# Impact assessment of technical requirements on speed limitation measures and clarification of LGF plate requirements for A-tractors

**The Swedish Transport Agency's proposal:**

That the Swedish Road Administration's regulations and general advice (VVFS 2003:19) on cars converted to tractors and cars converted to class II motorised equipment be amended with clear requirements for limiting the design speed of an A-tractor and for designing, positioning, and mounting the LGF (slow-moving vehicle) plate of an A-tractor.

# Contents

# Introduction

With the sharp increase in the number of A-tractors and the increased number of accidents involving them in recent years, the government commissioned the Swedish Transport Agency to investigate the need for a changed regulatory framework.[1] The assignment included reviewing the need for stricter requirements on the safety of A-tractors and the possibility of introducing requirements that make it more difficult to tamper with A-tractors, and that make it easier for authorities to identify misuse.

The proposed regulatory changes presented in the Swedish Transport Agency's assignment report[2] are intended to be seen as a comprehensive solution for increased road safety, of which three proposals are regulatory amendments relating to technical requirements for A-tractors:

- Technical requirements for speed limitation measures to prevent tampering with the electronic speed limiter or to at least make it more difficult for tampering to occur without notable intervention.
- Clarified requirements regarding the presence and design of the LGF plate.
- Strengthened requirements for exhaust emission control equipment.

In this regulatory work, technical requirements for speed limitation measures are examined, as well as clarified requirements for the presence and design of the LGF plate. Stricter requirements for exhaust emission control equipment will be reviewed in subsequent regulatory work, as we think that investigation will be more extensive. As a result, the new rules for speed limitation measures and the LGF plate can enter into force without being dependent on that investigation.

The impact assessment is divided into two chapters. The first chapter contains proposals for technical requirements on speed limitation measures, and the second chapter contains proposals for clarified requirements on the presence and design of the LGF plate.

# Chapter 1. Technical requirements for speed limitation measures

## A. General

### 1. What is the problem or the reason for the regulation?

An existing problem among A-tractors is that they are tampered so that they can be driven at speeds exceeding the maximum permitted design speed of

[1] Assignment to investigate rules for A-tractors (I2021/02732)
[2] Assignment to investigate rules for A-tractors (TSG 2021-10478)

30 km/h, which means an increased risk of serious accidents. Certain types of electronic speed limiters, which are common among A-tractors today, are easy to tamper with, while it in many cases is difficult and sometimes almost impossible to control and determine how they have been tampered. As a result, the incentives to follow the rules have been weakened as it needs to be clear how the design speed has been changed for the manipulation to be considered to be proven in court.[3]

## 1.1 Current regulation

The current rule for the design speed is set out in Chapter 4, Section 33 of the Swedish Road Administration's regulations and general advice (VVFS 2003:19) on cars converted to tractors and cars converted to class II motorised equipment. It consists of functional requirements and means that an A-tractor shall be converted so that its design speed is no more than 30 km/h.[4] The speed limitation shall be carried out in such a way that it is only with great difficulty that the maximum design speed of the A-tractor can be increased. There is thus no description of how the design speed should be limited.

The design of the current rule leaves how the design speed of an A-tractor should be limited open to interpretation. Since the rule change in July 2020[5], when the gear ratio requirement was removed and it became possible to limit the design speed of an A-tractor electronically, the market has developed various technical solutions for this purpose. This has led to the most common ways to limit the speed of an A-tractor today being through a speed controller, a speed limiter that regulates the speed via the electronic throttle control, or a reprogrammed engine control unit. However, the design and installation of these vary widely.

## 1.2 Manipulation of speed limitation measures

As electronic speed limitation systems for A-tractors have become more common, it has also become easier to tamper with their speed. With regard to the variety of technical solutions, it has also become more difficult to verify that the speed limitation measure is correctly implemented, making it more difficult or almost impossible to control whether it can be tampered with with great difficulty or not.

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[3] Swedish Supreme Court (NJA 2005 p. 548)

[4] The fact that a rule is functional means that the rule specifies what is to be achieved, but not how it is to be achieved. This means that there are often several different solutions to comply with the rule.

[5] The Swedish Transport Agency's regulations (TSFS 2020:52) amending the Swedish Road Administration's regulations (VVFS 2003:19) on cars converted to tractors and cars converted to class II motorised equipment.

### Speed controllers and limiters

For speed controllers and limiters, manipulation by concealed installation is common. For example, the wiring may be arranged in such a way that makes it very difficult to distinguish how the cables are routed and connected, meaning that it may be difficult to detect, e.g. additional cables that have been connected to bypass the controller or limiter.

The speed can also be tampered with by altering the speed signal. If the vehicle's standard speed signal is not used, external speed sensors are used to generate a signal indicating the speed at which the A-tractor is being driven. The signal from an external sensor can be tampered with in various ways so that the speed controller or limiter registers a lower speed than the actual one, and thus does not regulate the speed correctly.

### Reprogramming of the engine control unit

For A-tractors with limited speed through reprogrammed engine control units, the design speed can be tampered with in various ways. This can be done by reprogramming the engine control unit after the A-tractor has undergone roadworthiness testing for registration, by deactivating or bypassing the speed limitation function, or by influencing the speed signal to the engine control unit through, e.g. the vehicle's ABS system.

A prerequisite for determining how an A-tractor with a reprogrammed engine control unit has been tampered with is to understand how the speed has been limited. The issue is that neither roadworthiness testers, police officers, nor car inspectors are able to read the software for an A-tractor with such speed limitation. For example, when investigating possible manipulation, the police need to dismantle the engine control unit and send it to companies specialising in this type of data retrieval. In order to determine whether software has been changed, it is also necessary to have a good knowledge of its parameters and functionality. Nevertheless, there are limitations as to what can be inferred from the software, such as the time at which the software has been changed. In addition, how an A-tractor is reprogrammed to obtain limited speed differs between different car models, different year models of the same car model, and in some cases even between the same year model, as the manufacturer may have used different component suppliers, which makes it difficult to verify the speed limiting function.

### Scope of the issue

Statistics on roadworthiness testing and statistics from roadside inspections indicate that it is common for A-tractors to have been modified ex-post their roadworthiness testing so that they no longer conform to the design at the time of testing. During the years 2020 to 2022, the police increased the number of checks on A-tractors from approximately 4 500 to just over

5 600, and the proportion of those that have been ordered to undergo roadworthiness testing for registration has been 40 % per year. This can be compared with passenger cars, where the corresponding figure is around 1.5 % per year.[6]

In the Swedish Transport Agency's report from the government assignment, the police highlight manipulation as one of the biggest problems they see with A-tractors. Studies presented in the report also show that tampering with speed limitation devices is a common occurrence. According to the Swedish Transport Agency's survey, 47 % of young people stated that their A-tractor could be driven at speeds higher than 30 km/h, and 72 % wholly or partially agreed with the claim that they know others who have A-tractors that can be driven faster than 30 km/h. The report also presents results from a survey conducted by VTI (the Swedish National Road and Transport Research Institute) where 14 percent stated that their A-tractor can be driven at speeds higher than 30 km/h on flat roads.[7]

At present, there is no indication that the number of tampered A-tractors will decrease.

## 2. What is to be achieved?

The aim is to make it more difficult to tamper with the speed limitation device of an A-tractor without visible intervention, and thereby make it easier to prove when it has been tampered with and how it has been tampered with. This should strengthen the incentive to comply with established rules for those who build and own A-tractors. The police and roadworthiness testing bodies, but also parents and buyers of A-tractors, will have better opportunities to check and verify that the speed limiting has been correctly done.

