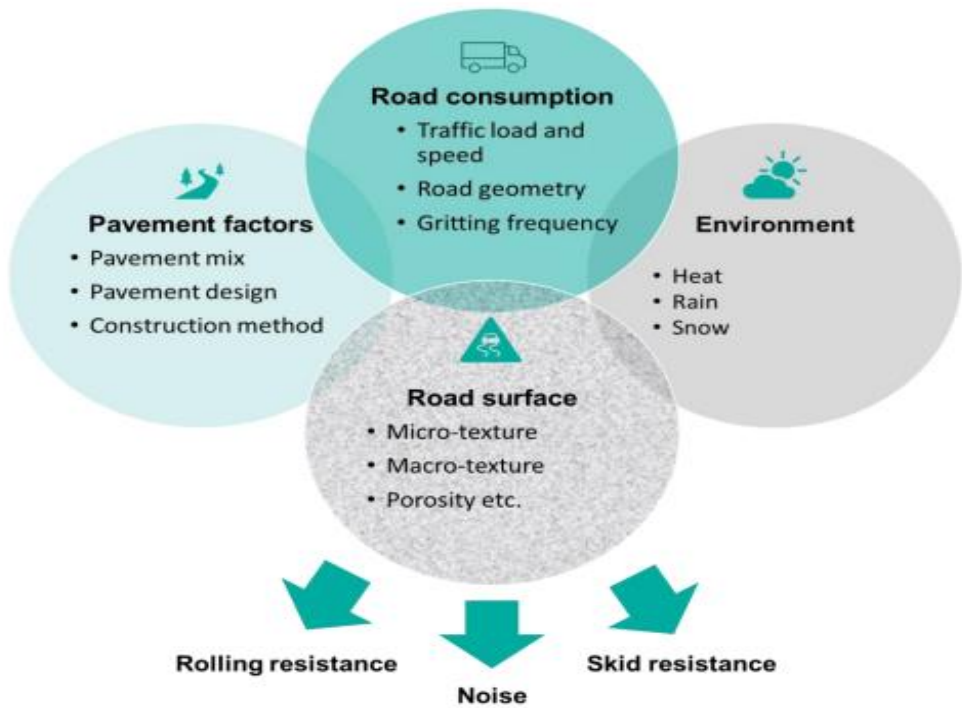
### Comparison of braking distances: Summer tire under wet conditions at summer temperatures\*



**Continental recommends:**

1. Check your tyres regularly
2. Reduce your speed on wet roads
3. Consider replacing your tyres in good time

\*Tested by Continental Reifen Deutschland GmbH at the test location Contidrom (status: September 2020). Test conditions: 225/45 R 17, PremiumContact™ 6, wet road, from 80 km/h to 0 km/h, temperature 19,8 - 25,6° C, VW Golf 7 1.4 TSI. The graphics shown here are for illustration purposes only. The braking distance of a vehicle depends on its type, its age, the brakes and the tyres used, as well as the road surface. The full test report is available at [www.continental-tyres.com/car/tyres/test-report-wet-braking-summer](http://www.continental-tyres.com/car/tyres/test-report-wet-braking-summer) (Source: Continental Reifen Deutschland GmbH)



Impact of multiple parameters on road surface characteristics and subsequent a tyre's performance

Testing by Michelin shows the difference between premium and budget tyres.

Stopping distance at 50mph can be as much as 78 feet between new and worn.



