

***Road Safety: young and novice drivers inquiry***

***Written evidence submitted by Brake, the road safety charity***

**About Brake**

1. Brake is a national charity, founded in 1995, working to deliver safe and healthy mobility for all, and caring for families bereaved and injured in road crashes. Brake promotes safe and healthy mobility, and effective road safety policies by government and its agencies and by leaders in civil society too. We do this through national campaigns, community awareness raising, road risk management advice for employers, and by coordinating the UK's flagship road safety event, Road Safety Week, every November. Brake is also a national, government-funded provider of support to families and individuals devastated by road death and serious injury, including through a helpline and support packs.

**Executive summary**

2. Young and novice drivers are high-risk road users and often overrepresented in collision data. There are many reasons for this, including the rate at which the brain develops amongst young people, overconfidence, inexperience and a tendency to take risks.
3. There are, however, many policies that could be implemented to mitigate these risks including a Graduated Driver Licensing system, which would include a minimum learning period followed by an initial test and a novice period with restrictions, such as on late night driving. Such systems are already in place in other countries and are proven to work.
4. Other policies, such as investment in public transport to make it more affordable and easier to access for young people, so that they don't have to rely on a car, and exploring financial incentives to encourage safer driving through insurance based telematics, could also have a positive impact on young driver safety.
5. Brake welcomes the Transport Committee looking into the safety of young and novice drivers to understand the evidence and how proven solutions can help minimise their safety risk.
6. This response will cover in detail: the current state of young driver safety; why young drivers are at risk including brain development, overconfidence, inexperience and risk taking behaviour; and what can be done to reduce these risks, including a Graduated Driver Licensing system, providing better alternatives to driving, and influencing driving behaviour through technology.

**Current state of young driver safety**

7. Young drivers are disproportionately at risk on the UK's roads. Drivers aged 17-24 make up only 7% of total licence holders<sup>1</sup>, yet represent 21% of all car drivers killed and seriously injured.<sup>2</sup> However, the number of car drivers aged 17-24 years old killed on the roads decreased slightly in

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<sup>1</sup> [March 2019 GB Driving Licence Data](#), DVLA

<sup>2</sup> RAS30011: [Reported killed or seriously injured casualties by gender, road user type and age, Great Britain, 2010 to 2014 average](#), DfT, 2018

2018, to 99, down from 108 in 2017. <sup>3</sup> This represents a continuing decreasing trend, with the number of young car drivers killed in 2018 28% fewer than the 2010-14 average of 138. <sup>4</sup>

8. According to the Government, one in five new drivers are involved in a crash within their first year of driving<sup>5</sup>, yet the only restrictions new drivers currently face are related to endorsements – if a new driver receives six penalty points within two years of passing their test, they will have their licence revoked (for non-novice drivers, the threshold is 12 points). Brake research has found that in 2018, 11,953 new drivers had their licences revoked under the New Drivers Act. Yet, interestingly no such restriction applies for provisional licence holders despite, as of April 2019, 66,575 provisional licence holders holding penalty points on their licence with 42,883 of these holding six or more points, but still able to drive on the roads.

### **Why are young drivers at risk?**

9. There are several reasons why young drivers are at increased risk on the roads. They predominantly stem from young drivers often underestimating how challenging it is to drive – and overestimating their own ability to react in dangerous situations. As a result, young drivers are more likely to take risks and engage in dangerous driving behaviours, such as speeding. In this section we will explore how brain development, overconfidence, inexperience and risk-taking behaviour lead to young drivers being most at risk.

#### ***Brain development***

10. A notable, but perhaps surprising, explanation for the high-risk facing young drivers is related to the issue of brain development. Although the brain has mostly stopped growing by the end of the teenage years, it continues to go through a period of extensive remodelling for several more years. This strengthens connections between nerve cells and enables information to be processed more efficiently. Stronger links develop between different regions of the brain, enabling memories and experience to be linked to decision-making. <sup>6</sup>
11. Late teens to early twenties is a critical period for the development of the pre-frontal cortex (part of the frontal lobe). This area of the brain plays an important role in regulating impulsive behaviour, emotional arousal and the ability to anticipate the consequences of behaviour. The pre-frontal cortex doesn't reach full maturity until we are in our mid-twenties, or even later.
12. Meanwhile, the limbic region, which is associated with emotional responses, is over-active between the ages of 15 and 24. Increased limbic activity means that, at this age, young people are more likely to be influenced by their peers, more likely to be influenced by rewards, and more likely to indulge in thrill-seeking behaviour.