Together with other road safety-enhancing measures presented by the Swedish Transport Agency in the government assignment report, the draft regulations are expected to contribute to more people using A-tractors in a traffic-safe way.

## 3. What are the alternative solutions?

### 3.1 Impact if nothing is done?

If no action is taken, the issue of speed-tampered A-tractors is expected to persist. Since the rule that exists today describes what is to be achieved and not how it is to be achieved, it will remain unclear how the speed limitation device is to be designed and installed. This, in turn, means continued

[6] Data extracted from the Road Traffic Register 2023-11-01.
[7] The difference in the results between the Swedish Transport Agency's and the VTI's surveys may be due to differences in the questions asked.

difficulties in controlling A-tractors and enabling hidden manipulations. There is, therefore, a high risk that the incentives to comply with the requirements will remain low and the risk of serious accidents due to manipulation will persist.

**Evolution of the issue**

The evolution of the problem of tampered A-tractors depends, in part, on the progress of new registrations of A-tractors, and on the number of people who choose to tamper with their A-tractors.

In 2020, the number of new registrations of A-tractors increased significantly and remained at a high level in 2021. In 2022, the number of new registrations decreased, returning to the same levels in 2023 as before the rule change in 2020, see Figure 1.

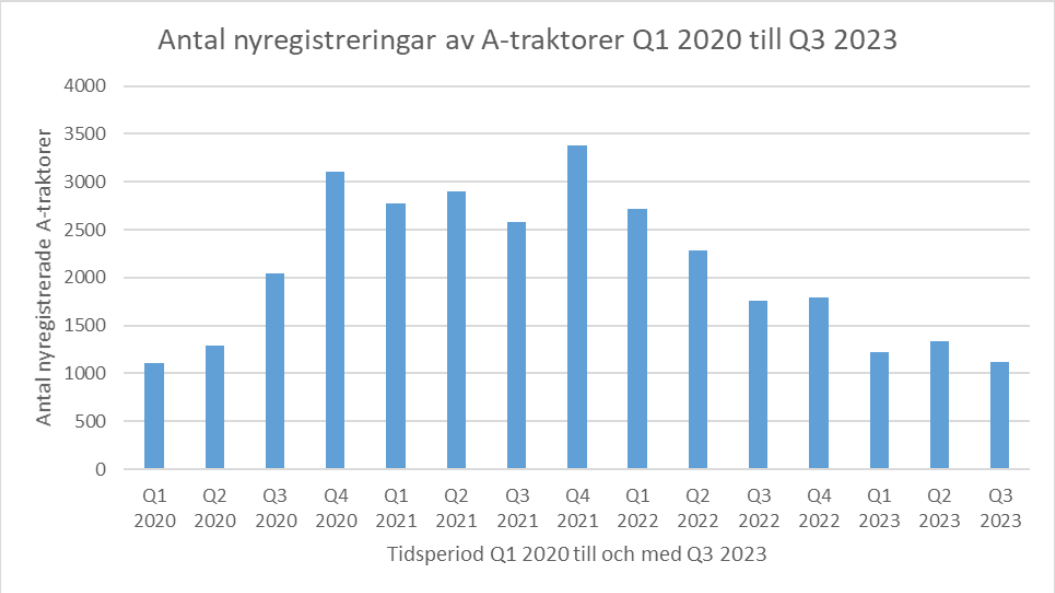


Figure 1. New registrations of A-tractors by quarter during the period Q1 2020 to Q3 2023

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|---|---|
| Antal nyregistreringar av A-traktorer Q1 2020 till Q3 2023 | Number of new registrations of A-tractors Q1 2020 to Q3 2023 |
| Antal nyregistrerade A-traktorer | Number of new registered A-tractors |
| Tidsperiod Q1 2020 till och med Q3 2023 | Period Q1 2020 to Q3 2023 |

As A-tractors are used for a limited period of up to approximately three years (between the ages of 15 and 18 years of age for the driver), the decline in new registrations could be due to the fact that more A-tractors have become available on the secondary market. If that is the case, it is reasonable to assume that the number of new registrations will continue to be at a lower level than when they were at their highest, and that there thus will be fewer A-tractors that can be tampered with.

However, whether the attitude towards speed manipulation of A-tractors will change is difficult to predict. Nevertheless, the willingness to do so could be affected by the regulation amendment which entered into force on 31 August 2023, stipulating that an A-tractor may not travel faster than 30 km/h on the road. That provision allows the police to fine A-tractor drivers who have driven at speeds higher than the maximum permitted, thus providing financial incentives to comply with the regulatory requirements.

**The Swedish Transport Agency's assessment**

Although it is somewhat unclear how the extent of the situation with speed-tampered A-tractors will develop, there is a high risk that the problems that exist today will persist. As can be seen from the report from the government assignment, the Swedish Transport Agency has made the assessment that all of the proposed measures, together, would contribute to solving the issues surrounding the use of A-tractors and, thus, lead to increased road safety. Our assessment is, thus, that today's regulation with functional requirements is not a sustainable solution with regard to the need to be able to check and verify how the speed limitation measure is implemented. It is, therefore, necessary to clarify how the speed limitation measure is to be carried out.

## 3.2 Alternatives that do not involve regulation

A non-regulatory option is to inform young people and parents of young people making use of A-tractors about the risks associated with tampering with the speed limitation device. However, it is difficult to determine the impact of such an information campaign and how effectively it reaches the target audience, which means that it cannot be ensured that the appeals are followed in the same manner as requirements in an updated regulatory framework.

Therefore, in order to ensure increased road safety, we see no possible non-regulatory alternatives.

## 3.3 Regulatory option 1 (the Swedish Transport Agency's proposal) – electronic speed control via electronic throttle control

**Speed limitation of A-tractors**

The Swedish Transport Agency proposes that the speed limitation of A-tractors be implemented by a speed limitation device (speed limiter) or through conversion.

**External speed limiter design**

The Swedish Transport Agency proposes that the external speed limiter should be designed so that it functions as a stand-alone unit and is not dependent on other components, except for any cables for connection.

The speed limiter shall be fitted with a protective cover which cannot be opened without visible damage or without it becoming inoperable. A separate protective cover may be used, provided that it can meet installation requirements for sealing.

The speed limiter shall be provided with the speed signal via the A-tractor's CAN bus, and the speed control shall be via the electronic throttle control of the originating vehicle.

The speed limiter shall be equipped with connectors adapted for connection between the accelerator pedal of the original vehicle and the engine control unit, where the cables are of the multiconductor type. All internal conductors in the transition between the multiconductor cable and the connector at the accelerator pedal shall be protected against external damage.

The speed limiter shall detect faults and deviations on the limiter and the input signals. In the event of a failure or deviation of the limiter or input signals, the value to the engine control unit shall be equivalent to zero per cent accelerator pedal without delay. If the power supply is interrupted, the output signal to the engine control unit shall be broken or zero volts without delay.

The speed limiter shall not have or be fitted with a remote-control system or device, or any other device which may affect the operation or the set values. However, it may have the option of setting control parameters during installation, provided that the installation requirements for the control parameters can be met.

The speed limiter shall comply with the requirements of on electromagnetic compatibility of the National Electrical Safety Board's regulations (ELSÄK-FS 2016:3) on electromagnetic compatibility.