# ALL SEASON VS SUMMER



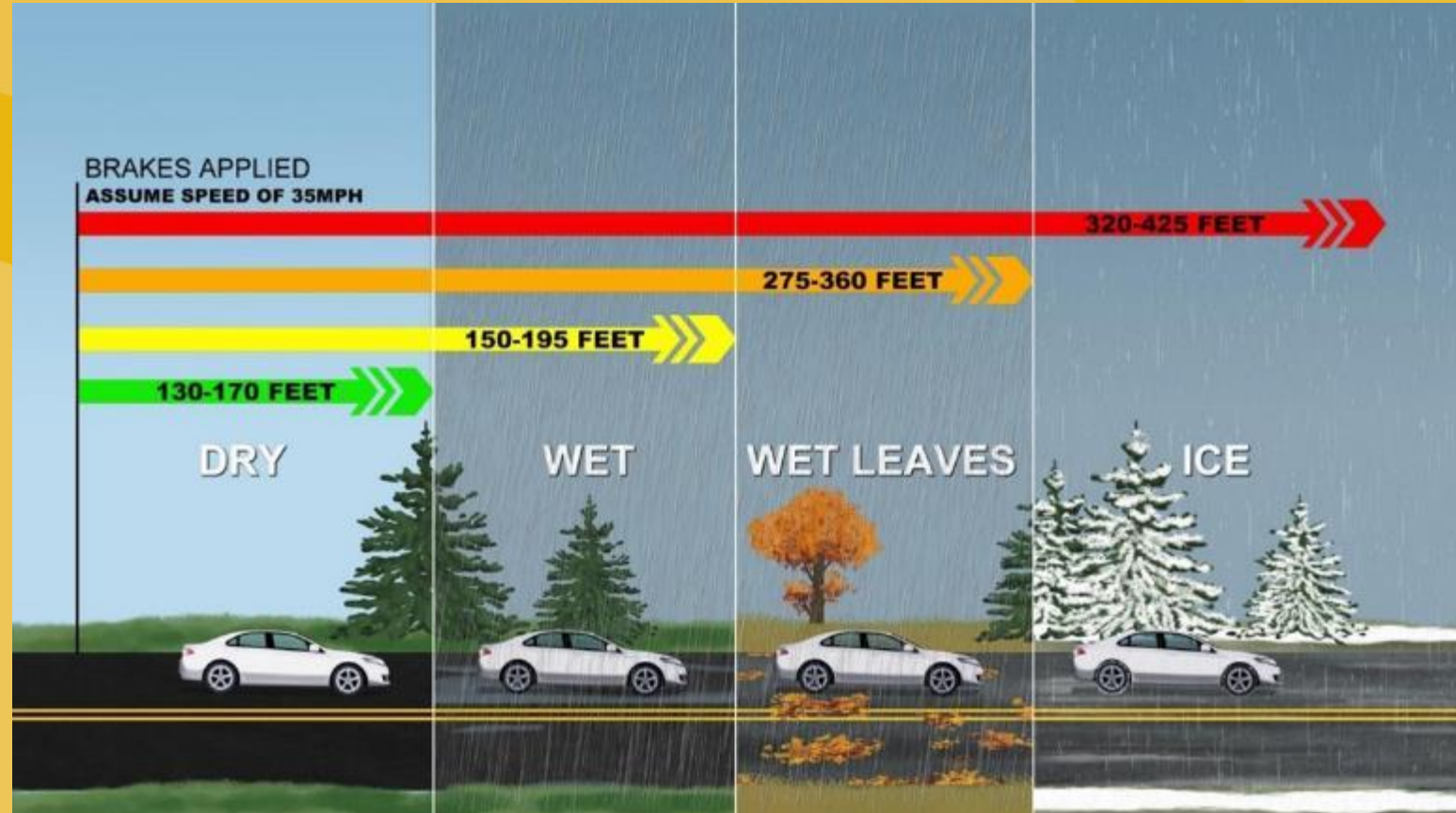
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# The future Remains human TYRE checks

- Optimal performance for accelerating, braking and cornering depend on optimal tyre performance
- Humans (hopefully) adjust to conditions automatically
- Autonomous vehicles will need tyre status in real time to adjust to conditions



