

Recommendations on possible elements for EU legislation on Transport (of dogs and cats)

Table of Contents

1. FITNESS FOR TRANSPORT	3
1.1 Introduction.....	3
1.2. Fitness for transport	3
1.2.1. Recommendation: Fitness table	3
1.2.2. Recommendation: Body Condition Score	6
1.2.3. Recommendation: Age.....	8
1.2.4. Recommendation: Muzzles and muzzle-like devices.....	9
1.2.5. Recommendation: Pregnancy and birth.....	9
1.2.6. Recommendation: Clinical examination.....	10
1.2.7. Recommendation: Vaccinations	11
1.3. References.....	11
2. CHECKS AT DEPARTURE.....	13
2.1. Recommendation: Passport.....	13
2.2. Recommendation: Health certificate.....	13
2.3. Recommendation: Journey log.....	14
2.4. TRACES recommendation: Vehicle checks	14
3. WATER AND FEEDING INTERVALS, JOURNEY TIMES AND REST PERIODS	15
3.1. recommendation: Food and water frequency	15
3.2. Recommendation: Pre-journey feed and water.....	16
3.3. Recommendation: Rest stops.....	16
3.4. Recommendation: Contingency planning	17
3.5. Recommendation: Long-journeys	18
3.6. Recommendation: Satellite navigation.....	18
References	19
4. SPACE ALLOWANCES.....	20
4.1. Recommendation: Space	20
4.2. Recommendation: Securing the animals	22
4.3 Recommendation: Transporting several cats/dogs together	22
5. TRAINING.....	23
5.1. Recommendation: Necessary knowledge/training.....	23
5.2. Recommendation: Minimum Training Curriculum.....	24

References	24
6. TEMPERATURE AND HUMIDITY.....	26
6.1. Recommendation: Ventilation	26
6.2. Recommendation: Temperature.....	26
6.3. Recommendation: Humidity.....	27
6.4. Recommendation: Sensors.....	28
References	28

1. FITNESS FOR TRANSPORT

1.1 Introduction

[Regulation \(EU\) 1/2005 on the protection of animals during transport](#), hereafter referred to as ‘the Regulation’, governs the wellbeing of all vertebrate animals during transportation. In 2020, the EU Platform on Animal Welfare Voluntary Initiative (Sub)group to safeguard the health and welfare of pets (dogs) in trade (referred to in this report as the ‘Subgroup’), produced the report ‘[Guidelines on commercial movement of cats and dogs by land](#)’, endorsed by the EU Platform on Animal Welfare. The guidelines report will be referred to going forwards as the guidelines report by the Subgroup. The report by the Subgroup outlines clear guidance in relation to the health and welfare of cats and dogs during commercial movement. The following report discusses the pros and cons and scientific arguments for inclusion of segments of these guidelines into the Regulation.

1.2. Fitness for transport

The Regulation currently requires all animals to be fit for the journey. Not only must animals be fit before transport, they must also remain fit during the journey. However, the Regulation contains only limited species-specific criteria to support owners in ensuring their animals’ health and welfare for and during transport. Furthermore, the European Parliamentary Research Service (EPRS) concluded that fitness of animals at departure is an important factor, that may mitigate or worsen the animal welfare situation in transportation (EPRS, 2018).

The Regulation currently provides general technical rules regarding fitness for transport. In addition, the following species-specific requirements should be included.

Table 1 below also concerns general aspects which we ask the EC to consider when adapting the transport regulation.

1.2.1. Recommendation: Fitness table

CONDITIONS	UNFIT FOR TRANSPORT	FURTHER ASSESSMENT REQUIRED
Difficulty standing, moving, maintaining balance or lameness	Stumbling, staggering, or falling. Animal unable to: Stand or remain standing; maintain balance; move without difficulty; bear weight on one or more legs. Severe lameness. Reluctant to stand or move.	Mild lameness. Weight shifting. Abnormal posture.
Wounds	Exposed body cavity, muscle, deeper tissue, or bone. Large, open wound (including surgical wounds). Infected open wound.	Multiple minor wounds. A wound that may reopen. Transport likely to aggravate the wound.