**Fitting of external speed limiter**

The Swedish Transport Agency proposes that the speed limiter and the cables for installation shall be located in such a way that control can be carried out without the need for any disassembly. The connection to the CAN bus system does not have to meet this requirement.

The cables of the installation shall be kept separate from, and shall not be able to be confused with, the other cables of the vehicle. The cables between the accelerator pedal and the speed limiter shall not be longer than is necessary for installation. The insulating material on the cables of the installation shall be intact, and the cables shall be installed in such a way that abrasion or damage cannot occur. The cables must not be spliced.

The connection to the vehicle's CAN bus system shall done be by soldering or an equivalent solution ensuring good contact.

Possibilities for setting control parameters shall be locked after setting, in such a way that they cannot be altered subsequently.

The contact piece between the speed limiter and the engine control unit shall be sealed, as shall a separate protective cover for the speed controller, if one is used.

Each seal shall be a uniquely numbered wire seal issued by the roadworthiness testing body. The seals shall be durable and shall not be broken without tools.

**Mechanical conversion**

The Swedish Transport Agency proposes that, for mechanical conversion, the speed should be limited solely by the gear ratio. The speed in the lowest gear shall be no more than 10 km/h at two thirds of the maximum engine speed of the original vehicle. The conversion shall be carried out in such a way that it is only with great difficulty that the maximum design speed can be increased.

**Speed control**

The Swedish Transport Agency proposes that the maximum design speed may be exceeded by a maximum of ten per cent when checking the speed of an A-tractor.

The design speed should be checked by testing driving on a flat road, where the maximum speed of the vehicle can be reached.

**Blocking of gears**

The Swedish Transport Agency proposes that the gears of an A-tractor converted with a speed limiter should be locked as follows.

An A-tractor with a total weight of no more than 3 500 kg and a manual gearbox may have a maximum of the three lowest gears, and the reverse gear, available. If the A-tractor's gearbox has a dual range, this may be operational.

An A-tractor with at total weight over 3 500 kg, and a manual gearbox, may have enough gears available, including the reverse gear, so that at idling speed in the highest gear available, it cannot exceed the maximum design speed.

A-tractor which is equipped with an automatic gearbox shall have all possibilities for manual shifting blocked or dismantled.

**Cruise control deactivation**

The Swedish Transport Agency proposes that an A-tractor may not have cruise control. If the original vehicle is fitted with a cruise control system, it shall be dismantled or permanently deactivated.

**Speedometer**

The Swedish Transport Agency proposes that an A-tractor shall have a speedometer showing the speed in kilometres per hour, with a maximum error margin of ten per cent. It shall be connected to the vehicle's main electrical system and shall be readable both in daylight and in the dark.

**Entry into force and transitional provisions**

The Swedish Transport Agency proposes that the regulation should enter into force six months after the regulations have been adopted.

For a car converted to a tractor and put into service before the entry into force of the Swedish Transport Agency's regulatory proposal, the provisions on design speed in Chapter 4, Section 33 shall apply in their previous version. When Section 33 is applied in its previous version, Sections 33a-e shall not apply. However, the application of Chapter 4, Section 33 in its previous version does not apply to vehicles on which the speed limitation device, or maximum design speed has been altered.

## 3.4 Regulatory option 2 – electronic speed control via electronic throttle control, speed controller, and reprogramming of the engine control unit

An alternative to the proposed regulation is to, in addition to the proposals in regulatory option 1, also develop requirements for speed limitation with speed controllers and reprogramming of the engine control unit.

By setting requirements on how speed controllers should be designed and installed, verification would be possible in the same way as for speed limiters. A speed controller is connected to the ignition or fuel system and cuts off the ignition or fuel supply when the maximum speed is reached. A shortcoming of speed controllers is that they can easily be tampered with by connecting relays, or direct connections, so that the controller is bypassed. In addition, before inspection, it is very easy to remove the manipulation devices without leaving any trace of them, which makes it difficult to prove manipulation.

Setting requirements for how the reprogramming of the engine control unit shall be done for the speed limitation of A-tractors has its issues in that the requirements to be set depend on the original vehicle's software. Since the software can differ, sometimes as far down as at individual vehicle level, this means in practice that groupings of requirements need to be established, where the requirements are directed to different types of software. It is

therefore not possible to set general requirements that can be applied to all A-tractors. For this to be practicable, the variety of software needs to be limited, which would mean a severe limitation on which cars can be converted to A-tractors. In such a procedure, however, we would not be able to guarantee the correct specification of requirements, as the software is such a complex system. That is to say, we would not be able to ensure that the speed cannot be exceeded or that other important features of the software are not affected.

The Swedish Transport Agency does not see regulatory option 2 as a viable option and, thus, proposes that regulations be issued in accordance with regulatory option 1.

## 4. Who will be affected?

The proposed regulation primarily concerns companies that develop and market various technical solutions for speed limiting A-tractors, the police, roadworthiness testing bodies, buyers and owners of A-tractors, and parents of children with A-tractors.

## 5. What are the impacts of the regulation?

### 5.1 Companies

(X) The regulation is not deemed to significantly impact the working conditions, competitiveness or other conditions of companies. All consequences for companies are therefore described under 5.1.

( ) The regulation is deemed to significantly impact the working conditions, competitiveness or other conditions of companies. Therefore, the impact assessment does not contain a description under 5.1, but all the consequences for companies are described in Section C.

The Swedish Transport Agency considers that the companies most affected are those that provide products or services for speed limiting A-tractors, and roadworthiness testing companies.

**Companies providing products or services for electronic speed limitation of A-tractors**

Since there is no specific trade association to turn to, we have not been able to determine the number of companies developing products or services for speed limitation of A-tractors. During the investigation, we have been in contact with four such companies and, based on their knowledge, there are a total of about ten companies in the same industry. These companies are considered to be small with few employees. The business area for several of

these companies includes more than just products or services for speed limitation of A-tractors.

Today, there is no speed limiter on the market that meets the requirements of the proposed regulation, which means that new limiters need to be developed or that existing speed limiters need to be modified to meet the proposed regulation. Our assessment is that the modification of existing limiters should involve minor technical changes. The largest cost of modification is estimated to be the CE marking process, i.e. to meet the requirements of ELSÄK-FS 2016:3. The practical testing to ensure electromagnetic compatibility amounts to a one-time cost of approximately SEK 60 000.

In order for companies that currently offer speed controllers or reprogramming of the engine control unit to continue to offer products or services for speed limitation of A-tractors, they need to adapt and develop speed limiters that meet the prescribed requirements. However, we cannot make a precise assessment of the extent to which companies are affected by the proposed regulation, as we do not have information on how much of the business is concerned.

The proposed regulation would potentially place a greater burden on companies developing speed limiters, as the demand for their products will increase. In view of the development of the number of new registrations of A-tractors (see Figure 1 in section 3.1), such an increase should not exceed the number of new registrations of A-tractors that occurred between 2020 and 2022. It can, therefore, be considered reasonable that the companies would be able to cope with an increased demand for this product.

Speed controllers and limiters that companies have in stock, and that do not meet the new requirements could entail a cost in terms of lost income. However, any loss of income may be reduced if they can be used for the repair of previously approved A-tractors.

Based on the information we have, the overall assessment is that the proposed regulation will not have significant effects for these companies.

