# Impact assessment for the Swedish Transport Agency’s regulations concerning steady, diffuse, blue light emitted from Police Authority emergency vehicles

**The Swedish Transport Agency’s proposals:**

The Swedish Transport Agency’s regulations and general advice (TSFS 2016:22) on cars and trailers towed by cars and put into service on or after 1 July 2010, and the Swedish Transport Agency’s regulations and general advice (TSFS 2021:11) on motorcycles that have been put into service and their trailers, shall both be amended such that Police Authority emergency vehicles may be equipped with lamps emitting steady, diffuse, blue light.

# General

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

Under Chapter 3, Section 77a of the Road Traffic Ordinance (1998:1276), steady, diffuse, blue light may be emitted from an emergency vehicle that belongs to the Policy Authority and is used in a professional capacity by a police officer. The provision will enter into force on 1 October 2023.

The basis for the amendment to the Road Traffic Ordinance is a request to the government from the Police Authority for Police Authority emergency vehicles to be allowed to emit steady, diffuse, blue light. The Police Authority has indicated a need to be generally able to use a non-stressful, unprovocative or non-escalating light signal on vehicles in order to make it visible that the police are on the scene, inviting people to approach the police and reassuring people in the area of their safety through the police presence.

Police Authority emergency vehicles have lacked any way of conveying a police presence and public approachability by means of a light function without using the car’s regular blue light function (alarm device), which can only be used in exceptional cases, namely to clear free passage through traffic or to warn road users. The Swedish Police Authority considers this to be a shortcoming and there is considerable potential to improve visibility. There is a need to be able to use the car’s roof-mounted light bar for identification lights in many situations. For example, during routine patrols in residential areas and around pubs, in connection with monitoring demonstration marches and public gatherings, or when monitoring traffic on various types of roads. Identification lights, as they are referred to by the Police Authority, are complementary to the police identifying symbols on the vehicle and have a particular benefit during the evening and at night when lighting conditions make police vehicles more difficult to identify.

Since 2014, when the Swedish Transport Agency granted exemptions from the provisions of the Road Traffic Ordinance and regulations issued on the basis of the Vehicles Ordinance (2009:211), the Police Authority has been conducting trial operations, in which Police Authority emergency vehicles have been fitted with a steady, diffuse, blue light and the light has been used in traffic. The Swedish National Road and Transport Research Institute (VTI) has carried out field experiments and survey studies as part of the trial operations in order to evaluate the visibility-promoting and reassuring effects of light. The overall conclusion is that the light is effective in both of these respects.[[1]](#footnote-2)

Registered Police Authority emergency vehicles include different types of motor vehicles; including passenger cars, lorries, buses and motorcycles. For Police Authority emergency vehicles to be equipped with lamps emitting diffuse, steady, blue light of this kind, it is necessary to amend the Swedish Transport Agency’s regulations and guidelines for cars and trailers towed by cars and put into service on or after 1 July 2010 (TSFS 2016:22) and the Swedish Transport Agency’s regulations and general advice (TSFS 2021:11) on motorcycles that have been put into service and their trailers. The regulations state that vehicles may not have headlamps or lamps of any kind other than those specified in these or other regulations issued by the Swedish Transport Agency.

## What is to be achieved?

By means of the proposed regulatory amendments, Police Authority emergency vehicles may be equipped with lamps emitting steady, diffuse, blue light which, under Chapter 3, Section 77a of the Road Traffic Ordinance, is allowed to be used on Police Authority emergency vehicles as of 1 October 2023. The amendments to the regulations therefore mean that the use of such lights in accordance with the Road Traffic Ordinance becomes possible in practice.

## What are the alternative solutions?

### Impact if nothing is done?

If nothing is done, Police Authority emergency vehicles may not be equipped with the identification lights that the government has decided may be used. The purpose of the rule, namely to increase the visibility of vehicles and to reassure the public of their safety through the presence of police vehicles in application of Chapter 3, Section 77a of the Road Traffic Ordinance, will therefore not be fulfilled.

