



Department  
for Transport

# Examining the Speed Limit for Military Armoured Track Laying Vehicles on Public Roads in England and Wales: A Consultation Document

March 2015

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# Foreword

Our armed forces are essential for the defence of this nation and to fulfil our commitments abroad. To be effective in this role, with competent and confident personnel, effective and appropriate training is required.

From 1977 to late 2013 British army tank and other armoured tracked vehicle crews had safely been trained on public roads in England and Wales at up to 40 mph.

In October 2013, it was confirmed that military armoured tracked vehicles were subject to the conditions of the Road Traffic Regulation Act 1984 which restricted military vehicles of certain types to a maximum speed limit of 20mph when travelling on public roads.

There are a number of reasons why this lower speed restriction is unsatisfactory, including the prevention of adequate training of tank crews to operate safely on public roads when deployed, increased road congestion and possible road safety concerns. Travelling at slow speeds increases vibrations of some vehicles which adversely impacts on the health of crews if exposed for long periods, as well as adding to wear and tear of the platforms themselves.

This consultation considers the case for amending legislation to increase the legal speed limit in England and Wales to the maximum speeds actually driven by military armoured tracked vehicles for approximately 30 years prior to October 2013, without any recorded serious accidents where speed was a causal factor.

We look forward to hearing your views.

**Robert Goodwill MP, Parliamentary Under-Secretary of State for Transport**

**Philip Dunne MP, Minister for Defence Equipment, Support and Technology, Ministry of Defence**

# Introduction

- 1.1 There is an operational need for crews of military armoured vehicles (Tracked) (AVT), generally tanks and armoured personnel carriers, to be competent and experienced in driving and manoeuvring their vehicles on public roads in England and Wales so that they can do so safely on operations both at home and worldwide. Whilst doing so, it is likely to be safer for other road users and the crews of AVT if they could travel at speeds in excess of 20 mph thereby reducing the hazard caused by large slow moving vehicles transiting on fast-flowing public roads. This would also allow AVT to operate at optimum speeds for the vehicles' gear ratios, with the resultant reduced engine revolutions, fuel consumption and exhaust emissions, thereby reducing wear on engines and drive trains and increasing vehicle availability, whilst also reducing vibration levels for vehicle occupants.
- 1.2 Since 1977, AVT have been operated on public roads in England and Wales under a mistaken understanding that such vehicles enjoyed a dispensation from the 20mph restriction for track laying vehicles (schedule 6 of the Road Traffic Regulation Act 1984 and previous legislation). Consequently, when travelling to and from training areas<sup>1</sup> and during driver training, vehicles were operating at speeds of up to 40 mph for vehicles of less than 40 tonnes and up to 30mph for those over 40 tonnes in accordance with Ministry of Defence (MoD) Armoured Vehicle Standing Orders<sup>2</sup>.
- 1.3 In October 2013, investigations revealed that military AVT were not exempt from the 20mph speed limit for track laying vehicles. Army headquarters then imposed a 20mph restriction for military AVT across the UK.
- 1.4 In November 2014 the MoD approached the Department for Transport requesting an increase in maximum speed limit to 40mph for military AVT.

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<sup>1</sup> There are seven geographically widespread key training areas in England and Wales. See page 7 for details.

<sup>2</sup> Armoured vehicle standing orders impose a speed limit for a class of vehicles based on vehicle specific safety cases.

- 1.5 This consultation considers the case for an increase in national speed limit in England and Wales for military AVT, to reflect the speeds that AVT have safely been travelling for approximately thirty years prior to October 2013.
- 1.6 The actual operating speeds of vehicles will depend on careful risk assessment by the military along with specific vehicle capabilities.
- 1.7 The proposed increase would apply to military AVT only. Non MoD track laying vehicles will continue to be restricted to the existing 20mph maximum speed limit.

## **Impact**

- 1.8 In this consultation, the main issues that have been identified to be considered alongside the operational issues are public safety, road wear, fuel use (and so emissions) and the general functioning of roads. We would welcome any evidence or views you may have on these or any other impacts.