**Roadworthiness testing companies**

The proposed regulation imposes increased costs on roadworthiness testing companies for updating instructions and training staff. The proposal is also expected to provide the roadworthiness testing bodies with both uniformity and better conditions for checking and verifying the speed limiting device during roadworthiness testing for registration and inspection.

## 5.2 Individuals

The proposed regulation will limit those who choose to newly register an A-tractor to only one type of electronic speed limitation. The same applies to those who modify their A-tractor so that, with regard to the speed limitation device, it no longer conforms to the design at the time of inspection. Already approved A-tractors are not affected by the proposed regulation.

Generally speaking, the speed of A-tractors that are built from newer cars, is usually limited by speed limiters or by reprogramming the engine control unit. From the price information we have available, it appears that speed limiters and the reprogramming of the engine control unit are within the same price range (SEK 3 500 and SEK 5 000). This means that the regulatory proposal does not necessarily mean that it will be more expensive to build or rebuild an A-tractor from a newer car with a speed limiter instead of a reprogrammed engine control unit. Something that could affect the price of speed limiters is the product development required to meet the prescribed requirements, but this should not entail significant price increases.

For older vehicle models, it is more common for the speed to be limited by a speed controller or by mechanical speed limitation. Speed controllers cost about SEK 2 000. For mechanical speed limitation, it is more difficult to obtain a price quote for comparison, as the cost depends on the extent of the conversion required to limit the speed of the specific vehicle. For example, on certain vehicles, only gears need to be locked, while other vehicles need to be adapted so that an additional gearbox can be installed. In order to convert an older car into an A-tractor, the regulatory proposal may thus entail both lower and increased costs.

The proposal includes requirements for A-tractors built under the new rules to be equipped with a speedometer. The requirement is based on the fact that it is, for the sake of road safety, essential to know the speed at which one drives their vehicle. If the original vehicle does not have a functional speedometer, the A-tractor may instead be fitted with an external speedometer, which means that there is an incurred cost for installing one, if the original one cannot be repaired. The cost of an external speedometer depends on the solution required for each vehicle, but is estimated at approximately SEK 400 to 2000, based on the cheaper and more expensive solutions available on the market. The size of the group of individuals that are ultimately affected by an additional cost for an external speedometer is difficult to say, as it depends on how many choose to build an A-tractor from a car with a defective speedometer. However, the opinion of the roadworthiness testing bodies is that the number of A-tractors with defective or without speedometers is relatively low. Our assessment is that the cost of

an external speedometer for these vehicles is relatively low in relation to other costs of building an A-tractor and is justified from a road safety perspective.

Since the proposal clarifies the rules for the speed limitation device, it will be easier for those building A-tractors to comply with the prescribed rules. It will also provide increased security for buyers of A-tractors and enable parents to gain insight into their children's use of A-tractors, as it will be easier to detect if the speed limitation device has been altered.

## 5.3 The State, regional authorities or municipalities

**The Swedish Police Authority**
Proposed regulation with clearer speed limitation rules for A-tractors will provide the police with better tools to more easily detect and prove when a speed limitation device has been tampered with and how it has been tampered with. This will reduce the investigation time in cases of suspected speed manipulation. The draft regulation does not entail any increased costs for the training of staff as it is handled within regular further training.

**The Swedish Prosecution Authority**
The proposed regulation will simplify the work of the Swedish Prosecution Authority and contribute to the use of fewer resources when investigating cases where A-tractors have been driven at speeds higher than 30 km/h.

**The Swedish Transport Agency**
Since the proposed regulation entails limited choices regarding speed limitation devices for A-tractors, it could mean an increased number of applications for exemption from the rules to the Swedish Transport Agency.

## 5.4 Environment

The draft regulation does not have any direct effects or impacts on the environment. However, one advantage of limiting the speed with a speed limiter is that emission control functions are maintained to a greater extent since the limiter only affects the throttle, unlike speed controllers that affect the ignition or fuel supply. However, if an older car without a CAN bus system is mechanically speed-limited, this may result in higher emissions than if a speed controller had been used.

The overall assessment is that the proposed regulation may eventually lead to lower total emissions from A-tractors in traffic as older vehicles are phased out and replaced with newer vehicles with lower emissions.

## 5.5 External effects

The proposed regulation has positive effects on society through increased road safety. With stronger incentives to comply with the regulations, the

number of A-tractors being tampered with is expected to decrease, and together with it, the risk of serious accidents and fatal accidents due to A-tractors being driven at speeds higher than 30 km/h.

# 6. Summary of options considered and why the proposed regulation is considered the best option

## 6.1 The Swedish Transport Agency's assessment

The starting point for the regulatory work has been the proposals for road safety-enhancing measures for A-tractors presented by the Swedish Transport Agency in the government assignment. That is to say, to introduce technical requirements for speed limitation measures to prevent tampering with electronic speed limitation or to at least make it more difficult for tampering to occur without notable intervention. These proposals have also been supported by the responses received following the government's referral of the report.[8]

To completely prevent manipulation can be considered almost impossible. The emphasis in our regulatory proposal is therefore on making it more difficult for the manipulation of electronic speed limits to take place without visible intervention.

**Regulatory option 1 (the Swedish Transport Agency's proposal) – electronic speed control via electronic throttle control**

Regulatory option 1 provides clear requirements for limiting the design speed of an A-tractor. The Swedish Transport Agency has previously decided to strive as far as possible to have functional requirements as they do not hinder the development of new solutions to the same extent as detailed requirements. The functional rule that exists today has allowed the market to develop different solutions for speed limitation of A-tractors, but does not allow verification of the execution to the extent needed to, for example, be able to prove manipulation. Therefore, the proposed regulation with detailed requirements is deemed necessary.

With clear technical regulation, it will be easier for the builder of the A-tractor to follow the set rules. It also provides increased security when purchasing A-tractors and facilitates parental insight into their children's use of A-tractors, as the regulation allows for control of the speed limitation device. It also creates better conditions for inspection bodies and the police to understand the technology used, thus facilitating and streamlining the control of A-tractors and the speed limitation device.

[8] Referral of the Swedish Transport Agency's memorandum 'Assignment to investigate rules for A-tractors' (ref. No I2022/01967)

The proposed regulation makes it easier to prove when a speed limitation device has been tampered with and how it has been tampered with, thereby reinforcing the incentive to comply with the rules. The Swedish Transport Agency, therefore, considers that there are no other suitable alternatives to regulation than the proposed one.

**Regulatory option 2 – electronic speed control via electronic throttle control, speed controller, and reprogramming of the engine control unit**

Regulatory option 2 extends the proposal in regulatory option 1 with rules for speed controllers and reprogramming of the engine control unit.

As indicated in section 3.4, there are problems associated with setting requirements on how speed limitation with speed controllers and reprogramming of the engine control unit should be carried out. Even if detailed requirements are set, they can be tampered with in ways that are difficult to detect, which is the basis of the entire issue that exists today.

The Swedish Transport Agency, therefore, makes the assessment that requirements regarding the implementation of speed limitation with a speed controller, or reprogramming of the engine control unit, are not viable alternatives with regard to the need to verify the speed limitation and the purpose of the regulatory work.

## 6.2 Reasons for the draft regulation

**Speed limitation of A-tractors**

The proposal means that the design speed of an A-tractor can be limited electronically by an external speed limiter or mechanically through mechanical conversion.