Bleeding	Profuse and/or continuous bleeding. Blood squirting out under pressure.	Other bleeding
Prolapse	Mass protruding from the vulva or anus. Bleeding from vulva or anus.	
Late pregnancy or recently given birth	Dogs/cats in last two weeks before expected parturition date or in the first week after parturation	Enlarged abdomen. Full or engorged udder.
Young puppies/kittens	See lower	
Pain	Signs of pain, e.g; repeated looking a location of pain ¹ . Unresponsive to surroundings. Inability to stand or difficulty standing.	Restless. Weight shifting. Facial tension. Abnormal vocalisation.
Dehydration	Unresponsive to surroundings (this can also be a sign of another serious condition). Capillary refill time is greater than 2 seconds.	Drinking excessively or for extended periods. Aggression when water is present. Dark or strong-smelling urine. Abnormal faeces.
Exhaustion	Unresponsive to surroundings. Inability to stand or move. Collapsed.	Lethargy, dull demeanour. Leaning or resting head. Reluctant to move or stand.
Abnormal weight (animals may be at risk of other health problems)	Poor body condition/emaciated: Prominent ribs, hips, backbone . Skin stretched taut over bones. See also below	Excessively overweight: see below

¹ Please also see amongst others painscore Dr. Steagall – FECAVA/WSAVA: < add link >

Infectious disease	Elevated temperature. Fitting, paralysis, or collapse.	Swellings, lumps, or abscesses. Repeated coughing. Discharge from any orifice. Sensitivity to light, touch, or noise. Abnormal faeces.
Swelling, inflammation, or abscess	Significant swelling, heat and/or redness. Pain. Ruptured abscess. Inability to move. Lameness.	Abscess that has not ruptured. Mild lameness. Reluctance to move.
Hernia	Signs of pain, poor general health, or colic.	Small or medium hernia.
Visually impaired	Blindness in both eyes	Ocular discharge. Abnormal eye/s. Ocular lesions. Nervousness, reluctant to move forward, clumsiness
Dangerous/ aggressive behaviour ²	See below	If in any doubt about an animal's behaviour
Difficulty breathing	Panting when at rest or from little exertion. Including brachycephalic dogs and cats who cannot breathe normally.	Brachycephalic dogs and cats who appear to be breathing normally.

Table 1: Table adapted from 'Practical Guidelines to Assess Fitness for Transport of Equidae (Horses, Ponies, Donkeys and their Hybrids)' - 2015 World Horse Welfare, FEEVA, Animals' Angels, ATA, BCP-CBC, Eurogroup for Animals, FVE, FISE, COPA-COGECA, UECBV, Austrian Federal Chamber of Veterinary Surgeons, AWIN, FFE.

Please note:

These criteria are primarily formulated for dogs; some criteria are more difficult to observe in cats in relation to transport, e.g. movement difficulties.

Exceptions need to be made for rescued animals who are being transported for the purpose of treatment and rehabilitation (including when authorities need to move/rescue animals because of poor animal welfare conditions).

² Part of the group doesn't agree that dangerous/aggressive behaviour means 'unfit for transport'; special measures should be considered.

1.2.2. Recommendation: Body Condition Score

Dogs and cats with a body condition score of either 1-2 or 8-9³ must not be transported⁴.

Cats with a low or high body condition score are more likely to develop health conditions, and are at greater risk of mortality, compared to those with a healthy score (Teng et al., 2018a, 2018b). In dogs, high body scores are associated with poor thermoregulation, which may be dangerous during transportation (Davis et al., 2017), and low body scores are associated with higher rates of mortality, and increased vulnerability to stressors (Banzato et al., 2019).

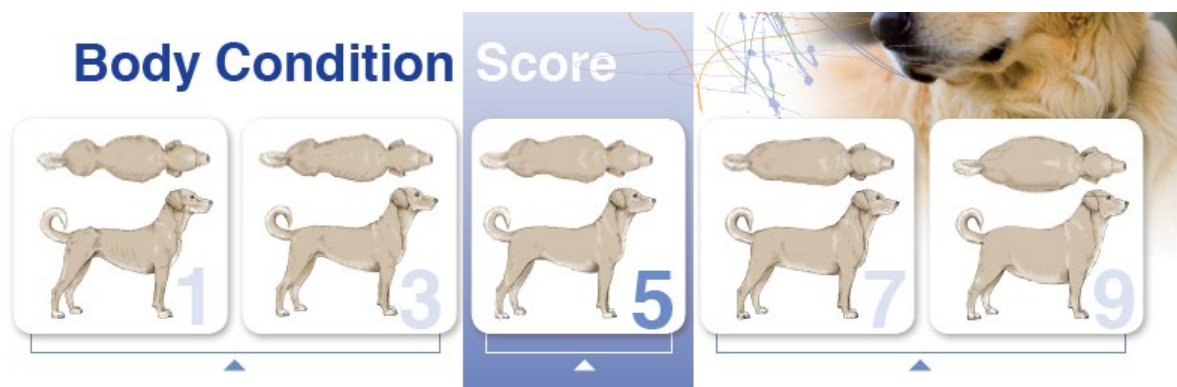


Figure 1. The WSAVA body condition score for dogs (WSAVA, 2013).



Figure 2. The WSAVA body condition score for cats (WSAVA, 2013).