# Case for Action

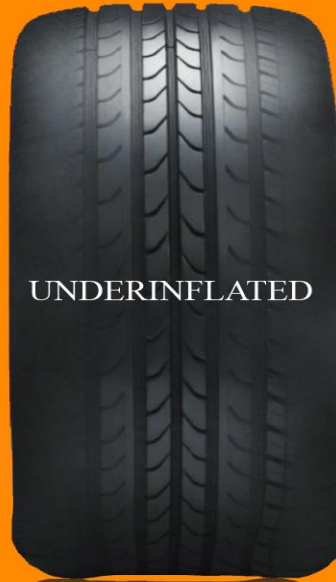
  
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OVERINFLATED



CORRECT



UNDERINFLATED



# Case for Action

# Over 6 million

tyres in the UK have illegal tread each year, which could lead to a fine of up to £2,500 per tyre and 3 penalty points.

Source: TyreSafe 2023 Tread Depth Survey



# Case for Action

## 73% of don't check their tyres

29% wait until their MOT

35% never think to check  
their tyres

Source: Bridgestone - Research carried out online by Research Without Barriers (January 2024) comprising 2,000 UK car owners



# Case for Action

**25% of cars checked had one or more dangerous tyres**



Less than 2mm tread or damage (a defect, cracking, bulge) or over 10 years old



# Case for Action

# 620,000 tyre-related faults

Attended by The AA in 2023



# Case for Action

## 28% of tyre replacements in the UK

linked to potholes and  
poor road surfaces

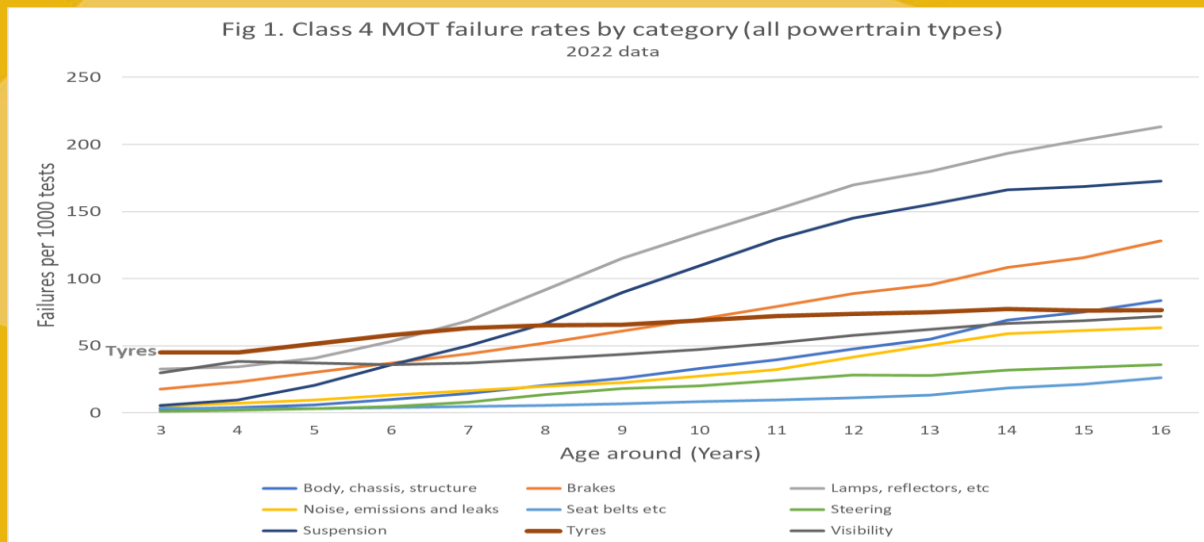


# Case for Action

## Over 2 million MOT failures

occur each year due to tyre defects, with one million classified as dangerous.

Tyres are the primary cause of MOT failures in the first seven years of a vehicle's life.<sup>2</sup>



## 190 people were killed or seriously injured

in incidents related to defective tyres in 2023.

An INCREASE of 29% on 2022 and the highest number of casualties since 2018.

