Traffic safety for new parents

The traffic safety of children is the responsibility of adults.

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Safe traffic

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General information about children and traffic.

Children's safety in traffic is the responsibility of adults. This means that in addition to the natural responsibility of parents, that transport planners, vehicle manufacturers, teachers and of course other motorists need to take children's abilities and vulnerabilities into consideration, and plan accordingly.

That children require constant supervision in traffic goes without saying. But it can be hard to know when children are mature enough to take personal responsibility in traffic. To a large extent it comes down to what the traffic environment is like around the home, preschool and playground. Simply put, it should be possible for children to be safe and secure in their local environment, even when they are too young to be left alone. When young children move around in a traffic environment, they should always be accompanied by an adult. Children gradually need to learn to take responsibility on their own and – with the help of adults – to gain experience on the way to becoming mature in traffic. If the local environment is safe, it is easier to gradually let the children take personal responsibility as they grow older. Whether or not the children are able to walk to school on their own largely comes down to what the particular traffic environment is like.

It is almost impossible to define an age at which most children are able to be in traffic on their own, especially because the traffic environment can vary so widely, but also because children are different. A rough rule of thumb is that children can walk to school in areas of moderate traffic at age 9-10, and are able to bicycle in traffic at age 11-12 – but of course there are traffic environments that no children should navigate on their own, and areas where younger children can also bicycle to school if there are safe, secure and unbroken bicycle lanes.

Here, NTF has compiled important information about young children and traffic. That is, before they navigate traffic on their own. The information focuses on child safety when in cars and on bikes, but there are also sections about safety on buses and on foot.

Child safety in cars.

The car and the car's safety systems – the seat belts, airbags and seats – are designed and sized for adult bodies. Children are both more fragile than adults and smaller in size. Their proportions also differ from those of adults. This means that children are more vulnerable during a crash, and need special protection in the form of baby seats, child safety restraint or booster seats/booster cushions, depending on their age.

Under Swedish law, everyone riding in a car must wear a seatbelt, both in the front and in back. Children who are shorter than 135 cm must also use a special restraint: a baby seat, child safety restraint or booster seat/booster cushion. ***The restraint must be type-approved, suitable for the child, and installed and used as intended.***

Rearward-facing is safest

Children should ride facing backwards for as long as possible. This is because the child's head is too large and heavy relative to the forces that the child's neck and muscles are able to withstand. When you are seated facing forward and the vehicle decelerates sharply or crashes, everything not fastened securely to the car continues travelling forward until something stops it. The body is restrained by the seatbelt, but the head is thrown forward only to whip back again. The child's neck cannot handle this jerking motion. The child may break its neck, while we adults may suffer from a whiplash.

This is why children should be facing backwards for as long as possible, up to age 4-5. Only then are the muscles of the neck sufficiently developed, and most children too tall or too heavy for a rearward-facing seat.

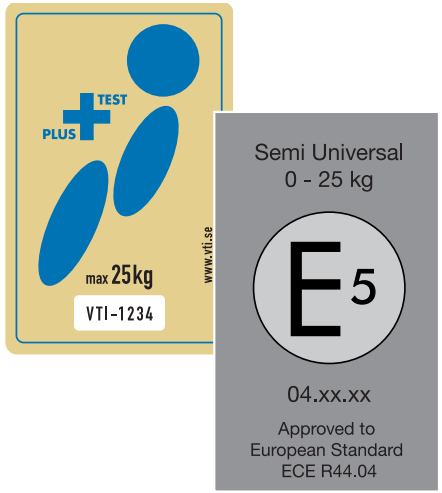
Approval

In order to use a child restraint in Sweden, it must be approved, either under ECE R44 or under i-Size (UN R129).

ECE R44 approves seats up to a certain weight class, whereas i-Size approves seats based on the child's height and approximate age. i-Size imposes more stringent requirements on the alignment between seat and car, and has improved collision tests, including a side impact testing requirement.

There is no reason to replace a properly-functioning child restraint system that has been approved under the ECE R44 standard just because a new approval has been issued. ECE R44 and i-Size will continue to operate in parallel for several years.