Body condition score 1-2: Emaciated to very thin.

Dogs:

Body condition score 1:

Ribs, lumbar vertebrae, pelvic bones and all bony prominences evident from a distance. No discernible body fat. Obvious loss of muscle mass.

Body condition score 2:

Ribs, lumbar vertebrae and pelvic bones easily visible. No palpable fat. Some evidence of other bony prominences. Minimal loss of muscle mass.

³ The Subgroup uses the WSAVA body condition score. 1-3: Emaciated to very thin, and 7-9: Obese to severely obese. A precise scale such as the WSAVA scale is needed.

⁴ Exceptions need to be made for cachectic animals of e.g. animal shelters who need to be exported for reasons (e.g. war situation now)

Cats:

Body condition score 1:

Ribs visible on shorthaired cats. No palpable fat. Severe abdominal tuck. Lumbar vertebrae and wings of ilia easily palpated.

Body condition score 2:

Ribs easily visible on shorthaired cats. Lumbar vertebrae obvious. Pronounced abdominal tuck. No palpable fat.

Body condition score 8-9 : Obese to severely obese

Dogs:

Body condition score 8:

Ribs not palpable under very heavy fat cover, or palpable only with significant pressure. Heavy fat deposits over lumbar area and base of tail. Waist absent. No abdominal tuck. Obvious abdominal distention may be present.

Body condition score 9:

Massive fat deposits over thorax, spine and base of tail. Waist and abdominal tuck absent. Fat deposits on neck and limbs. Obvious abdominal distention.

Cats:

Body condition score 8:

Ribs not palpable with excess fat covering. Waist absent. Obvious rounding of abdomen with prominent abdominal fat pad. Fat deposits present over lumbar area.

Body condition score 9:

Ribs not palpable under heavy fat cover. Heavy fat deposits over lumbar area, face and limbs. Distention of abdomen with no waist. Extensive abdominal fat deposits.

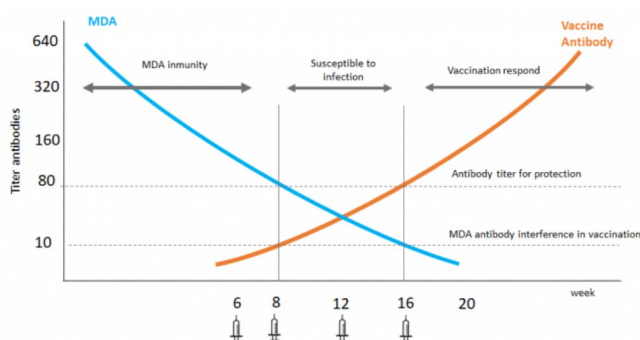
<i>Pros</i>	<i>Cons</i>
Improved health and welfare of dogs and cats.	Potential cost to owner of housing for until body condition is improved.
Reducing the risk of acquisition of such animals and related increased veterinary costs.	Difficulty in assessing compliance. Training needed for inspectors to assess.
	Increased administrative burden from inspections and penalties.

1.2.3. Recommendation: Age

Puppies and kittens must be over 15 weeks of age for long-distance journeys (> 8 hours)⁵.

Long-distance transport not only involves extended journey times but also risks the health and welfare of animals being transported, due to the potential exposure to and spread of infectious diseases (Anderson et al., 2019). (As rabies cannot be validly vaccinated for until the animal is 15 weeks⁶, limiting long-distance transport to animals 16 weeks of age reduces the prevalence and spread of rabies (Anderson et al., 2019)). As the figure below shows, immunity in puppies drops between 8 and 16 weeks of age, and similarly for kittens, thereby increasing susceptibility to disease. As transportation may increase the risk of disease transmission, it is recommended that puppies and kittens should not be transported on long journeys before 16 weeks of age.

Given that puppies and kittens have a critical period for socialisation (3-12 weeks for puppies, and 2-9 weeks for kittens (Casey and Bradshaw, 2008), this recommended age limit on transporting them on long journeys should not and does not have to impede normal socialisation. Breeders must be required to ensure adequate socialisation opportunities for the animals.



source: Prof. Mary Marcondes – Vaccination Guidelines Group (WSAVA)

<i>Pros</i>	<i>Cons</i>
Improved health and welfare of puppies and kittens.	Cost to owner of retaining animals for extended period.
Reduced risk of disease transmission across borders.	Difficulty in assessing compliance. Training needed for inspectors to assess.
Reduced risk of early separation from mothers.	Increased administrative burden from inspections and penalties.
The obligation of adequate early socialisation rests with the breeder and is not delegated to inexperienced consumer (future owner).	Risk of puppies and kittens not being adequately socialised.