Shockingly, this figure is also on par with mobile phone-related incidents.



# Case for Action

# 6,316 convictions

for defective tyres in 2023

5 year average 6,502



# Case for Action

## 1 in 5 vehicle breakdowns

on motorways and A roads result from tyre defects.

This equates to roughly 51,500 breakdowns each year on the motorway network alone.



# Delivering campaigns for 19 years



TyreSafe®  
tyresafe.org

Experts in campaign development

your tyres don't stop you...  
**what will?**

TyreSafe Presents  
**THE GOOD THE BAD AND THE UNDER INFLATED**

**65%**  
of UK drivers need to check their tyre treads more often

who's talking?

**DON'T CHANCE IT CHECK IT**

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**HAVING A GOOD OR BAD AIR DAY?**

**GET INTO THE GROOV**

**Sarah** saves money by regularly checking her tyre to improve economy, reduce wear and **stay safe**

**TYRE SAFETY CHECKS: What's stopping you?**

Remember to **ACT** Tread

Don't be like Dan...  
be like Sarah...  
**Be safe and save**



## PART WORN TYRES HIDDEN DANGERS

### SALE OF PART WORN TYRES

**94%** of inspected vehicles were found with part worn tyres

Part worn dealers investigated: 261

**15** KILLED FROM DEFECTIVE TYRES

Over **63%** of part worn tyres inspected by TyreSafe were unsafe to return to the road

**22%** The number of non-compliant tyres aged **10 years or older**

### A FALSE ECONOMY

**18%** of tyres aged 10 years or older are part worn

**159** KILLED OR SERIOUSLY INJURED FROM DEFECTIVE TYRES

**£416m** Estimated cost to the economy for the last 5 years from tyre-related incidents

**10 MILLION** ILLEGAL TYRES on Britain's roads every year – potentially

**1 in 4** vehicles could have illegal tyres this year

**15** serious injuries involved in road accidents in the last five years

## TYRE SAFETY the case for action

**15** KILLED FROM DEFECTIVE TYRES

**1 in 5** Drivers

**4,596** total casualties from tyre-related incidents in the last five years

**£416m** Estimated cost to the economy for the last 5 years from tyre-related incidents

**10 MILLION** ILLEGAL TYRES on Britain's roads every year – potentially

**1 in 4** vehicles could have illegal tyres this year

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**SAFE TYRES SAVE LIVES**

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## TREAD DEPTH SURVEY RESULTS

Over **340,000** tyres surveyed at the point of replacement

**WHAT WE CHECKED FOR:**

- Safe
- Borderline
- Illegal

**27.3%** of tyres were illegal = over 10 million illegal tyres

**1 in 4** vehicles could have illegal tyres this year

**15** serious injuries involved in road accidents in the last five years

**SAFE TYRES SAVE LIVES**

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## TYRE SAFETY the case for action

### CONTRIBUTORY FACTORS IN ROAD ACCIDENTS\*

**1,075** Tyre Defects **1,052** Brakes **651** Mobile Phone Use

**5,375** total casualties from tyre-related incidents in the last five years

**£416m** Est. cost to the economy for the last 5 years from tyre-related accidents

**10 million = 1 in 4** 10 MILLION ILLEGAL TYRES on Britain's roads in 2015 – potentially one in every four cars & vans\*\*\*

**15,000+** tyre-related convictions in the past 3 years\*\*\*

**ACT NOW** Check your vehicle's tyres at least once a month and before long journeys

- AIR PRESSURE:** are all tyres at the vehicle manufacturer's recommended pressure?
- CONDITION:** are all tyres free of lumps, bumps, cracks, cuts or embedded objects?
- TREAD DEPTH:** are all tyres above the legal limit of 1.6mm? Use the 20p test to check

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## PART WORN TYRES HIDDEN DANGERS