The proposed regulation means that electronic speed limitation shall be implemented through an external speed limiter that is connected to the car’s CAN bus system. Compared to other electronic speed limitation solutions available on the market, this type of speed limiter is more difficult to tamper with without it being visible. In order to install this type of speed limitation, the original vehicle to be converted into an A-tractor has to have a CAN bus system and electronic throttle control. In practice, this means that cars from around the year 2000 onwards can be restricted with electronic speed limiters, which means that more modern and, thus, safer cars are converted into A-tractors.

The proposal also provides that mechanical speed limitation of A-tractors remains possible. Since the issue with speed-tampered A-tractors is largely due to the electronic speed limitations, and the purpose of the regulation work is to address that problem, there is no reason not to continue to allow mechanical speed limitation.

**External speed limiter design**

The draft regulation specifies how a speed limiter should be designed, with the aim of making it easy for, e.g. roadworthiness testing bodies and the police, but also for private individuals, to check and verify. Through the clarified requirements it will be easier to detect and prove when a speed limitation device has been tampered with and how it has been tampered with.

The speed limiter shall function as an independent unit and shall not be equipped with any other device that may affect its operation. This makes it easier to determine if something has been connected afterwards to affect the function of the limiter. It also makes it difficult to use solutions with additional components that can be tampered with.

The protective cover of the speed limiter shall not open without visible damage or rendering the limiter inoperable in order to facilitate detection of possible damage to the limiter.

The speed signal should be sent from the car's CAN bus system, as this is more difficult to tamper with than, for example, a speed signal taken from an external sensor. The speed shall be regulated by the electronic throttle control, as this type of speed regulation is more difficult to tamper with without it being noticeable.

Requirements are set for the speed limiter to be fitted with adapted connectors, and for its cables to be of multiconductor type, in order to protect the internal conductors from external interference. Multiconductor cables also hinder the use of hidden cables.

With the requirement to detect faults and deviations in input signals and the limiter, the A-tractor shall not be able to be operated at higher speeds, intentionally or unintentionally, by action from the limiter. The requirement for a broken signal or zero volts from the limiter to the engine control unit is set so that the signals from the throttle cannot be restored in the event of a power failure.

Clarified electromagnetic compatibility (EMC) requirements are set to ensure the operation of the speed limiter. All electronic equipment that is capable of generating electromagnetic disturbances, or that may be affected by such disturbances, is subject to EMC requirements to ensure its functioning. Products not covered by other Union legislation, including speed limiters for A-tractors, are subject to the horizontal legislation requiring them to bear the CE marking. The vehicle legislation is currently unclear as to how the general safety requirements are to be met for these limiters; in the proposed regulation it is clarified that they are to meet the

EMC requirements in the Swedish National Electrical Safety Board's regulations.

**Fitting of external speed limiter**

The draft regulation specifies how a speed limiter should be fitted, with the aim of making it easier for, e.g. roadworthiness testing bodies and the police, but also for private individuals, to verify the installation. Through the clarified requirements it will also be easier to detect and prove when a speed limitation device has been tampered with and how it has been tampered with.

The location of the speed limiter is clarified to avoid solutions such as concealing it or placing it in a sealed container. The limiter cables shall also be located in such a way that control can be carried out without the need for any disassembly. However, the CAN bus cables may be exempted from visible fitting since the limiter must be able to handle any signal loss, and they are, therefore, not as critical to control in a simple way. The vehicle's CAN bus cables may also be positioned in such a way that a visible connection is not possible. This facilitates the inspection of the regulator and its fitting.

The requirements for the cables are set to clarify the installation and to make it easier to detect any damage to them. This avoids solutions with unstructured wiring, where it is unclear where the cables are connected and what their function is.

To ensure good contact, the speed limiter shall be connected to the CAN bus system of the A-tractor by soldering or an equivalent solution.

The requirement for locking all possibilities for setting control parameters during installation is set precisely so that they cannot be changed afterwards and, thus, allow the A-tractor to be driven at speeds higher than 30 km/h.

The requirement for sealing the contact piece between the speed limiter and the engine control unit is imposed to ensure that the speed limiter cannot be disconnected without it being apparent. The sealing of the separate protective cover shall facilitate the detection of any tampering with the speed limiter.

The requirements for seals are set to ensure durability and so that they cannot be broken unintentionally. Unique numbering, including the registration of that information by specific text code, allows roadworthiness testing bodies and the police to check whether the seal has been replaced since the registration inspection.

### Mechanical conversion

The current design speed rule is functional since the rule change in July 2020, when the gear ratio requirement was removed to allow for electronic speed limitation.[9] Although the gear ratio requirement was removed, it has always been possible to limit an A-tractor mechanically.

The draft regulation entails the removal of the current functional rule for design speed and the introduction of clearer requirements for implementing the speed limitation on an A-tractor. This means that requirements for mechanical conversion need to be introduced in order for this type of speed limitation to continue to be possible.

Today, it is common for speed controllers to be used as a complement to mechanical speed limitation to reduce the speeds. In order to avoid the issues arising today with tampered electronic speed limitation, a requirement is introduced that mechanical speed limitation shall take place only through gear ratio. This way, conversions will be more uniform, and it will be easier to detect and prove when a speed limitation device has been tampered with and how it has been tampered with.

### Speed control

When checked, the speed of an A-tractor may exceed the maximum design speed of 30 km/h by a maximum of ten per cent to take account of any roll-over.[10] General advice on how to check the design speed provides clarity on the criteria for acceptable testing.

### Blocking of gears

By blocking the available gears, the top speed of the A-tractor is limited even if the speed limitation device is somehow disabled.

### Cruise control deactivation

An A-tractor must not have a cruise control system, as it can regulate the engine throttle without the accelerator pedal being activated and thus the speed controller can be bypassed through it.

### Speedometer

Speedometer requirements are introduced to ensure that the driver of the A-tractor is able to know the speed at which the A-tractor is driven.

### Entry into force and transitional provisions

The entry into force is proposed to be six months after adoption in order to give manufacturers of speed limitation devices time to adjust. During that

[9] The Swedish Transport Agency's regulations (TSFS 2020:52) amending the Swedish Road Administration's regulations (VVFS 2003:19) on cars converted to tractors and cars converted to class II motorised equipment.

[10] Roll-over means that the maximum design speed of an A-tractor is temporarily exceeded when accelerating from lower speeds before the limiter has had time to regulate.

time, roadworthiness testing bodies and the police also have time to update their procedures and train staff according to the new regulations.

The transitional provision in the draft regulation means that an A-tractor built according to the rules in force at the time of approval does not need to be rebuilt according to the new rules. However, this presupposes that the speed limitation device or the maximum design speed has not been altered. Where the speed limitation device or maximum design speed of an A-tractor has changed from the registered data, the new rules apply, i.e. the proposed regulation for design speed.

The transitional provision is introduced so that A-tractors that are approved under current and previous rules may continue to be used without incurring costs for, e.g. conversion or restoration to a passenger car. For example, if an A-tractor is found to be speed-tampered and is ordered to undergo a roadworthiness test for registration, the consequences are that the A-tractor must be converted in accordance with the proposed regulation or, if that is not possible, restored to a passenger car. If an A-tractor cannot be converted or restored to a passenger car, this may mean that it cannot continue to be used in traffic. The advantage of this type of introduction is that the A-tractors that are not speed-tampered will be able to continue to operate without being affected by the new rules, while it has consequences for the A-tractors that have been modified to drive at speeds higher than 30 km/h.