⁵ Puppies and kittens which are moved from third countries sometimes need to be even older to comply with the conditions of import, for example to ensure they have the correct rabies titre.

⁶ Vaccination for rabies can be done at the earliest of 12 wks. The vaccination is only considered valid after a waiting period of 21 days (for primo rabies vaccination).

Reduced risk of selling immature puppies and kittens and reduced behaviouralist's costs.	Breeders required to provide adequate socialisation.
	Difficult to accurately assess age .

1.2.4. Recommendation: Muzzles and muzzle-like devices

Muzzles and muzzle-like devices to be prohibited during transport.

The Subgroup advocates for muzzles to be prohibited for all animals being transported. Muzzles may impede the ability of dogs to thermoregulate (Arhant et al., 2021), which is of crucial consideration during transportation in a confined space. Muzzles may also cause abrasions and wounds, eye discomfort, hair loss, damage to claws, and are considered stressful for dogs not habituated to muzzles (Arhant et al., 2021). Muzzles also impede a dog's ability to eat and drink, which are important considerations for long journeys (Arhant et al., 2021).

<i>Pros</i>	<i>Cons</i>
Improved welfare of dogs.	Cost to owner of retaining dogs unfit for transport.
Reduced risk of injury, heat stress, and dehydration.	Persistently aggressive dogs may not be transportable, resulting in unwanted dogs.
Prevent unsuitable animals entering the market and reduce risks for consumers.	Increased administrative burden from inspections and penalties.
	Measures have to be taken to ensure dogs do not become stressed and aggressive.

1.2.5. Recommendation: Pregnancy and birth

Pregnant cats or dogs in the final two weeks before their estimated birth date, or one week after birth, must not be transported.

The Regulation currently prohibits transport of pregnant females of any species for whom 90% of the expected gestation period has already passed; this would equate to the final 5-7 days of gestation for dogs and cats. Given that gestation periods vary significantly according to breed and litter size, there is a considerable risk that this period would be insufficient to safeguard the well-being of pregnant cats and dogs (Okkens et al., 1993). The final weeks of gestation, and the week following birth, can be highly stressful for the mother and offspring (Baqueiro-Espinosa et al., 2022). A stressful environment or event may also have negative repercussions on the birthing process, and elevated cortisol levels caused by transportation are associated with birthing issues, and may cause early onset of labour in several species (Baqueiro-Espinosa et al., 2022). Stress during gestation is also associated with poor maternal behaviour in dogs and may cause stillbirths (Baqueiro-Espinosa et al., 2022). Transportation in the final two weeks of pregnancy can increase the risk of exposing the

mother to infections, which she can then pass on to offspring after birth, with potentially fatal implications (Holst, 2022).

<i>Pros</i>	<i>Cons</i>
Improved health and welfare of female dogs and cats.	Cost to owner of retaining dogs unfit for transport.
Clearer criteria, compared with current 10% guidance.	Remains challenging to establish gestation length given the natural variation in gestation length and if mating/insemination date is unknown
Reduced likelihood of stillbirths, birth difficulties, and early onset of labour.	Difficulty in assessing compliance. Training needed for inspectors to assess.

1.2.6. Recommendation: Clinical examination

For intra-trade movements and exports, dogs and cats must undergo a clinical examination within 48hrs of dispatch to verify the fitness for transport, the health requirements and the actual age of puppies or kittens.

These checks are to be carried out by an authorised veterinarian, who must verify that the animals show no signs of disease and are fit to be transported for the intended journey. (Ideally these checks should also include tests for diseases such as babesiosis, ehrlichiosis, heartworm and hemobartonella for cats; part of the group doesn't consider these checks useful for young animals coming from registered breeding facilities (as the risk of infection of young animals from registered breeding facilities is rather small; also tests are not rapid)).

In order to assess true age, possibly the Hungarian guidelines may be used that estimate age via teeth (currently in development)⁷. The veterinary clinical examination is to be documented in the pet passport and confirmed in the TRACES certificate by the official veterinarian of the veterinary authority competent for the place of origin.

<i>Pros</i>	<i>Cons</i>
Health, welfare, and fitness for transport are assured.	The owner may need to house, treat, or even euthanise animals not deemed fit for transport.
Reduced mortalities, stress, and suffering due to transporting animals not fit for transport.	Increased administrative burden for competent authorities for ensuring compliance.
Protects prospective owners.	
Increased pressure to ensure that animals sold are of prime health and composure.	

⁷ Age determination for kittens is even more difficult and less well developed.