**968** UK motorists were killed in 2013 in accidents involving defective or under-inflated tyres

**NEW TYRE** 8mm tread depth – no faults

**PART WORN** Unknown tread depth – 1.6mm or less

**34%** of part worn tyres potentially dangerous due to damage or non-compliance

**97%** of part worn tyres are unsafe to return to the road

**Sale of Part Worn Tyres: Investigation**

**98%** Not correctly marked "Part worn"

**4%** Evidence of under-inflation

**4%** Inner liner damaged/open liner splices

**2%** Object still penetrating tyre

**2%** of the tyres investigated had tread grooves clearly visible

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**MAKE A P.A.C.T.**

**1210** In the UK, 1,210 scooters were injured in a tyre related accident during 2010. Some may put themselves at increased risk by buying part worn tyres.

Maximise your enjoyment, performance when riding by making a P.A.C.T. with your tyres

- PERFORMANCE** Including grip, handling will all be improved with the correct tyre choice
- AIR PRESSURE** is checked weekly
- CONDITION** is critical to road safety. Cuts, bulges, uneven wear or objects embedded in the tread
- TREAD DEPTH** is not below the legal limit

**New tyres? Don't put the running-in!**

Check that your tread depth is not below for scooters over 50cc at least 1mm is central three quarters of the tyre with remaining quarter. Scooters under 50cc original tread grooves clearly visible.

- ✓ Allow time to "scrub-in" the tread surface
- ✓ Ride with extra care for the first 100 miles
- ✓ Avoid sudden acceleration, braking and cornering
- ✓ Take extra care on wet or greasy roads
- ✓ After 100 miles, check tyres for correct inflation

**INVESTIGATION FINDINGS**

Fault/non conformity	% of tyres found
Not correctly marked "Part worn"	98
Repair not in accordance with BS AU 159	16
Exposed cords	4
Evidence of running under-inflation	2
Inner liner damage/open liner splices	4
Object still penetrating tyre	2

**BRAKING DISTANCE ON WET ROADS**

Braking on wet roads from 50mph to rest

**NEW TYRE** 8mm tread **25.9m**

**WORN TYRE** 1.6mm tread **31.1m**

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## PART WORN TYRES = PART SAFE

**1210** In the UK, 1,210 scooters were injured in a tyre related accident during 2010. Some may put themselves at increased risk by buying part worn tyres.

**HIDDEN DANGER** Tyresafe's part worn investigation found

- 98%** of damage or non-compliance
- 34%** of damage or non-compliance

**FALSE ECONOMY** Average cost per min of useable tread

**PART WORN TYRE** £6.33 per min

**10%** for every 10% a tyre is underinflated, ITS WEAR CAN INCREASE BY 10%

**20%** below recommended pressures tyres are VERY DANGEROUS to use\*

**DRIVING WITH LOW PRESSURE CAUSES**

- 10% REDUCED TYRE LIFE**
- INCREASED FUEL COSTS**

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## TYRE PRESSURE FACTS

**CORRECT PRESSURE** 100% CONTACT WITH THE ROAD

**UNDER INFLATED** 50% LESS CONTACT WITH THE ROAD

**3% MORE FUEL USED** when pressure is 4 psi below recommended inflation\*

**£600 MILLION** wasted yearly on fuel costs by British drivers driving with underinflated tyres

**56.8%** of car tyres in the UK are at least 4psi below recommended pressures\*\*

**40%** At 40% below recommended pressures tyres are VERY DANGEROUS to use\*

**DRIVING WITH LOW PRESSURE CAUSES**

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- INCREASED FUEL COSTS**

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\* DfT Reported road casualties Great Britain: over past 5 years. \*\* DVSA 2011 to 2014 Inc. \*\*\* Ministry of Justice: 2012 to 2014 Inc. \*\*\*\* Tyresafe survey in partnership with Highways England 2015