## 7. What authorisation is the Agency's right to make decisions based on?

The regulations with technical requirements on speed limitation measures are issued on the basis of the authorisation in Chapter 8, Section 16 of the Vehicle Ordinance (2009:211).

## 8. Is the regulation consistent with or does it exceed the obligations arising from EU law or other international rules?

The proposals for regulations are not deemed to go beyond the obligations arising from EU legislation, which is why they are considered to be compatible with EU law. They are also not contrary to other international rules.

The regulations are technical requirements for A-tractors. For this reason, the proposed regulations are deemed to be subject to the notification obligation, under the Ordinance (1994:2029) on Technical Rules.

The proposed regulation does not impose any new requirements on service providers, so the proposals do not need to be notified under the Ordinance (2009:1078) on Services in the Internal Market.

The proposal does not contain any requirements that involve regulation of professions, so no notification under the Act (2016:145) on the Recognition of Professional Qualifications or proportionality test pursuant to the Ordinance (2020:757) on Proportionality Testing in case of New or Changed Requirements for Professional Qualifications needs to be made.

The proposal does not contain any data localisation requirements, which is why notification is not required, according to Article 4(2) of Regulation (EU) 2018/1807 of the European Parliament and of the Council of 14 November 2018 on a framework for the free flow of non-personal data in the European Union (the Data Flow Regulation).

### 9. Does special consideration need to be given regarding the date of entry into force, and is there a need for special information initiatives?

The Swedish Transport Agency's objective is for the regulations to enter into force as soon as possible. However, we believe that the entry into force should take place six months after the regulations have been adopted in order to allow time for the product development required for existing speed limiters and the possible transition for the companies concerned. It also gives roadworthiness testing companies and the police a reasonable amount of time to update their procedures and train staff.

The Swedish Transport Agency considers that there is a need for some type of information measure with regard to the new rules for speed limitation of A-tractors and how they will enter into force. Thus, a communication plan will be developed to meet the existing needs.

## B. Transport policy effectiveness

The overall goal of Swedish transport policy is to ensure a socio-economically efficient and long-term sustainable transport supply for citizens and businesses throughout the country. Under the overall goal, there are performance objectives and health, environment and safety (HES) objectives with a number of prioritised areas.

The performance objective is to create accessibility for people and goods. The design, functioning and use of the transport system shall help provide everyone with basic accessibility, with good quality and usability, as well as contribute to the development dynamic across the whole country. At the same time, the transport system must uphold the value of equality, meaning it must meet the transport needs of both men and women in equal measure.

The HES objective concerns health, environment and safety. The design, functioning and use of the transport system shall be adapted so that no one is killed or seriously injured. It shall also contribute to the overall generational goal for the environment and achieving the environmental quality goals, as well as contribute to increased health.

### 10. How does the regulation affect the performance objective?

Through the proposed regulation, the accessibility that A-tractor drivers have today to the transport system is maintained.

### 11. How does the regulation affect the HES objective?

With the proposal, more A-tractors are expected to be driven at the prescribed speed, thus reducing the risk of serious accidents, which means a reduced risk of someone dying or being seriously injured in traffic.

## C. Companies

The regulation is not deemed to significantly impact the working conditions, competitiveness or other conditions of companies. All consequences for companies are therefore described under point 5.1.

# D. Summary of impacts

| Affected party | Impacts that cannot be quantified | | Quantified impact (SEK thousands) | Comments |
|---|---|---|---|---|
| | **Advantages** | **Disadvantages** | **+ / -** | |
| **Companies** | | Manufacturers of speed limiters need to develop their product | | |
| | | Companies providing other types of speed limitation other than the one proposed need to adjust or discontinue that part of their business | | |
| | Roadworthiness testing companies will have clearer rules to follow when carrying out roadworthiness tests for control and registration | Roadworthiness testing companies face increased costs for updating procedures and training staff | | |
| **Individuals** | It will be clearer how the speed limitation is to be implemented and, thus, easier to comply with the prescribed rules | A-tractor builders are limited in their choice of speed limitation | | |
| **The State etc.** | The police and the Swedish Prosecution Authority will be better placed to investigate suspected speed tampering | The Swedish Transport Agency may receive an increased number of exemption applications linked to speed limitation of A-tractors. | | |
| **External effects** | Increased road safety due to fewer A-tractors operating at speeds higher than 30 km/h | | | |
| **Total** | | | | The consequences are assessed as predominantly positive |

## E. Proportionality of the proposal

The proposal is deemed proportionate with regard to the transitional provision, whereby A-tractors currently in traffic are not covered by the new rules, as long as the speed limitation device or maximum design speed has not been changed.

## F. Follow-up and evaluation

We assess that it is not possible to follow up on the effects of this regulatory work as it forms part of several regulatory changes that have been made to address the issue of A-tractors. That is, we will not be able to attribute a change solely to the regulations we propose. For example, the amendment to the regulation stating that an A-tractor may not travel faster than 30 km/h on the road may have an effect on the incentive to comply with the prescribed requirements. We also do not have access to, e.g. accident statistics that are directly linked to tampering, and therefore have no figures to compare to.

Although we cannot follow up on the effects of the regulatory work, there is the possibility of feedback from, for example, the police and roadworthiness testing bodies, through established contact channels, on how they perceive the situation with tampered A-tractors.

## G. Consultation

There is no consulting obligation regarding A-tractors. During the investigation, however, we have collaborated with representatives from companies that have developed products or services relating to the speed limitation of A-tractors, the Swedish Police Authority, the Vehicle Roadworthiness Test Industry, Research Institutes of Sweden (RISE), the National Electrical Safety Board, and the Swedish Prosecution Authority. We have also been in contact with the Swedish automotive industry.

If you have any questions regarding Chapter 1 of this impact assessment, or any opinions you would like to share, please contact us:

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# Chapter 2. Clarified requirements regarding the presence and design of the LGF plate

## A. General

### 1. What is the problem or the reason for the regulation?

An A-tractor shall be equipped with an LGF (slow-moving vehicle) plate to alert overtaking traffic that there is a slow-moving vehicle ahead of them. A common issue among A-tractors is that their LGF plates do not comply with the requirements for their placement and design. It is common for the LGF plates to be cut, folded, or both, to be adapted to the bodywork of the A-tractor. It also happens that the plates are placed with too steep an inclination, or that they are obscured. These adaptations and placements affect the reflective ability and visibility of the LGF plate, making it harder for overtaking traffic to identify that it is an A-tractor and not a car ahead of them. This increases the risk for the A-tractor to be rear-ended, and other traffic-hazardous situations linked to poorly visible A-tractors. Accident statistics show that the risk of rear-end collisions is greatest on roads with higher speed limits.

With regard to the presence of incorrectly placed and designed LGF plates, the Swedish Transport Agency's investigation for the government assignment assesses that the rules concerning the existence and design of the LGF plate are unclear and need to be reviewed.

The current requirements for the LGF plate are set out in Chapter 4, Sections 160-164 of the Swedish Road Administration's regulations and general advice (VVFS 2003:19) on cars converted to tractors and cars converted to class II motorised equipment and, in summary, mean:

- that the plate must be mounted on the A-tractor when driving on the road;
- that the plate must be type-approved in accordance with ECE Regulation 69, or earlier national rules; and
- how and where on the A-tractor the plate shall be mounted.