1.2.7. Recommendation: Vaccinations

For intra-trade (and exports), dogs and cats must have vaccinations and immunity for the following for dogs: Canine Parvovirus, Distemper, Canine Adenovirus 1 and for cats Feline Parvo, Calicivirus and Herpesvirus⁸

<i>Pros</i>	<i>Cons</i>
Health, welfare, and fitness for transport are assured.	Increased administrative burden for competent authorities for ensuring compliance.
Reduced mortalities, stress, and suffering due to transporting animals not fit for transport.	
Protects prospective owners.	
Increased pressure to ensure that animals sold are of prime health and composure.	

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⁸ Cats and dogs need further vaccinations in addition to rabies, since infectious diseases like parvovirus, distemper, Herpes- and Calicivirus are likely to infect unvaccinated animals and may lead to severe (sometimes lifelong) symptoms and also death and these diseases may be transferred to another country if cats and dogs are not immunised (Stone, et al., 2020)).

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2. CHECKS AT DEPARTURE

In addition to the fitness for transport checks outlined in section 2, the following criteria should be included in the Regulation, to ensure that each animal and operator have the required paperwork, and have undergone the appropriate checks. The following recommendations are for both EU and non-EU movement, as stated.

2.1. Recommendation: Passport

For both intra-trade movement and exports, individual dogs and cats must be accompanied by a European pet passport (on paper or electronically) and the corresponding microchip number must be checked.

Please refer to the report by the Subgroup for what information is to be included.

<i>Pros</i>	<i>Cons</i>
Health, welfare and fitness for transport are assured.	No additional cons, as the requirement is already relevant to pet dogs and cats. ⁹
Improved disease control.	Increased administrative burden for competent authorities in ensuring compliance.
Improved traceability.	
Benefits prospective owners and potentially lowers veterinary costs.	
Possibility of applying standardised and automated verification procedures could lead to the reduction in administration costs.	
Administrative burden could be lowered in case of an electronic passport	

2.2. Recommendation: Health certificate

For intra-trade movement and exports, dogs and cats must be accompanied to the place of destination by a health certificate.

To be issued by an official veterinarian of the EU country of dispatch. Please refer to the report by the Subgroup for information to be included.

<i>Pros</i>	<i>Cons</i>
Health, welfare and fitness for transport are assured.	No additional cons, as the requirement is already relevant to pet dogs and cats. ¹⁰
Improved traceability.	

⁹ Commission Delegated Regulation (EU) 2018/772

¹⁰ Commission Delegated Regulation (EU) 2018/772

Benefits prospective owners and potentially lowers veterinary costs.

2.3. Recommendation: Journey log

For long journeys of dogs and cats between Member States and to third countries, transporters and organisers shall comply with the provisions on the journey log as in Annex II of the Regulation, adapted for dogs and cats.¹¹

Pros	Cons
Improved welfare for dogs and cats on long journeys.	Potential for increased administrative burdens due to additional compliance checks required.
Possibility of applying standardised procedures could lead to the reduction of costs for the administration.	

2.4. TRACES recommendation: Vehicle checks

A system for verifying the authorisation of the transporter and compliance of the vehicle¹² should be implemented.

TRACES requires entry of the vehicle license plate details but does not check if the vehicle is compliant with requirements of the Regulation. Therefore, this recommendation ensures that the vehicle is suitable for transporting cats and dogs.

Pros	Cons
Allows competent authorities to confirm compliance with legislation.	Increased administrative burden in ensuring compliance.
Possibility of applying standardised and automated verification procedures could lead to the reduction of costs for the administration.	
Reduces the risk of welfare issues during transport as a result of poor transportation facilities.	
Tracking systems are already used in livestock monitoring applications.	

¹¹ Including: List of scheduled resting points, length of the travel time to each resting point; breaks every 4 hours (also for feeding & water)

¹² Vehicles for long journeys have to be approved according to Regulation 1/2005

3. WATER AND FEEDING INTERVALS, JOURNEY TIMES AND REST PERIODS

The Regulation currently states that “Dogs and cats being transported shall be fed at intervals of not more than 24 hours and given water at intervals of not more than eight hours. There shall be clear written instructions about feeding and watering.” The group recommends the following requirements to ensure the comfort and welfare of animals (dogs and cats) being transported:

3.1. recommendation: Food and water frequency

Appropriate food must be offered twice daily for both adult dogs and cats and three times a day for puppies and kittens (every 4 hours).^{13 14} Clean water must be continuous or where not possible, offered every 4 hours to dogs and cats.^{15 16}

One member of the group indicated that stronger scientific support is needed before such recommendation/provision would be included into the Transport regulation.

Food and water deprivation is an important factor in an animal’s fitness to travel (Cussen and Garces, 2008). Scientific investigation into the capacity of dogs and cats to cope, either physically or mentally, with food and water deprivation is very limited (Tateo et al., 2022). There is, for example, no indication of the consequences arising from restricting water and feed under normal (environmental) temperatures. Given the likelihood of transportation in a confined space to result in increased (environmental) temperatures, and heat stress, sufficient and regular access to water is key of mitigating this issue (Pohlin et al., 2021).