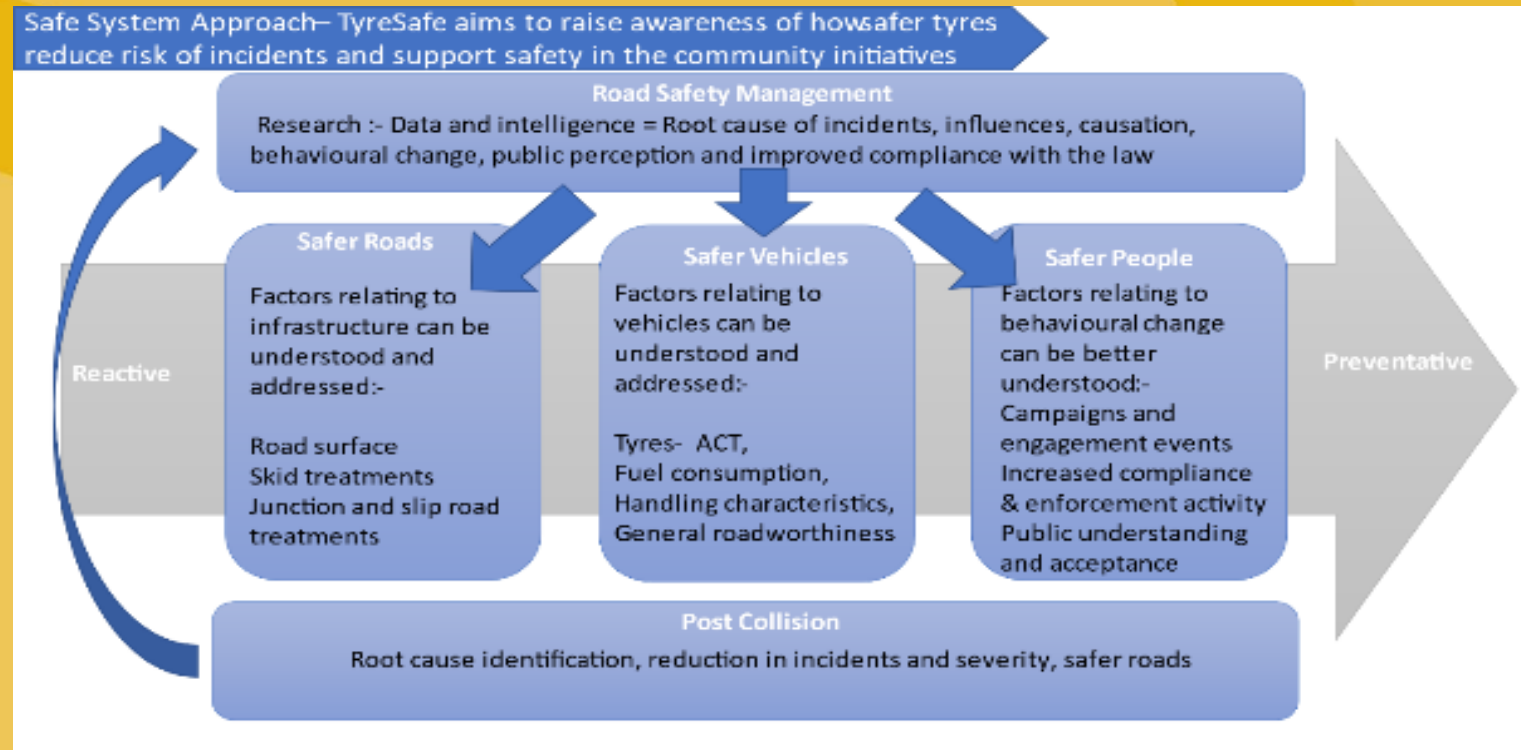
\* Tyre industry agreed figures. \*\* Michelin's Fill Up with Air survey, 8 years cabinet figures. \*\*\* Based on pressure 10% below recommended level, driving 20,000 miles per year.