In Sweden, child restraints can also receive the Plus approval. This is a voluntary supplementary test in Sweden guaranteeing that the child's neck will not be subjected to life-threatening forces in a frontal collision. Under the ECE R44 regulation, the Plus approval is issued for the 18kg (ISO-fix seats) or 25kg (belt-mounted seats) weight categories, but i-Size seats also require a supplementary Plus approval in order to verify what neck forces the child will be subjected to in an accident.



Baby seat

As a newborn and up to around 6-9 months, the child travels in a baby seat. The seat is placed facing backwards in either the front or back seat, and is fitted with the car's three-point seat belt, or to a base secured with the car's seatbelt or the ISOFIX attachment system. A base makes it easy to remove the baby seat and put it back in the car. Provided that the airbag has been deactivated by an authorised garage or using the key-based airbag deactivation function, the passenger seat is a good place for the baby seat, because it gives you a good view of the child if you are driving the car alone. The child is held in place by the harness installed in the baby seat.

Once the child is able to sit by itself without support, or once it has grown out of the baby seat, it is time to switch to a rearward-facing child safety restraint.

The child has grown out of the baby seat once the child's head clears the edge of the seat, or once it has crossed the weight limit.

Child safety restraint

Once the child is able to sit steadily without support, it is time to switch to a rearward-facing child safety restraint.

It is fitted to the passenger seat or a rear seat, facing backwards, using tether straps and the seatbelt, or the ISOFIX attachment system. The child is held in place by the harness installed in the safety restraint.

Children should travel facing backwards for as long as possible, up to the age of 4-5.

Provided that the airbag has been deactivated by an authorised garage or using the key-based airbag deactivation function, the passenger seat is a good place for the child safety restraint, because it gives you a good view of the child if you are driving the car alone, plus it gives the child more legroom.

Some children may experience restricted legroom, especially in the back seat, and sit with their legs raised "Indian style," or with their legs resting up against the car seat – this does not present any risks.

However, the child has grown out of the seat when a third of the child's head protrudes above the upper edge, roughly level with the child's eyes, or once the seat's weight limit has been crossed.

Booster seat/booster cushion

The child travels facing forward in a booster seat or on a booster cushion. However, a forward-facing child restraint should only be used once the child is no longer able to travel facing backwards, and no earlier than at age 4-5. It is not necessary to mount the safety restraint, but in some cases it is possible to fasten it to the car's ISOFIX attachment system.

Doctors and researchers recommend that children use booster seats/booster cushions up to age 10-12. Not until puberty does the child's body develop to the point where it can keep the belt in place without the help of the cushion.

The booster seat or booster cushion helps adapt the car's three-point seatbelt to the child's body. As long as the child's bones are not fully developed, the child has to be raised up so that the seatbelt is able to protect the body. Make sure that the belt is positioned correctly – close to the neck, across the sternum and down across the thighs (not across the stomach). The closer to the body the belt is fitted, the better the protection it provides.

In many new car models, it is possible to have integrated booster cushions fitted in the car when you order it from the factory. These cushions provide very robust protection for the child.

Reversible child restraint systems, referred to as combo seats, are often too straight for smaller children, and also work poorly as booster seats. They also increase the risk that parents will be tempted to face the child forward too early. If a reversible seat is used in the forward-facing position, the internal harnesses should be removed, and the child should be strapped in using the car's seatbelt.

Airbag

The passenger airbag is designed primarily for adults. When the passenger seat is being used by children shorter than 140 cm, the airbag should therefore be disabled, unless the vehicle manufacturer has issued other recommendations.

The airbag should always be disabled for children seated facing backwards.

Side airbags do not present a hazard to children seated in rearward-facing or forward-facing child safety restraint.

Provided that the airbag has been deactivated by an authorised garage or using the key-based airbag deactivation function, the passenger seat is a good place for children of all ages.

Installation

Always install the seat in accordance with the seat's instruction manual. The seat has been tested and approved based on correct installation, meaning that we do not know what forces the child will be subjected to or what will happen to the seat if it is installed incorrectly.

The ISOFIX attachment system facilitates installation, and reduces the risk of improper installation. A properly-installed child safety restraint with tether straps is just as safe as a seat installed using the ISOFIX attachment system.

Children with disabilities

For young children with disabilities and who are unable to use a normal baby seat, there are seats available that can be used when lying down. However, these do not provide the same level of protection as a rearward-facing baby seat.

There are special, customised restraints available for older children, both rearward-facing and forward-facing.