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<sup>3</sup> [Reported road casualties in Great Britain: main results 2018](#), DfT

<sup>4</sup> [RAS40006: Long term trends and summary statistics](#), Great Britain, DfT, 2017

<sup>5</sup> <https://www.gov.uk/government/news/government-looks-at-steps-to-make-new-drivers-safer>

<sup>6</sup> Griffin, A. (2017) Adolescent Neurological Development and Implications for Health and Well-Being. *Healthcare* 5, 62.10.3390/healthcare5040062

13. In driving terms, the development that takes place in the brain between adolescence and early adulthood can be likened to having an over-active accelerator (limbic region) and under-active brakes (pre-frontal cortex).

### ***Overconfidence***

14. Many young people feel overly confident that they have mastered all aspects of driving as soon as they have passed their test. Between the ages of 17 and 24, young people are more likely to engage in sensation-seeking behaviour, overestimate their driving ability and lack the skills necessary to perceive and react to dangerous situations.<sup>7</sup>
15. Overconfidence can lead to dangerous driving behaviours, such as overtaking, speeding, tailgating (driving too close to the vehicle in front), harsh braking and racing.
16. In a survey of teenage drivers in several US states, nearly 95% of respondents said that they considered themselves to be good drivers, yet when asked about their peers, only 42% said they thought their friends were good drivers.<sup>8</sup>
17. Being a good driver relies on constantly developing skills such as hazard perception. Research shows that many young drivers experience difficulties with skills such as paying attention, visual awareness, hazard recognition and avoidance, and are less able to judge appropriate speed for circumstances.<sup>9</sup>

### ***Inexperience***

18. Inexperience plays a part in young drivers being more at risk on the roads, particularly when it comes to the assessment of hazards on the road ahead. Although some hazards on the road are easy to identify, there are some situations where hazards are not immediately obvious. It often takes experience to notice these hidden hazards, so inexperienced young drivers may not notice them and react in time. Research has shown young drivers show poorer attention, visual awareness, hazard recognition and avoidance, and are less able to judge appropriate speed for circumstances.<sup>10</sup>
19. Driving requires constantly balancing the attention needed for practical tasks such as steering and changing gears, and more cognitively demanding tasks such as hazard identification.<sup>11</sup> Because of their inexperience, young drivers need to concentrate more on practical tasks, so are slower to switch between tasks and slower to react to hazards, making them more at risk on the roads.<sup>12</sup>

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<sup>7</sup> Young Drivers: The road to safety, International Transport Forum & OECD, 2006

<sup>8</sup> Study conducted by Lookin' Out, a safe teen driving program sponsored by Erie Insurance

<sup>9</sup> Young novice drivers: careless or clueless? Accident Analysis and Prevention, 2003

<sup>10</sup> Ibid

<sup>11</sup> Driver control theory: from task difficulty homeostasis to risk allostasis. In Porter, B. (Ed.), Handbook of Traffic Psychology, 2011

<sup>12</sup> [Young driver characteristics and capabilities](#), Federal Highway Administration, 2001

### ***Risk taking behaviour***

20. Young people are also at risk on the roads because they are more likely to undertake risky behaviour when behind the wheel, such as speeding or using their mobile phone, than other age groups. This is believed to be because the frontal lobe, the part of the brain that helps control impulses and emotions and assesses risk, is not fully developed until your mid-20s, as discussed previously.

### ***Speed***

21. Speed, excessive or inappropriate, is often a key contributory factor in crashes involving young drivers. Young people often drive too fast because they underestimate the risks associated with speeding, and crashes occur because they do not have enough time to react to a dangerous situation and control their vehicle to avoid a collision. Excessive or inappropriate speed is known to be a factor in many road crashes, with these listed as a contributory factor in 19% of fatal crashes on UK roads in 2017.<sup>13</sup>