# In conclusion

We hope that you support our campaign and help us as we advocate for change.

Together we can continue to make the case for action and bring about societal; change across the UK.

We have the facts, the data, the research and the case is integral to the internationally recognised safe system approach.



# #Fatal5th



Home tyres Cumbria



David Baddiel



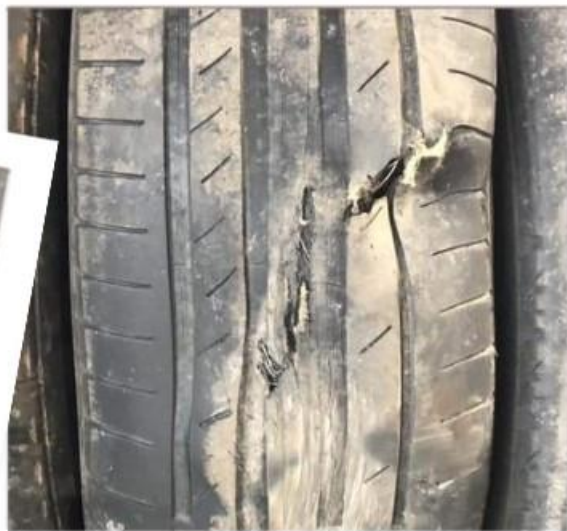
A2B Tyre Shop



Billy Whizz Tyres



Carleton tyre and exhausts



HS autos



Midland tyre solutions



Platinum motors and tyres

# The Law & Responsibilities



# Health and Safety at Work Act 1974



Places a general duty of care on employers to ensure the health, safety, and welfare of their employees and also to protect others\* who may be affected by their undertakings.

\* "others" includes members of the public.

This means that fleet operators, site managers and drivers have a legal obligation to take reasonable steps to prevent harm to anyone who might be affected by their activities.



# Health and Safety at Work Act 1974



**Section 2:** A company's duty of care to ensure **its employees** are not put at risk by work activities

**Section 3:** A company's duty of care to ensure **other people** are not put at risk by work activities

**Section 7:** An **employee's duty of care** to act safely and responsibly so as not to put others at risk

**Section 37: Directors' responsibility** to enact safe working practices

# Road Traffic Act 1988

The RTA creates a number of offences for people who “**use, cause or permit**” a motor vehicle to be on the road with a defect liable for prosecution

- Driver always commits the “**Use**” offence
- “**Cause**” is where some form of authority is in place
- The “**Permit**” offence is committed when somebody knows of the defect and allows its use

# Other Legislation

- Management of Health and Safety at Work Regulations 1999
- Health and Safety Offences Act 2008 plus amendment 1991
- Corporate Manslaughter and Corporate Homicide Act 2007

# Fleet Operators (Managers)

- Vehicle Maintenance and Roadworthiness
- Driver Competence and Training
- Risk Assessment
- Legal Compliance

# Site Managers

- Site Safety
- Traffic Management
- Site Vehicle Maintenance
- Public Protection
- Regulations

# Fleet Operators

## Pre-Journey Checks

Daily walk-around checks

Driver checklist or app

Tyre pressure monitoring systems (TPMS).



# Fleet Operators

## Maintenance and Replacement

Tyre maintenance schedule

Reputable suppliers

Driver training

Tyre Selection



# Fleet Operators

## Driver Training

Driving style

Reporting issues

Driving in construction site conditions





# Site Managers

## Site Conditions

Impact assessment

Site maintenance

High risk areas



# Site Managers

## Vehicle Movement

Vehicle routing

Speed

Turning space



# Site Managers

**Material Management**

Loading

Material movement



# Site Managers

## Site inspections

Inspect roadways

Inspect parking areas.



# Site Managers

**Tyre Cleaning**

Wheel wash

Debris reduction

Visual inspection



# Takeouts

- Joint responsibility
- Effective communication and coordination
- Proper Documentation



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Thank you

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