### *Operational requirements*

- 1.9 The Armed Forces need to train as they expect to operate on future deployments so that they become skilled, experienced and competent in the full range of individual and collective military tasks.
- 1.10 A key skill for armoured forces is to be able to manoeuvre and operate AVT competently and safely, by day and night, in all environments and within all operational speed ranges.
- 1.11 There is therefore a need for training to drive and operate on a variety of public roads in England and Wales. This prepares crews to operate competently and safely amongst civilian drivers worldwide.
- 1.12 If vehicle crews are not able to conduct suitable familiarisation training on public roads they will not be able to develop the necessary skills and experience.
- 1.13 Operational training need is the primary reason for considering an increase in speed limit as this is not realistically possible under a 20mph speed restriction.

### *Road safety*

- 1.14 A range of factors affect road safety, and we have set them out below. Prior to October 2013, when AVT were operating at speeds higher than 20mph, MoD report no serious accidents involving AVT on roads in England and Wales where speed was a causal factor. On this basis our preliminary view is that increasing the speed limit for AVT to 40mph is unlikely to pose a road safety risk. The Department for Transport has no accident statistics specifically for AVT.
- 1.15 Military AVT are designed to operate safely at speeds of over 20 mph and within the speed limits in their Safety Cases. Also, where appropriate and feasible, the capabilities of components and fittings, such as brakes, steering systems, external lights and rear-view mirrors, are increased over and above that required for the AVT's operational roles, so that they can operate as safely as possible on public roads.
- 1.16 Before driving on public roads, drivers and vehicle crews undertake comprehensive driver, and vehicle operation, training on simulators, as well as on roads and tracks within military training areas and are required to drive a minimum of 90 miles both on and off road before being considered for a test.
- 1.17 All AVT are crewed by at least a driver and commander (also a qualified and experienced AVT driver) who will be in an elevated position with good all-round vision to assist in the safe passage of the vehicle. Other crew members may also be in a position to assist in this role. All members of the crew communicate through a live intercom system over which commands and direction can be clearly passed.
- 1.18 20mph is below the optimum operating speed for AVT making most of them less manoeuvrable/responsive than at their higher design speeds.
- 1.19 There are safety implications of the speed differential when travelling at 20mph on fast flowing roads with limited sight lines where civilian vehicles travelling at speed may encounter one or more AVT. Additionally tail backs resulting from slow moving AVT may lead frustrated motorists to attempt dangerous overtaking manoeuvres<sup>3</sup>.

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<sup>3</sup> An Armour Centre (Bovington) (ARMCEN) incident log records 36 near-misses between Nov 2013 and Jul 2014 mainly due to unsafe overtaking. We do not have figures before this period for comparison.

- 1.20 An increase in speed limits will reduce the speed differential. However, an increase in speed means that when accidents do occur, they are likely to be more severe.

### *Fuel use*

- 1.21 Design speeds for most AVT are higher than 20mph. Consequently, due to the lower gearing (and higher engine revolutions) required to maintain a speed of 20mph, fuel consumption is increased. Armour Centre (ARMCEN) (Bovington) monitors fuel consumption rates and reports an estimated increase in fuel consumption of between 5% and 7% since the 20mph restriction was introduced.
- 1.22 Increased fuel usage also leads to increased emissions, though the relationship between fuel usage and some pollutants is not linear.

### *AVT maintenance*

- 1.23 Higher engine revolutions will likely lead to increased component wear and tear and costs associated with replacements and vehicle down time.
- 1.24 Additionally 20mph is between gear ratios on some ATV causing 'hunting' between gears as none of the gears are optimised for this speed. This will likely lead to greater wear on engines and drive-trains and the 'snatch' effect on the tracks when gears are taken up can possibly damage the track and other components. It is not appropriate to redesign drive-trains as they are optimised for mobility to provide the required level of operational capability.