### ***Mobile phones***

22. Use of mobile phones behind the wheel are another reason why young drivers face increased risk on the roads. Research by Go Compare found that 58% of 18-24 year old drivers admitted to using their phone behind the wheel despite knowing this is illegal, compared to just 34% of all drivers admitting to using their phone behind the wheel.<sup>14</sup>
23. The reason this poses such as risk is the distraction caused by the mobile phone, which diverts attention away from the road ahead. Any phone call taken at the wheel can cause a distraction, and hands-free calls cause similar levels of distraction to hand-held calls – it is the call itself that causes the distraction, not holding the phone. Studies have confirmed that drivers speaking on a hands-free device experience ‘visual tunnelling’ that limits their field of vision, placing themselves and other road users at risk.<sup>15</sup> Research has also shown that it can take drivers about 30 seconds to regain full attention after interacting with an information system such as a phone or other device.<sup>16</sup>
24. For younger people, mobile phones can be an integral part of their daily lives, posing a problem when it comes to young drivers and distraction. A report published by Ofcom in 2018, found that smartphone owners cannot go 12 minutes without checking their phones, which is potentially a serious issue if this behaviour is continued when driving.<sup>17</sup>

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<sup>13</sup> [RAS50001: Contributory factors: reported accidents by severity](#), Great Britain, DfT, 2018

<sup>14</sup> <https://press.gocompare.com/news/58-percent-of-young-drivers-using-mobile-phones-behind-the-wheel>

<sup>15</sup> Hole, G., et al., Imagery-inducing distraction leads to cognitive tunnelling and deteriorated driving performance, the University of Sussex, 2016

<sup>16</sup> Measuring cognitive distraction in the automobile III, University of Utah, for AAA Foundation for traffic safety, 2015

<sup>17</sup> [The Communications Market 2018: Report](#), Ofcom, 2018

### What can be done to reduce the risks?

25. Young newly qualified drivers pose a very serious road safety risk for the reasons set out previously but there are policy solutions which already exist that can mitigate some of these factors.

#### ***Graduated Driver Licensing***

26. The introduction of Graduated Driver Licensing (GDL) is one possible solution to tackle the tragedy of young driver death and serious injury, by overcoming many of the risk factors explained previously. GDL delivers a phased approach to driving which builds experience and competence to help minimise risk.

27. Various versions of GDL are in place around the world, including in the USA, New Zealand and Australia. The evidence from these shows that it is effective in reducing young driver crashes.

- Following the introduction of GDL in New Zealand, car crash injuries reduced by 23% for 15-19 year-olds and 12% for 20-24 year olds.<sup>18</sup>
- 16 year-old drivers in the US who are subject to GDL have 37% fewer crashes per year, and 17% fewer crashes per mile driven.<sup>19</sup>

28. In Britain, a Government report authored by the Transport Research Laboratory (TRL) concluded that a GDL system would be effective and have indisputable benefits to public health. The report also estimated that the implication of a GDL system could prevent up to almost 9,000 casualties and save almost £450 million in Great Britain.<sup>20</sup>

29. As mentioned previously, many different versions of GDL exist around the world and Brake advocate that any GDL system adopted in Great Britain should include a 12-month learner period, an initial test, and then a probationary period when drivers can drive independently but with restrictions – such as a late-night driving curfew or restrictions on the age of their passengers.

30. There has been some criticism of certain elements of GDL, particularly a late-night driving curfew and restrictions on the age of passengers. However, the evidence from the TRL report is clear that restrictions on driving at identified high-risk times, such as at night, and with other young people in the car are fundamental to an effective GDL system. The TRL report found that “The key components in the intermediate stage that add to effectiveness are restrictions on solo night-time driving for all novice drivers, and restrictions on the carrying of passengers aged under 30 years old for novice drivers under 30 years old.”<sup>21</sup>

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<sup>18</sup> [Graduated Driver Licensing—A Review of Some of the Current Systems](#), Transport Research Laboratory, 2001

<sup>19</sup> [The association of graduated driver licensing with miles driven and fatal crash rates per miles driven among adolescents](#), West Virginia University, 2014

<sup>20</sup> [Department for Transport: TRL Research Findings, Novice drivers: Evidence review and Evaluation Pre-driver training](#), Graduated Driver Licensing (2013)