If you buy used equipment

- *Check the age* of the child safety restraint. The recommended service life of a child restraint is 10 years, and 5-7 years for a baby seat.
- *Locate the manual,* these are generally available on the Internet.
- *Inspect the equipment.*
- *Only buy a child safety restraint from someone you know and trust.* If you are unsure, it is better to buy a new one. A restraint device that has been involved in a collision should be discarded.
- *Check the seat's approvals.*

Children on the bus.

Under Swedish law, everyone aged three and up is required to sit in a seat equipped with a seatbelt, and must use that seatbelt.

Rearward-facing is safest

Just like in the car, it is safest for children to travel facing backwards. For the very youngest children, the best thing is to bring along the baby seat and install it facing backwards on a seat in the bus. This can sometimes be difficult if the belt is not long enough.

It is more difficult for children aged 1-4. Sometimes it is possible to install a child safety restraint on the bus, but not always. This means that it is often difficult for children under the age of four to travel safely on a bus.

For children over the age of 4-5, it's perfectly fine to bring along a booster cushion. There are approved models available that have features making them easy to travel with, such as being integrated into a rucksack, or being inflatable.

Some buses may have a few rear-facing seats. Always choose one of these if you are travelling with children, so that they get to travel facing backwards.

There are also a few coach operators in Sweden that have special rearward-facing seats installed for children. Ask for one when you book your trip! If many consumers demand safe bus travel for young children, this will increase the chances that bus companies will prioritise child safety.

Länstrafiken/Region Örebro County. Image: Alexander von Sydow.

Children on bicycles.

Child bicycle seat

Giving a child a ride without a child bicycle seat can be very dangerous. The most common type of accident is when the child gets a foot caught in the bike's spokes. Modern child bicycle seats make this almost impossible, as they are frequently designed to prevent the child's feet from reaching the wheels.

You can start using child bicycle seats from the time the child is able to sit steadily, at around nine months. The child bicycle seat should be marked EN14344 - proof that the seat complies with European quality and safety requirements.

Child bicycle seats are available in two weight classes: for a maximum of 15 or 22 kg. Seats rated for 22 kg are preferable, if it is possible to adjust the harness and footrest to fit smaller children as well.

There are two variations on the child bicycle seat: seats that attach to the seat post, and those that attach to the rear rack. The former are often heavier, in most cases more stable, and are also frequently easier to move from bike to bike, as you can have a bracket mounted on several bikes.

If the bicycle has suitable seats and spoke guards, it is legal to carry a child under the age of 10 if you have turned 15, and to carry two children under the age of 6 if you have turned 18.

Bicycle trailer

A bicycle trailer can be a good alternative to a child bicycle seat.

When choosing a bicycle trailer, you should consider its stability characteristics – the trailer must not tip over when cornering, and must not come loose from the coupling. There is least risk of tipping if the trailer is hooked into the bike's rear axle, if the wheelbase is wide, or if the wheels are canted. The trailer should have a roll bar to protect the child if the trailer overturns. Also, verify the maximum weight that the trailer is rated to carry.

The compartment for children should have safety belts, preferably with crotch straps.

By law, a "*...bicycle with a trailing vehicle must be equipped with two independent braking systems*". Good braking capacity is required.

Bicycle helmet

All children and young people under age 15 are required by law to use a helmet when cycling or being transported on a bicycle. NTF also recommends wearing a helmet in the bicycle trailer.

Make sure that the helmet is CE marked. The marking should be CE EN 1078 (for children over age 7 and adults) or EN 1080 (helmet for young children with a green buckle); that way you know that it is a helmet designed for cycling.

Make sure that the helmet fits snugly and comfortably on the child's head, so that it cannot fall off or be pushed backwards. When you buy a helmet for your child, you should not buy an oversized helmet that the child can grow into.

The helmet should cover the forehead, the back of the head and the crown. Keep in mind that 70 percent of the head impacts occurring in bicycle accidents are to the forehead and/or the temple.

Replace the helmet if it has been damaged, or if it has been subjected to a powerful impact.

Bicycle helmet with green buckle

For children up to seven years old, we recommend using a helmet for young children with a green buckle. It provides the same level of protection as an ordinary bicycle helmet, but the green buckle has an additional feature causing it to release under a defined load. The buckle will release if the child gets caught in a climbing frame or similar, to help prevent choking accidents.