### *AVT crew time*

- 1.25 There are costs associated with the increased time taken to undertake training mileage<sup>4</sup> and testing<sup>5</sup> with ARMEN reporting that the 20mph limit results in 1 less AVT driver test per day.

### *Congestion*

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<sup>4</sup> Military Cat H trainee drivers are required to drive a minimum of 90 miles on and off public roads before taking the test.

<sup>5</sup> Before the 20mph restriction the duration of a typical test was 45-50 minutes. Since the 20mph restriction a test now takes up to 70 minutes.



1.26 AVT travelling at 20mph on public roads can cause long queues of traffic to build up behind them, increasing journey times for all road users.

### *Road maintenance*

1.27 It is the Department's preliminary assessment that there should be no appreciable increased road wear and tear due to a speed limit increase from 20mph to 40mph for military AVT. This is because of the manner in which the weight of the vehicle is distributed and cleaner pick up and putdown of track links when compared to tread blocks on tyres.

### *Vibration levels*

1.28 At 20mph vehicle vibration levels are significantly increased over those experienced at higher speeds as 20 mph falls within a resonant frequency band which causes a peak in Whole Body Vibration dosage for those travelling in the vehicles. ARMCEN have reported an increase in students and instructors developing mild physiological effects due to vibration after having travelled for a number of hours in AVT<sup>6</sup> at 20 mph.

1.29 ARMCEN are currently mitigating this effect by more frequent rest breaks and mixing road and cross country driving to reduce the cumulative effect.

### *Territorial extent*

1.30 As vehicle class speed limits are devolved in Scotland, this consultation is only related to the speed limit for AVT on public roads in England and Wales.

1.31 Most AVT movements on public roads occur in the areas surrounding training camps for the purpose of either vehicle crew training<sup>7</sup> or transit to and from training grounds. There is no increase in annual road mileage for AVT anticipated as a result of raising the speed limit.

1.32 AVT are also driven on public roads in support of recruitment events and operations, for example a deployment from Windsor to

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<sup>6</sup> Students have complained of pins and needles and aching joints, which generally lasts for only a short duration. A small number of requests have been made to see a doctor, which have all been logged within the course sheets held by ARMCEN Bovington.

<sup>7</sup> Nearly 58,000 training miles per annum at ARMCEN Bovington.

Heathrow and the recent support for flood victims in South West England (distances of 75+ km).

1.33 There are 7 key training areas for military AVT in England and Wales:

<b>England and Wales</b>	
Wiltshire and Hampshire	Salisbury Plain
Dorset	Bovington and Lulworth
Pembrokeshire	Castlemartin
Cumbria	Warcop
Yorkshire	Catterick
Northumberland	Otterburn
Norfolk	Thetford

AVT are also driven on public roads in Berkshire (Windsor) and in Dorset and Devon (Poole, Plymouth, Chivenor, Lymington and surrounding areas).

## Consultation questions

1.34 In this consultation we are seeking views on whether to:

- a. Do nothing – retain the existing national 20mph limit for AVT on public roads in England and Wales.
- b. Increase the national speed limit for AVT in England and Wales to 40mph to reflect operating speeds before October 2013. Vehicles will continue to be limited by MoD Armoured vehicle standing orders).
- c. Any further options not identified in this document.

1.35 We are also asking for more information on the impacts of increasing the speed limit, in particular:

- a. The operational benefits of training AVT drivers at speeds of up to 40mph on public roads.
- b. AVT speeds and road safety.
- c. Higher fuel consumption and emissions related to the 20mph speed limit
- d. AVT vehicle component wear and tear related to the 20mph speed limit.

- e. Evidence to support and quantify possible time saving benefits of an increased speed limit including:
- I. Typical distances travelled for training or to and from training areas.
  - II. Average annual mileage in support of recruitment events and operations (By key training area if possible).
  - III. Total annual mileage for AVT on public roads.
  - IV. The number of vehicle movements per year.
  - V. Average speeds currently obtained by AVT on public roads.
  - VI. The expected increase in average speed. Would ATV routinely achieve 30mph/40mph on public roads as a result of the proposed increase in speed limit?
- f. Other negative impacts related to 20mph speed limit.
- g. Potential ill health effects of prolonged driving below optimum vehicle design speeds.