Puppies and kittens under 6 months of age require feeding more frequently than older dogs and cats, they should be rested, fed, and watered more regularly (every 2 hours for young puppies and kittens up to 12 weeks of age, and at least every 4 hours for puppies and kittens between 12 weeks and 6 months of age)^{17 18}.

Until further research has been conducted into this issue, the group recommends providing water every 4 hours, and food twice a day, to accommodate the normal behaviour of dogs and cats, and to avoid additional physical and mental stressors (Bradshaw et al., 2012).

<i>Pros</i>	<i>Cons</i>
Improved health and welfare of dogs and cats.	Increased burden for transporter due to increased stops.
Reduced risk of dehydration and heat stress, as well as potential negative implications on overall health.	Difficulty in assessing compliance.
	Increased administrative burden from inspections and penalties.

¹³ Clear written instructions for any special requirements certified by a veterinarian, or due to young age, must be provided by the owner and secured to the animal’s container.

¹⁴ Further detailed recommendations regarding food and water receptacles are available in the guidelines by the Subgroup.

¹⁵ All animals must be able to access the food and water containers, and be able to avoid dominant animals blocking access.

¹⁶ Containers should have drinkers installed, or the possibility for drinkers to be installed.

¹⁷ <https://www.thesprucepets.com/how-often-should-cats-be-fed-554372>

¹⁸ <https://www.thekennelclub.org.uk/getting-a-dog/caring-for-your-new-puppy/feeding-your-puppy-or-dog/>

(In the case of automated solutions being applied, reduced burden on transporter and better activity tracking.)

3.2. Recommendation: Pre-journey feed and water

Consignor /keeper at place of departure must certify that each animal was offered food 6-8 hours, and water 4 hours within delivery to a transporter.

The date and time that food and water were offered and whether consumed, must be logged and details secured to the animal's containers, along with the Certification statement (details of which are found in the Subgroup's guidelines).

For kittens and puppies, the timeframe should be within 2-4 hours of being transferred to the care of a transportation service.

<i>Pros</i>	<i>Cons</i>
Improved health and welfare of cats and dogs as legally required to have been fed and watered within in a reasonable time before transportation.	Increased administrative burden for the consignor.
Reduced risk of penalties.	Increased administrative burden from inspections and penalties.

3.3. Recommendation: Rest stops

Dogs and cats should have regular breaks (every 4 hours), and puppies and kittens (under 6 months) every 2-4 hours.

18 hours is recommended as maximum journey time.

For transports > 8 h, two drivers must be present, both sufficiently trained & qualified¹⁹ for the care of the animals

Part of the group considers that there is a need for more scientific underpinning before recommendations/provisions of 4.3 would be included into the Transport regulation.

Transportation is stressful for cats and dogs, and both species show increased levels of glucocorticoids and catecholamines, and behavioural indications of stress and anxiety from both short and long durations of transportation (Mariti et al., 2012; Ochi et al., 2013; Tateo et al., 2022). Scientific evidence of the implications of different journey lengths is scarce and needs addressing (Tateo et al., 2022). In the meantime, the Subgroup recommends providing cats and dogs with regular rest breaks every 4 hours; age, body condition and health status should also be taken into consideration, as breaks may need to be more frequent. Breaks should be long enough to allow cats and dogs to eat and drink, and for the food and water to be ingested sufficiently to avoid travel sickness.

¹⁹ No person shall drive, or act as an attendant on a road vehicle unless he/she holds a certificate of competence pursuant to the EU Transport regulation

Care must be taken not to overfeed to avoid vomiting. Sufficient time is also needed for water to be absorbed after consumption (30 minutes) (Swallow, 2005).

During rest stops, dogs should also be exercised for a minimum of 10 minutes each and allowed sufficient time to urinate and defecate and to reduce the risk of cystitis²⁰. Rest breaks should also be long enough for attendants to check the animal containers, bedding, and litter trays (cats), and to clean these items if necessary. These recommendations are based on the natural behavioural needs of cats and dogs and are likely to reduce the level of transport stress (Bradshaw et al., 2012; Rochlitz, 2018; Tateo et al., 2022).