<sup>21</sup> Ibid

31. Similarly, concerns are often raised about the effectiveness of a GDL system in rural communities and its potential impact on young people driving to and from work, for example. However, research has shown that while public transport provision in rural areas is less available, the impact of the introduction of GDL is often overstated. Again, the TRL report notes that “The most significant evidence that appears to contradict commonly-cited concerns, the impact on youth mobility and employment, is that other countries have been able to introduce and maintain GDL systems and achieve significant casualty savings, without any reporting major impacts on travel or youth employment. Approval ratings for GDL are often found to increase after implementation and many states in the USA and Australia have subsequently reviewed and strengthened their GDL systems since they were first introduced.” Furthermore, TRL find that the research suggests that “... parents and young drivers in rural areas adapt to the restriction that GDL places upon them, presumably because they support the basic tenet of the legislation, to protect and save lives.”<sup>22</sup>
32. The adoption of such a system would provide new drivers with the skills and experience needed to drive safely on the roads. Full details of the system that Brake would like to see implemented can be found in the appendix at the end of this document.

#### ***Other forms of road user training***

33. Encouraging young people to undertake other forms of training, such as Bikeability Level 3, either as part of a GDL system or discounting insurance premiums for young drivers with additional training could also potentially reduce the risks.
34. Research shows that ‘cyclist-motorists’ are likely to have fewer collisions with cyclists, and detect them at greater distance in all situations, irrespective of cyclist visibility.<sup>23</sup> It also suggests that cycling experience is associated with ‘more efficient attentional processing for road scenes.’<sup>24</sup>
35. The more drivers there are with cycling experience, therefore, the safer road conditions are likely to become for all road users and in particular cyclists because their behaviour will be less of a mystery, and drivers will be in a better position to understand how to protect them.
36. For young drivers especially, it is a good way of helping them appreciate vulnerability and the consequences of their actions and encouraging responsible rather than reckless driving and sensation-seeking as a ‘social norm’.

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<sup>22</sup> Ibid

<sup>23</sup> Rogé, Joceline (et al.). Mechanisms underlying cognitive conspicuity in the detection of cyclists by car drivers. Published in Accident Analysis & Prevention. July 2017

<https://www.sciencedirect.com/science/article/abs/pii/S0001457517301343#!>

<sup>24</sup> 6 Beanland, V (et al.). Do cyclists make better drivers? Associations between cycling experience and change detection in road scenes. Published in Accident Analysis & Prevention. Sep 2017.

[www.sciencedirect.com/science/article/abs/pii/S000145751730249X](http://www.sciencedirect.com/science/article/abs/pii/S000145751730249X)

### ***Provide better alternatives to driving***

37. Encouraging young people to delay or avoid learning to drive can have an impact on road safety and reduce the risk they pose on the roads. This is because young people's propensity for risk-taking, due to the late development of the brain's frontal lobe, means the younger you are when you get a driving licence the greater the risk you pose. A UK study predicted that young people would have 9% fewer crashes in their first year of driving if they delayed learning to drive until 18 years old rather than 17, and a further 8% fewer if they delayed until 19 years old.<sup>25</sup>
38. Many young people learn to drive as soon as possible because they feel they have little other option for getting around. A Brake and Direct Line survey found almost half of drivers (48%), and three in ten young people (28%), think public transport is not good enough to provide a realistic alternative to driving in their area.<sup>26</sup> Brake believes improving access to and affordability of public transport, and walking and cycling routes to workplaces and colleges, should be a priority for central government and local authorities, providing a viable alternative to driving and thus reducing the risk posed by young drivers.

### ***Influence behaviour through technology***

39. Another potential way of reducing the risks posed by young drivers is the use of technology to influence their driving behaviour, specifically telematics or 'black boxes'. Many insurers offer 'black box' technology to young drivers. These devices monitor their speed and the times they are on the road and can be used to set curfews so young drivers are not able to drive during high-risk hours, i.e. late at night. Young drivers abiding by these rules can be given discounts on their insurance, which has been shown to be an effective incentive to reduce young driver speeds.<sup>27</sup>
40. Black boxes can also be used to allow parents to monitor young drivers' behaviour: as well as providing peace of mind for the parents and guardians of young drivers, parental monitoring has been found to reduce risky driving.<sup>28</sup> Therefore, this is another avenue that should be explored to reduce the risk posed by young drivers on the roads.

### **Conclusion and recommendations**

41. Young and novice drivers are one of the most at-risk road user groups because of their lack of experience, overconfidence in their ability and tendency to take risks. They are continually overrepresented in collision data, yet very little action has been taken in recent years to improve their safety on the roads.