1.36 To ensure that we clearly understand your views and to facilitate the analysis of consultation responses, the Department encourages the use of the online questionnaire. If however you would prefer to respond by email or paper copy, please use the template provided.

1.37 This consultation pack includes:

- This consultation paper.
- The Government's Consultation Principles (Annex A).
- A response template.

# How to respond

The consultation period began on 13 March 2015 and will run until 24 April 2015. Please ensure that your response reaches us before the closing date. If you would like further copies of this consultation document, it can be found on the DfT website or you can contact the vehicle speed limit team at the below addresses if you would like alternative formats (Braille, audio CD, etc).

Please complete the online questionnaire, or please complete the consultation response template provided and send by email attachment to [Armouredvehicle.speedlimit@dft.gsi.gov.uk](mailto:Armouredvehicle.speedlimit@dft.gsi.gov.uk) or by post to Vehicle Speed Limits, 3/28, 33 Horseferry Road, London, SW1P 4DR.

If you have any suggestions of others who may wish to be involved in this process please contact us.

## Freedom of Information

Information provided in response to this consultation, including personal information, may be subject to publication or disclosure in accordance with the Freedom of Information Act 2000 (FOIA) or the Environmental Information Regulations 2004.

If you want information that you provide to be treated as confidential, please be aware that, under the FOIA, there is a statutory Code of Practice with which public authorities must comply and which deals, amongst other things, with obligations of confidence.

In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information, we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

The Department will process your personal data in accordance with the Data Protection Act (DPA) and in the majority of circumstances this will mean that your personal data will not be disclosed to third parties.

# Consultation questions

Name:

Email:

Postal Address (Optional):

Please note that as vehicle class speed limits are devolved in Scotland and Northern Ireland, this consultation is only related to the speed limit for AVT on public roads in **England and Wales**.

For each question below, please indicate your response by clicking on the appropriate 'check box'. If you make a mistake, click again to remove the cross (please do not click more than one box). Where applicable, please explain the reason(s) for your preference and provide evidence if available by clicking on 'Click here to enter text' under the appropriate question.

**Q1.** Please indicate which of the following categories best represents your interest in this consultation.

- Local authority (please provide details).
- Road user – motorist.
- Road user – Other (please provide details).
- Government enforcement body, Police force and similar organisations (please provide details).
- MoD/Member of the armed services.
- Road safety group (please provide details).
- Other (please provide details).

**Q2.** Do you live, or use public roads, in the vicinity of a key training area (as listed at paragraph 1.33 in the consultation document)?

- Yes
- No

If your answer is 'yes' please indicate which one

- Wiltshire and Hampshire - Salisbury Plain
- Dorset - Bovington and Lulworth
- Pembrokeshire – Castlemartin
- Cumbria – Warcop
- Yorkshire – Catterick
- Northumberland – Otterburn
- Norfolk - Thetford

### Policy options

**Q3.** Please consider the following policy options

- Policy option 1: Do nothing; retain the existing 20mph limit for MoD armoured vehicles (tracked) (AVT), for example tanks and armoured personnel carriers, when travelling on public roads in England and Wales.
- Policy option 2: Increase the national speed limit for AVT in England and Wales to 40mph to reflect operating speeds before October 2013 (vehicles will continue to be limited by MoD Armoured vehicle standing orders).
- Other: Do you consider there to be any other policy options or variants on Option 1 or 2?

Please indicate your preferred option

- Policy Option 1 (Do nothing).
- Policy Option 2 (Raise speed limit to 40mph).
- Other.

Please give your reason for choice of Option 1 or 2 or if you consider there to be other options, please explain fully and give any supporting evidence you may have.