The requirement that the A-tractor must have an LGF plate when travelling on the road means that the LGF plate does not need to be mounted on the A-tractor at the time of roadworthiness testing for inspection, which may lead to it not being checked. It can also lead to issues for the police when issuing fines whenever A-tractors are found, whose LGF plate does not meet the prescribed requirements and is not on the road at the time.

There are also other ambiguities in the regulations regarding the wording of the requirements. The prerequisites for understanding the meaning of an

LGF plate being type-approved may differ between those applying the regulations, which in this case concern, for example, individuals, road worthiness testing companies, and the police.

There is no indication that the issue of modified and misplaced LGF plates will subside as long as the ambiguities of the current regulation remain. Another factor indicating that the issue will persist, or possibly increase, is that newly registered A-tractors are often converted from more modern cars, which in many cases have a rounder bodywork, to which LGF plates are adapted and shaped, thus, affecting the visibility of the LGF plate.

## 2. What is to be achieved?

What we wish to achieve is to increase the proportion of A-tractors with LGF signs that fulfil their purpose and thus contribute to increased road safety. Improve the ability of overtaking traffic to recognise A tractors to reduce the risk of overtaking accidents and other dangerous situations associated with poorly visible A-tractors.

## 3. What are the alternative solutions?

### 3.1 Impact if nothing is done?

If nothing is done, there will continue to be incorrectly designed and placed LGF plates with reduced reflective ability and visibility. This means that, for other traffic, there will continue to be difficulties in identifying a slow-moving vehicle, and that the risk of rear-end collisions linked to this problem will remain.

Due to the regulation’s lack of clarity, the roadworthiness testing companies will continue to have difficulties in achieving uniformity in roadworthiness testing for registration and inspection, and the police will continue to lack the tools to handle incorrectly designed and placed LGF plates during roadside checks.

Our assessment is, therefore, that the requirements for LGF plates need to be clarified.

### 3.2 Alternatives that do not involve regulation

An alternative that does not involve regulation is to inform young people using A-tractors about the significance of the LGF plate to avoid accidents. However, it is difficult to determine the impact of such an information campaign and how effectively it reaches the target audience, which means that it cannot be ensured that the appeals are followed in the same manner as requirements in an updated regulatory framework.

The Swedish Transport Agency's investigation for the government assignment assesses that the information on the significance of the LGF plate can be clarified, but that there is still a need for clarifying the regulations.

Therefore, in order to ensure increased road safety, we see no possible non-regulatory alternatives.

## 3.3 Regulatory options (the Swedish Transport Agency's proposal)

The Swedish Transport Agency proposes that the requirements for the LGF plate on A-tractors and trailers towed by A-tractors be adjusted as follows. The Swedish Transport Agency considers that there are no other realistic alternatives to regulation than the proposed one.

**Nature**

The Swedish Transport Agency proposes that an A-tractor and a trailer towed by an A-tractor must be equipped with an LGF plate that meets the prescribed requirements for design, placement, and fitting.

**Design**

The LGF plate shall be type-approved and marked in accordance with ECE Regulation 69, or by the Swedish Road Administration, or the Swedish Transport Administration. The LGF plate may not be folded or otherwise altered in size, and it may not be fitted with anything that affects its reflective function.

**Placement**

The Swedish Transport Agency proposes that the LGF plate should be placed as far back on the vehicle as possible. Measured from the lower edge of the sign, it shall be placed at least 0.6 metres and no more than 1.8 meters above the ground. However, the dimensions may be adapted as necessary if compliance is not possible due to the design or use of the vehicle. Laterally, the sign shall be centred or within the left outer boundary line of the A-tractor, as seen from the rear. The LGF sign may not be placed behind a window pane, grilles or anything else that may obscure or impair the visibility of the LGF sign.

**Fitting**

The Swedish Transport Agency proposes that the LGF plate shall be permanently mounted on the A-tractor, so that it cannot become detached or change position. Mounting with double-sided tape, Velcro or similar solutions does not constitute permanent mounting. If there is no suitable surface for mounting on the A-tractor, a holder for the LGF plate shall be mounted, which shall be fixed so that it cannot become detached or change

position. In the case of a trailer towed by an A-tractor, these requirements may be derogated from.

The LGF plate shall be mounted vertically and perpendicular to the A-tractor's longitudinal direction, with a maximum deviation of 10º. It shall be directed backwards and have one of the points of the triangle pointing upwards. The geometric visibility of the plate shall, horizontally, be 30 degrees inwards and outwards and, vertically, 15 degrees above and below the horizontal line.

## 4. Who will be affected?

The proposed regulation primarily concerns owners and users of A-tractors, fellow road users, roadworthiness testing companies, and the police.

## 5. What are the impacts of the regulation?

### 5.1 Companies

(X) The regulation is not deemed to significantly impact the working conditions, competitiveness or other conditions of companies. All consequences for companies are therefore described under 5.1.

( ) The regulation is deemed to significantly impact the working conditions, competitiveness or other conditions of companies. Therefore, the impact assessment does not contain a description under 5.1, but all the consequences for companies are described in Section C.

#### Roadworthiness testing companies

The proposed regulation imposes increased costs on roadworthiness testing companies for updating instructions and training staff. The proposal is also expected to provide the roadworthiness testing bodies both uniformity and better conditions for the checking of the LGF plate during roadworthiness testing for registration and inspection.

#### Manufacturers of LGF plates

The proposed regulation will apply to both new registered A-tractors and A-tractors in traffic, which may result in an increased demand for LGF plates and any holders for these when the regulations enter into force. This is due to the fact that the LGF plates that do not meet the new requirements need to be replaced. Thus, for a limited period of time, the proposed regulation may benefit manufacturers of LGF plates and their holders. However, there should be no impact of significance.

**Companies using A tractors that are currently exempt from the use of LGF plates**

Since the derogations concerning when an A-tractor does not need to be equipped with an LGF plate are removed, companies using A-tractors in accordance with the derogations will incur costs for the installation of an LGF plate. However, this cost is so low that there is no impact of significance.

### 5.2 Individuals

The proposed regulation affects owners and users of A-tractors, as well as fellow road users.

Since the proposed rules will also apply to A-tractors in traffic, and not only for new registration, the greatest impact will be for those who own an A-tractor whose LGF plate does not meet the requirements. This may require simply having to adjust the position of the existing plate, to needing to purchase a new sign to be fitted on the A-tractor. However, this impact is associated with low costs, which is why it is considered to be a consequence of minor importance.

Through increased visibility, both A-tractor drivers and fellow road users are positively affected by the proposed regulation, as it will be easier for overtaking traffic to identify A-tractors, and thus reduce the risk of A-tractor drivers being hit.

### 5.3 The State, regional authorities or municipalities

The proposed regulation will provide the police with better conditions to control A-tractors during roadside inspections. Otherwise, the proposal has no impact on the State, regions or municipalities.

### 5.4 Environment

The proposal has no environmental effects.

### 5.5 External effects

The proposed regulation has positive effects on society through increased road safety, as A-tractors become easier for overtaking traffic to identify, thereby, reducing the risk the risk for A-tractor drivers to be rear-ended.

## 6. Summary of options considered and why the proposed regulation is considered the best option

The starting point for the regulatory work has been the proposals for road safety-enhancing measures for A-tractors presented by the Swedish Transport Agency in its government assignment report. That is to say, clarified requirements regarding the presence and design of the LGF plate.