Puppies do not have full bladder control until 6 months of age, and so need to be given the opportunity to defecate and urinate more frequently than adult dogs. Puppies up to 12 weeks of age need to be given a break to defecate and urinate every 2 hours, and puppies over 12 weeks of age at least every 4 hours.²¹

<i>Pros</i>	<i>Cons</i>
Improved health and welfare of dogs and cats.	Increased burden for transporter due to increased stops.
Reduced risk of dehydration and heat stress, and of other potential negative implications on overall health.	Difficulty in assessing compliance.
Smaller transports of animals leading to easier checks and controls.	Increased administrative burden from inspections and penalties.
Lower risk of emergency veterinary visits by the transporters.	Increased number of attendants required to ensure that all dogs are exercised sufficiently.

3.4. Recommendation: Contingency planning

All animal transporters must have a contingency plan in place for each journey²².

Part of the group considers contingency plans only necessary for long journeys.

The contingency plan must include contact details for key people, protocols to check fitness, welfare, and behavioural state of the animals, plans for the best approach to protect animals and to minimise suffering in the event of an emergency, locations (or ability to quickly locate locations) of veterinary surgeons along the route, and clear steps to ensure the rescue of animals from the vehicle during a fire, accident or other incident.

An example of a contingency plan and further details on what to include can be found in the guidelines on commercial movement of cats and dogs by land in Appendix 1²³.

²⁰ <https://www.pbspettravel.co.uk/blog/a-guide-to-feline-urinary-tract-infections/>

²¹ <https://www.thesprucepets.com/how-often-do-puppies-poop-2805076>

²² For journeys less than 4 hours, a simple contingency plan could suffice.

²³ https://food.ec.europa.eu/system/files/2020-11/aw_platform_plat-conc_guide_dog-cat_transport-land.pdf

<i>Pros</i>	<i>Cons</i>
Improved welfare of dogs and cats during an emergency, unexpected journey delay, or in the event of an animal becoming sick or injured.	Increased administrative burden for transporter due to requirement for contingency plans for all journeys, as not just journeys over 8 hours.
Leads to improved confidence for the driver due to crisis preparedness.	Increased administrative burden from inspections and penalties.
Reduces delays for the transporter company and increases their reliability.	Compliance can only be checked during the TRACES certification process, or when there are problems, or during the transporter authorisation process.

3.5. Recommendation: Long-journeys

Extend the species-specific long journey requirements (Annex I, Chapter VI of the Regulation), in an adapted way, to include cats and dogs.

<i>Pros</i>	<i>Cons</i>
Improved welfare of dogs and cats.	Increased burden for transporter due to increased stops and requirements.
Reduced risk of dehydration and heat stress, as well as potential negative implications on overall health from long journeys with inadequate breaks.	Difficulty in assessing compliance.
Leads to improved comfort of the driver due to planning.	Increased administrative burden from inspections and penalties.

3.6. Recommendation: Satellite navigation

All vehicles used to transport cats and dogs on long journeys (> 8 hours) should have satellite navigation systems installed (in addition to or instead of the journey log).

<i>Pros</i>	<i>Cons</i>
Improved welfare of dogs and cats.	Increased burden for transporter from cost of additional equipment.
Leads to improved comfort of the driver due to planning.	

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4. SPACE ALLOWANCES

The Regulation currently has no specific provisions for space allowances for cats and dogs. The general provision is to allow the animal to be able to stand, with adequate ventilation above their head, and no hindrance to natural movement, including their extremities. The group recommends that for road journeys, the space allowance per animal must be sufficient to ensure that:

4.1. Recommendation: Space

The animals must be able to stand up fully and hold their head in the natural position, comfortably sit, turn, lie down and rest, and move around in the vehicle/container to access water and feed as appropriate.

Recommendations from the guidelines:²⁴

Length: While standing, the dog or cat should be measured from the tip of its nose to the base of the tail. Between 5cm and 12cm should then be added to this (from cats and small dogs to large dogs) to calculate the correct length of container.

Height: While standing, the dog or cat should be measured from the tips of the ears (for pointed eared dogs) or the top of the head (for floppy eared dogs) and then 12cm should be added to calculate the correct height of the container.

Width: While standing, the dog or cat should be measured at its widest point (usually the shoulders). The width of the container should be calculated at 2.5x the animal's width.²⁵

Some group members prefer the requirements from IATA

IATA requirements (2020) for dogs and cats being transported by air:

The IATA states that each animal in the container must have enough space to turn about normally while standing, to stand, to sit erect, and to lie in a normal position (IATA, 2020). IATA also provides the following calculation for internal dimensions of the container for an animal standing in a natural position:

A = length of animal from tip of nose to base/root of tail.

B = height from ground to elbow joint. $A + \frac{1}{2} B$ = length of container.

C = width across shoulders or widest point (whichever is greater). $C \times 2$ = width of container.

D = height of animal in natural standing position from top of the head or the ear tip (whichever is

²⁴ We looked at three national example of calculating the values (see sources below) and we adapted these to take into account the welfare outcomes, e.g. for dogs with long and low conformation, as their body length will be longer proportionally than their height at the shoulder, cm's are added to ensure they can lie down outstretched.