### Alternatives that do not involve regulation

There is no alternative that does not involve regulation.

### Regulatory alternatives

A provision stipulating that Police Authority emergency vehicles may be equipped with steady, diffuse, blue light needs to be included in Annex 1, paragraph 20 on lighting and light-signalling devices and their installation of TSFS 2016:22 and in Chapter 5 on lighting and reflectors of TSFS 2021:11.

#### Background

The identification lights currently used on Police Authority emergency vehicles emit steady, diffuse, blue light from the same roof-mounted light bar as is used for normal blue light functions to clear free passage through traffic or warn road users. As of 2020, the equipment has been the same on all new emergency vehicles used by the Police Authority.

The light bar is controlled by an advanced control system for activity-specific vehicle functions, such as light, sound and locking. The identification light is operated by a dedicated touch button in the digital user interface where the light function can be switched on or off. The system is designed so that, when the vehicle’s normal blue light function is activated, the identification light is automatically switched off. It is also not possible to turn on the identification light at the same time as other lighting functions in the light bar.

The normal blue light function is subject to type-approval requirements (ECE Regulation R65) which, for example, regulate permissible luminous intensities at different ranges for different lights and whether they are to be used during the night or day. There are no type-approval requirements for identification lights in the Regulation.

The supplier currently supplying light bars to the police states that the perceptible luminous intensity of the identification light has been reduced by means of pulse modulation to approximately 2 % of the maximum performance of the light bar’s normal blue light function for class 1 (day). This is consistent with the requirements stipulated by the Police Authority in the light bar procurement process.

No measured luminous intensity values are available for the identification light currently used on Police Authority emergency vehicles. The actual difference in luminous intensity between the identification light and the normal blue light function of the light bar is also unclear. The total luminous flux from the light bar depends on how it is configured on the emergency vehicle in question and may vary depending on the type or size of the vehicle.

Below are two options considered for regulating luminous intensity.

#### Option 1

Option 1 involves text-based regulation stipulating that steady, diffuse, blue light shall be clearly distinguishable from blue light functions from the alarm device and shall not be dazzling or dimmable. (The Swedish Transport Agency’s proposal).

#### Option 2

Option 2 involves regulation as per Option 1 plus general advice on how the requirement can be met by indicating the appropriate luminous intensity for the identification light in candela or by a percentage of the maximum luminous intensity of the light bar.

## Who will be affected?

The proposed regulatory amendments affect Police Authority operations and manufacturers of the equipment procured by the Police Authority.

## What are the impacts of the regulation?

### Enterprises

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

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

The proposed regulatory amendments affect enterprises involved in the design and sale of lamps, roof-mounted light bars, etc., as well as enterprises involved in the manufacture and sale of emergency vehicles. However, these industries are responsive to changes prompted by technology development and changes in the regulatory framework, so the impact on these enterprises should be marginal in this context.

Since emergency vehicles for government authorities are procured under the Public Procurement Act (2016:1145), only those enterprises intending to submit tenders for such procurement, or which have concluded framework agreements with the Authority, are affected.

The option of equipping light bars with identification lights may require design changes that ultimately have an impact on the product price paid by the customer. Costs may be incurred for design work, testing and certification work and set-up costs for series production. In the case of the Police Authority, the winning supplier is ensured cost recovery for their work when the product is subsequently procured and sold to the Authority. Allowing the identification light will have very little impact on the competitive position of enterprises submitting tenders for the procurement of complete Police Authority emergency vehicles.

The Police Authority owns approximately 3 600 emergency vehicles, of which approximately 1 500 are technically designed to enable the use of identification lights. All new emergency police vehicles delivered from 2020 onwards are technically designed to display identification lights.

### Citizens

The draft regulations do not have any impact on citizens.

### The State, regional authorities or municipalities

The proposed changes do not have any impact on municipalities and regions, but do have some impact on the Police Authority.

Due to the fact that the identification light is not mandatory equipment, additional costs are incurred only to the extent that vehicles are to be equipped with the light for use in accordance with the new provisions of the Road Traffic Ordinance.