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<sup>25</sup> [Cohort Study of learner and Novice Drivers: Part 3, Accidents, Offences and Driving Experience in the First Three Years of Driving](#), Transport Research Laboratory, 1995

<sup>26</sup> [Are you ready to drive?](#) Brake and Direct Line, 2013

<sup>27</sup> [Effects of Pay-As-You-Drive vehicle insurance on young drivers' speed choice](#), The University of Groningen, 2011

<sup>28</sup> [Teenage drivers less likely to take risks driving when incidents are reported to parents](#), National Institutes of Health, USA, 2013

42. This situation does not, however, need to continue because the policy solutions already exist to improve the safety of young and novice drivers. At Brake we recommend that the Government:
- Explore and implement the various individual elements of a graduated driver licensing system, such as initial restrictions on passenger numbers or a minimum learning period with a set number of hours with a qualified instructor, with a view to implementing a full GDL system as soon as possible.
  - Invest in public transport and cycling and walking infrastructure to make alternatives to driving affordable and viable, so that young people do not feel the need to have to learn to drive as soon as they turn 17.
  - Explore policies that can reduce the risky behaviour of young and novice drivers immediately, such as wider roll out of telematics which provides a financial incentive to drive safely or exempting telematics-based motor insurance premiums from Insurance Premium Tax.
43. Efforts to improve young driver safety should be part of wider efforts to improve road safety for all road users. It is well documented that Britain's road safety record is in a period of stagnation. Indeed, the most recent casualty stats show that there has been little change in the number of people killed and seriously injured on the roads between 2017 and 2018 - 1,782 people were killed on the roads in 2018, a 1% decrease from the 1,793 people killed in 2017. The number of people seriously injured on the roads in 2018, however, increased by 3%, from 24,831 in 2017 to 25,484 in 2018.<sup>29</sup>
44. Significant action is needed to arrest this ongoing stagnation and get Britain's road safety record back on track, tackling young driver safety is just one part of this. To achieve this, Brake urges the Government to adopt a Vision Zero approach in order to deliver safe and healthy mobility for all by 2040, setting a clear path to zero road deaths and serious injuries. A crucial element of this Vision Zero approach is the reintroduction of casualty reduction targets and performance indicators.
45. The Government must set a target of zero road deaths and serious injuries by 2040, aligning the UK with best practice globally, with set milestones to this target. Casualty reduction targets must also consider and encourage the healthy movement of people and not be set in isolation, for example, we need targets for reduction of deaths and serious injuries per miles travelled on foot and bicycle. Measurable performance indicators must also be set and enable transparency on progression towards safe and healthy mobility for all.
46. Tackling young driver safety must be seen in the wider context of improving road safety for all and only by adopting a vision zero approach can the Government take a step change to make the roads safer for all road users, which would include improving young driver safety.

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<sup>29</sup> [Reported road casualties in Great Britain: main results 2018](#), DfT, 2019



## Appendix

To reduce young driver casualties and bring the UK's licensing system in line with best practice worldwide, Brake recommends the following measures should be implemented to introduce GDL to the UK.

### ***Learner drivers***

- Minimum learning period of one year before learner drivers can take their practical driving test, theory test and hazard awareness test.
- The learner's licence should not be fully valid until the learner driver has received a minimum of 10 hours' professional tuition in a car with dual controls.
- Learner drivers, as at present, must be supervised while driving, and the minimum age of accompanying drivers should be raised to 25.
- Accompanying drivers should be registered as 'approved accompanying drivers' by completing a questionnaire to prove their suitability.
- Learner drivers should have the same restrictions placed upon them as novice drivers (see below).

### ***Novice drivers***

- Novice drivers should be allowed to drive unsupervised, but with certain restrictions on their driving, including:
  - Novice drivers should not carry passengers who are younger than 25 unless supervised. Novice drivers who are parents or carers and need to carry children should be exempt from this restriction.
  - Novice drivers should not drive between 11pm and 6am, unless supervised or travelling directly from home to work or school.
  - Novice drivers should have a zero tolerance drink drive limit of 20mg of alcohol per 100ml blood (Brake recommends this for all drivers).
- Any driving offences, or failure to comply with the restrictions during the novice driver period, should result in automatic disqualification.