The proposed regulation contains clearer requirements for how an A-tractor's LGF plate should be designed, placed and fitted. With regard to the fact that incorrectly designed and placed LGF plates are common today, the proposed regulation is deemed necessary, and we do not see that there are any other realistic alternatives.

The proposal states that an A-tractor and a trailer towed by an A-tractor must be equipped with an LGF plate, unlike the current regulation, where an A-tractor must be equipped with an LGF plate when travelling on the road. The possibilities for exemptions from the LGF plate on the A-tractor have also been removed. This means that an A-tractor must always be equipped with an LGF plate, thereby, ensuring that the LGF plate can always be checked. It also gives the police better opportunities to take action against those A-tractors whose LGF plates do not comply with the prescribed requirements, as it no longer needs to be obvious that the A-tractor has been travelling on the road at the time for a fine to be issued. As roadworthiness testing bodies and the police are in a better position to carry out their checks, this is expected to increase the proportion of A-tractors with approved LGF plates.

The proposal contains clearer requirements that the LGF plate must not be altered in its design or fitted with anything that may affect its reflective surface. The requirements are introduced since it today is common for LGF plates to be modified, impairing their reflective ability and visibility. Also, to avoid misplaced plates and plates that are attached in such a way that they can be easily detached, the proposal includes clarifications as to where and how the LGF plate should be attached on the A-tractor. With these clarifications, it will be easier for those who build and use A-tractors to follow the set rules, which increases the likelihood that the A-tractors in traffic will be equipped with approved LGF plates.

All of the proposed regulatory changes will increase the visibility of A-tractors, thereby, reducing the risk of them being rear-ended and other traffic-hazardous situations linked to poor visibility.

## 7. What authorisation is the Agency's right to make decisions based on?

The regulations with technical requirements for the LGF plate are issued on the basis of the authorisation in Chapter 8, Section 16 of the Vehicle Ordinance (2009:211).

## 8. Is the regulation consistent with or does it exceed the obligations arising from EU law or other international rules?

The proposals for regulations are not deemed to go beyond the obligations arising from EU legislation, which is why they are considered to be compatible with EU law. They are also not contrary to other international rules.

The regulations are technical requirements for A-tractors. For this reason, the proposed regulations are deemed to be subject to the notification obligation, under the Ordinance (1994:2029) on Technical Rules.

The proposed regulation does not impose any new requirements on service providers, so the proposals do not need to be notified under the Ordinance (2009:1078) on Services in the Internal Market.

The proposal does not contain any requirements that involve regulation of professions, so no notification under the Act (2016:145) on the Recognition of Professional Qualifications or proportionality test pursuant to the Ordinance (2020:757) on Proportionality Testing in case of New or Changed Requirements for Professional Qualifications needs to be made.

The proposal does not contain any data localisation requirements, which is why notification is not required, according to Article 4(2) of Regulation (EU) 2018/1807 of the European Parliament and of the Council of 14 November 2018 on a framework for the free flow of non-personal data in the European Union (the Data Flow Regulation).

## 9. Does special consideration need to be given regarding the date of entry into force, and is there a need for special information initiatives?

The Swedish Transport Agency’s objective is for the regulations to enter into force as soon as possible, but in this case, account needs to be taken of the draft regulations in Part 1 on speed limitation devices for A-tractors. Thus, the entry into force will be six months after the adoption of the regulations, which will allow those who own A-tractors, whose LGF plates do not meet the new requirements, to have enough time to take action. It also gives roadworthiness testing companies a reasonable amount of time to update their procedures and train staff.

The Swedish Transport Agency considers that there is a need for some type of information measure with regard to the new rules for LGF plates and how they will enter into force. Thus, a communication plan will be developed to meet the existing needs.

# B. Transport policy effectiveness

The overall goal of Swedish transport policy is to ensure a socio-economically efficient and long-term sustainable transport supply for citizens and businesses throughout the country. Under the overall goal, there are performance objectives and health, environment and safety (HES) objectives with a number of prioritised areas.

The performance objective is to create accessibility for people and goods. The design, functioning and use of the transport system shall help provide everyone with basic accessibility, with good quality and usability, as well as contribute to the development dynamic across the whole country. At the same time, the transport system must uphold the value of equality, meaning it must meet the transport needs of both men and women in equal measure.

The HES objective concerns health, environment and safety. The design, functioning and use of the transport system shall be adapted so that no one is killed or seriously injured. It shall also contribute to the overall generational goal for the environment and achieving the environmental quality goals, as well as contribute to increased health.

### 1. How does the regulation affect the performance objective?

The proposed regulation does not affect the functional objective.

### 2. How does the regulation affect the HES objective?

The proposed regulation impacts the HES objective by enhancing road safety. By increasing the LGF plate visibility, it will be easier for overtaking traffic to identify A-tractors and, thus, reduce the risk of A-tractors being rear-ended.

# C. Companies

The regulation is not deemed to significantly impact the working conditions, competitiveness or other conditions of companies. All consequences for companies are therefore described under point 5.1.

# D. Summary of impacts

| Affected party | Impacts that cannot be quantified | | Quantified impact (SEK thousands) | Comments |
|---|---|---|---|---|
| | **Advantages** | **Disadvantages** | **+ / -** | |
| **Companies** | Roadworthiness testing companies will have clearer rules to follow when carrying out roadworthiness tests for control and registration | Roadworthiness testing companies face increased costs for updating procedures and training staff | - | - |
| | Manufacturers of LGF plates and its holders will benefit from increased sales for a limited time | - | - | - |
| **Individuals** | Increased visibility for A-tractors and, thus, lower risk of rear-end collisions | Costs in the form of a new LGF plate and possibly a holder, for owners of A-tractors whose LGF plates do not meet the new requirements | - | The costs of the LGF plate, including the holder, are deemed to be so low that they have no significant impact on the individual vehicle owner. |
| **The State etc.** | The police will have better conditions for checking LGF plates | - | - | - |
| **External effects** | Increased road safety due to increased visibility for A-tractors | - | - | - |
| **Total** | - | - | - | The consequences are assessed as predominantly positive |

## E. Proportionality of the proposal

The proposal is deemed to be proportionate as it contains clarified requirements on what already applies today. A new LGF plate and possibly a holder for it, entails a relatively low cost. In relation to the positive effects that the proposal is expected to have, the costs of acquiring or replacing one's current LGF plate, as a result of the regulatory changes, are considered proportionate.

## F. Follow-up and evaluation

We assess that it is not possible to follow up on the effects of this regulatory work as it forms part of several regulatory changes that have been made to address the issue of A-tractors. That is, we will not be able to attribute a change solely to the regulations we propose. We also do not have access to, e.g. accident statistics that are directly linked to a modified or incorrectly placed LGF plate, and, therefore, have no figures to compare to.

Although we cannot follow up on the effects of the regulatory work, there is the possibility of feedback from, for example, the police and roadworthiness testing bodies, through established contact channels, on how they perceive the situation with modified or incorrectly placed LGF plates for A-tractors.

## G. Consultation

There is no consulting obligation regarding A-tractors. During the investigation, however, we have collaborated with the Swedish Police Authority, the Vehicle Roadworthiness Test Industry, and the Swedish Prosecution Authority.

If you have any questions regarding Chapter 2 of this impact assessment, or any opinions you would like to share, please contact us:

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