Since new emergency vehicles acquired by the Police Authority and to some extent existing vehicles as of 2013 already support the identification light technology, the Police Authority’s increased costs for the equipment will be limited. Such costs relate mainly to maintenance, training and communication on the identification light equipment and its function. These costs are considered to be insignificant.

### Environment

Equipping Police Authority emergency vehicles with identification lights is not considered to have any impact on the environment.

### External effects

The regulations allow emergency vehicles to be equipped with identification lights in accordance with Chapter 3, Section 77a of the Road Traffic Ordinance. This means that the external effects anticipated by the usage provision can be achieved. Otherwise, the regulations are not considered to have any significant external effects.

## What is the impact of the regulatory alternatives considered and why are the regulations considered to be the best alternative?

It is important, primarily for road safety reasons, for the identification light not to be confused with normal blue lights from the roof-mounted light bar. The Swedish Transport Agency deems it necessary to regulate the meaning of ‘diffuse light’.

The most appropriate regulation is to stipulate in accordance with Option 1 that Police Authority emergency vehicles may be equipped with lamps emitting steady, diffuse, blue light which cannot be confused with other blue light functions and is not dazzling or dimmable. The Swedish Transport Agency deems the requirements for the identification light laid down in Option 1 to be sufficient to fulfil that function.

The Swedish Transport Agency's view is that it is inappropriate to specify values or ranges for the luminous intensity of the identification light (Option 2) because the difference in intensity between the identification light and the blue light of the light bar may be perceived differently in different applications and from different types of emergency vehicles, even where one and the same luminous intensity value is specified. Luminous intensity measurements are also quite costly and complicated. In addition, it is not possible to specify a general value or range of total luminous intensity that applies to all types of emergency vehicle due to different types of configurations.

Taking into account the above, we have chosen to propose Option 1.

## On what authorisation is the Agency’s right to make decisions based?

Authorisation to make amendments to the regulations can be found in Chapter 8, Section 16 of the Vehicle Ordinance (2009:211).

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

As regards the use of blue light on vehicles, provisions are laid down in the Vienna Convention on Road Traffic, adopted on 8 November 1968. The Swedish Transport Agency assumes that, in connection with amending Chapter 3, Section 77a of the Road Traffic Ordinance, the government deemed the use of such light to be consistent with the Convention.

The draft regulations are deemed to be consistent with EU law.

Since we intend to impose technical requirements on the light, albeit functional requirements, notification must be made in accordance with Directive (EU) 2015/1535 of the European Parliament and of the Council on technical rules.

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

Since the amendment to the Road Traffic Ordinance allowing the use of identification lights on Police Authority emergency vehicles enters into force on 1 October 2023, the regulations should enter into force at the same time. There is no need for specific information initiatives.

# 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 enterprises 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.

## How does the regulation affect the performance objective?

The regulation does not affect the performance objective.

## How does the regulation affect the HES objective?

The regulation does not affect the HES objective.

# Enterprises

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

# Summary of impacts

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Affected party | Impacts that cannot be quantified | | Quantified impacts (SEK thousands) | Comments |
|  | **Advantages** | **Disadvantages** | **+ / -** |  |
| Enterprises | - | - | - | No significant impact. |
| Citizens | - | - | - | The proposal has a positive impact on citizens as the identification light increases the visibility of the police and is therefore an effective tool for reassuring the public of their safety. |
| The State etc. | - | - | - | Positive impact on the State, the Police Authority, etc. Police traffic monitoring, crime prevention, and work to reassure the public of their safety are facilitated. |
| External effects |  |  |  |  |
| Total |  |  |  |  |

# Consultation

There is no formal requirement for consultation. During preparation for this matter, proposals have been coordinated privately with the Police Authority.

If you have any questions or any opinions you would like to share regarding this impact assessment, please contact us:  
  
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1. <https://www.vti.se/>, Police identification lights, VTI report 1075, published 2021. [↑](#footnote-ref-2)