Balance bicycle

A balance bicycle is a small bicycle without pedals, and is used by children before they can ride a real bicycle. On a balance bicycle, the child uses its feet both to gain speed and to brake. Experience shows that many children are quickly able to find their balance, making it easier for them to transition to a regular bicycle. NTF recommends using a balance bicycle before moving on to a pedal-powered two-wheeler, and to

skip the stabilisers phase entirely.

Keep in mind that a balance bicycle can gain a lot of speed even on a slight downhill, and that it can be hard to brake. Loose gravel and ruts in the ground can cause problems. Wear a helmet and always play in car-free environments under the supervision of adults.

Two-wheeled bicycle

At age 5-6, the child is mature enough for a two-wheeler. Do not buy a two-wheeler with stabilisers. It is better to wait until the child has acquired the necessary balance. Stabilisers make it easy for the child to reach high speeds. If an accident occurs, this can cause serious injuries. Not only that, but the stabilisers force the child to lean in the wrong direction in turns, which may cause problems when they are removed.

When the time comes to buy the first real bicycle, you should bring the child along so that you can find one that is just the right size.

Young children should be able to touch the ground with both feet when seated in the saddle. For school-age children who have learned how to ride, it may be enough to be able to touch the ground with one foot.

The child's first bicycle should be equipped with a back-pedal brake. There is no need for gears or hand brakes yet. The children have plenty on their hands already trying to keep their balance, steer and brake.

By law, the bicycle must be equipped with a bell. It must also be equipped with lights on the front and back, as well as reflectors on the front and back, and on the sides of the wheels, if the bicycle is to be used after dark. It is also a good idea to use a marked (for anti-theft purposes) lock and chain guard.

When purchasing the first bicycle with a hand brake, it is important for the brake lever on the handlebar to fit the child's hand.

Children on foot.

Children's safety in traffic is the responsibility of adults. It is the job of adults to make sure that the children's environment is as safe as possible.

We cannot expect children to behave like adults when they are in traffic. Children are not always consistent in their behaviour. For example, a child may engage in safe behaviour in traffic one day, but may act in a completely different way the next day. Young children are easily carried away by their feelings, such as joy, anger or a sudden strong interest in something. They easily yield to their impulses, and may run straight out into the street. In many cases their imagination takes over – simply put, children will be children, even out in traffic.

Car-free environments

Young children should only be left to their own devices in car-free environments. Whenever there are cars or other motor vehicles in the area, it is best to hold the child's hand.

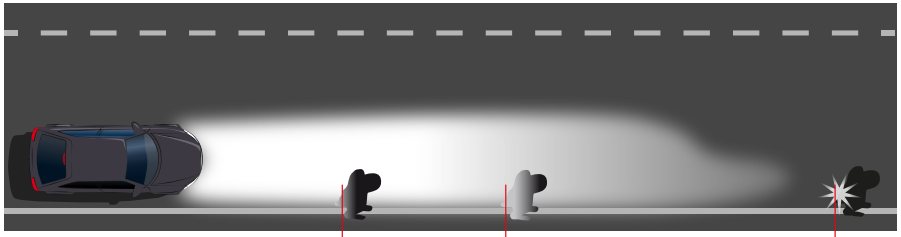
Reflectors

40 percent of all traffic accidents involving pedestrians occur after dark. Wearing reflectors makes it easier for people to see you, reducing the risk of an accident.

Reflectors are for more than just dark country roads. It is even more important to wear reflectors in city traffic, despite the neon signs and streetlights. Most accidents involving pedestrians occur in urban areas with street lighting. One reason for this is probably that many pedestrians believe they are visible, when they are not actually visible from inside a vehicle.

A good reflector is visible in the dark, or in poor visibility conditions, when it catches the beam of a headlight. The reflectors reflect the strong light that hits them. Wear the reflector low enough so that it will be caught in the headlight beams. It is important to put reflectors on a stroller so that it will be seen as you cross a pedestrian crossing. It is a good idea for young children to wear a reflective vest. They do not get in the way when the child is playing, and are available in children's sizes.

If you are wearing dark clothing, a driver using his low beams will detect you at a distance of 20 to 30 meters. But if you are wearing light-coloured clothing he will see you at a distance of 60 meters. And if you are wearing reflectors, the car will see you from 125 meters away.



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