**Q4.** Do you think that AVT operational benefits will result from an increase in speed limit for AVT on public roads?

- Yes
- No
- Don't know

Please explain your answer and provide any evidence you may have.

**Q5.** Do you think that an increase in speed limit on public roads is necessary to allow vehicle crews to be properly trained?

Yes

No

Don't know

Please explain your answer and provide any evidence you may have.

### **Road congestion**

**Q6.** Do you think that AVT movements restricted to the current 20mph limit contribute to congestion on public roads?

Yes

No

Please explain your answer and provide any evidence you may have.

**Q7.** Do you think that an increase in speed limit for AVTs will reduce congestion on public roads?

Yes

No

Please explain your answer and provide any evidence you may have.

### **Road safety**

**Q8.** Between November 2013 and July 2014 the MoD record 36 near-misses in the locality of one key training area (ARMCEN, Bovington) by vehicles overtaking AVT travelling at 20mph. Do you think that an increase in speed limit for AVT will reduce the incidence of potentially dangerous overtaking manoeuvres?

Yes

No

Please give your reasons and provide any evidence you may have.

**Q9.** Do you think the current 20mph restriction for AVT presents a greater hazard to other road users than the proposed higher speed limit?

Yes

No

Please give your reasons and provide any evidence you may have.

### **Costs**

**Q10.** Do you think the Department for Transport's view that an increase in speed limit for AVT to 40mph **will not** result in an increase in road wear and tear is correct?

Yes

No

Don't know

Please give your reasons and provide any evidence you may have.

**Q11.** Do you think the current 20mph speed limit results in higher fuel consumption and emissions due to lower gear selections than would be the case for the proposed higher speed limit?

Yes

No

Don't know

Please give your reasons and any evidence you may have.

**Q12.** Do you think the current 20mph speed limit results in greater vehicle component wear and tear due to lower gear selections than would be the case for the proposed higher speed limit?

Yes

No

Don't know

Please give your reasons and any evidence you may have.



**Q13.** Do you think an increase in speed limit would provide significant time savings for AVT driver training and transit to and from training areas?

Yes

No

Don't know

Please explain and provide any evidence you may have.

**Q14.** Approximately 58,000 training miles are driven in and around ARMCEN (Bovington) per year. Do you have any data for annual road miles driven by AVT in the vicinity of other key training areas, miles driven in support of recruitment events or operations, or for total annual road mileage driven?

Yes

No

N/A

Please provide any data you may have.

### **Other impacts**

**Q15.** Do you have any experience of ill health effects after operating AVT at 20mph?

Yes

No

N/A

Please explain your answer and provide any evidence you may have.

**Q16.** Do you think there are any other impacts of the proposed increase in speed limit for AVT not listed in this document?

Yes

No

If 'yes' please explain and provide any evidence you may have.

# What will happen next?

A summary of responses, including the next steps and Government decision, will be published online in due course, following the consultation closing on 24 April 2015.

Paper copies will be available on request.

# Annex A Consultation principles

The consultation is being conducted in line with the Government's key consultation principles which are listed below. Further information is available on the Better Regulation Executive website at <https://www.gov.uk/government/publications/consultation-principles-guidance>

## Consultation Principles

- departments will follow a range of timescales rather than defaulting to a 12-week period, particularly where extensive engagement has occurred before
- departments will need to give more thought to how they engage with and use real discussion with affected parties and experts as well as the expertise of civil service learning to make well informed decisions
- departments should explain what responses they have received and how these have been used in formulating policy
- consultation should be 'digital by default', but other forms should be used where these are needed to reach the groups affected by a policy
- the principles of the Compact between government and the voluntary and community sector will continue to be respected.

If you have any comments about the consultation process please contact:

Consultation Co-ordinator  
Department for Transport  
Zone 1/29 Great Minster House  
London SW1P 4DR  
Email [consultation@dft.gsi.gov.uk](mailto:consultation@dft.gsi.gov.uk)

Please do not send consultation responses to this address.