Spanish ministry guide (page 5)

<https://docs.google.com/document/d/0B1Wn6g6tT5ZDT2prbDEzT2Rfb25nSjhoWmstOTE5REUxSER3/edit?usp=sharing&ouid=102641124987305129664&resourcekey=0-f2f4B2d-XwP4al-d9UdcDw&rtpof=true&sd=true>

German ministry guide (page 7)

<https://drive.google.com/file/d/0B1Wn6g6tT5ZDS0NUQnVKWEdPUVZiWjhJdXowUENTZjV00UpF/view?usp=sharing&resourcekey=0-JA8WcaOL1-eTTgj0lrxa>

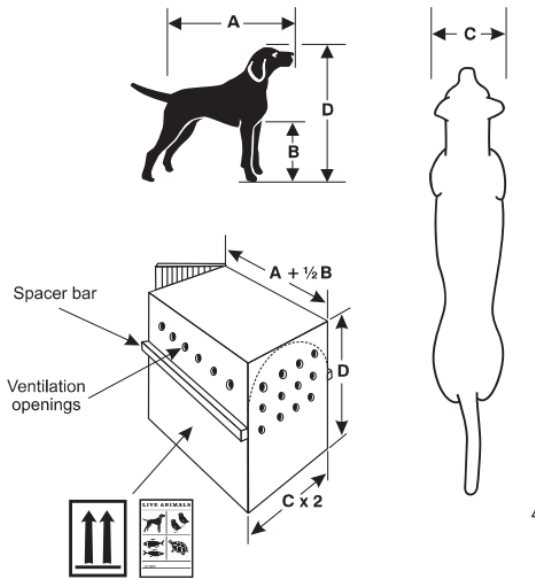
Swedish ministry guide (page 3)

<https://docs.google.com/document/d/1XGyWCgFgBkHC7e-XGZq03XBihPB8Cw8EZfJlvmIF7go/edit?usp=sharing>

²⁵ All dogs should be able to lie down comfortably; long slim dogs such as greyhounds will require greater than 2.5x width to be able to do so.

higher), to the floor / height of the container (top flat or arched).

An additional 10% of space must be added for flat-nosed breeds.



Minimum internal container dimensions:

$A + \frac{1}{2} B = \text{Length}$

$C \times 2 = \text{Width}$

$D = \text{Height}$

In the case of group transport, animals must also have adequate space to move and the recommendations mentioned above may also be used to calculate the space per animal.

<i>Pros</i>	<i>Cons</i>
Improved health and welfare of dogs and cats as they can move properly and benefit from improved ventilation.	Potential one-off additional financial burden for operators who may need to upgrade existing containers.
Reduced chance of temperature stress due to poorly ventilated and cramped or too large containers.	Increased burden for inspectors as they may need to measure individual animals and containers.
Competitive advantage and ability to charge a higher premium by compliant transporters.	Increased administrative burden from inspections and penalties.
Inspectors are provided with an objective means of assessing suitability of transport containers	

Objective measurements are an aid to issuing of penalties

Lower long-term costs for operators due to standardised containers used.

4.2. Recommendation: Securing the animals

Cats and dogs should always be secured during transport, e.g. be kept in a container; in addition to being secured to the vehicle, containers should be accessible and removable in the event of an emergency.

<i>Pros</i>	<i>Cons</i>
Improved welfare and safety of cats and dogs.	Potential financial costs for operators who may need to upgrade their existing systems.
Improved safety for the driver as containers are secured during transit.	Increased administrative burden from inspections and penalties.
The demand for specialised vehicles and containers will create supply and activate the economy.	

4.3 Recommendation: Transporting several cats/dogs together

Ideally, dogs and cats are not transported in the same vehicle; If transported in the same vehicle, dogs and cats should be transported in different containers and the containers should not be next to each other.

5. TRAINING

Whilst Annex IV of the Regulation outlines the training requirements for road drivers and attendants²⁶, the majority of the references to training refer to farmed species, and do not include dogs and cats. The group recommends the following:

5.1. Recommendation: Necessary knowledge/training

Each attendant must have the necessary knowledge, training and/or experience to ensure the welfare of animals in their care.²⁷

Additional suggestions from the literature review:

Mandatory training to ensure personnel understand proper welfare practices, what steps to take to protect animal welfare, and to ensure comprehension of the regulations.

There is a reported need for improved training for transporters and drivers to recognise animals unfit for transportation, such as too young animals, or animals with symptoms indicative of health problems, the responsibility of which could fall within the role of official veterinarians (Padalino et al., 2020). In an analysis of infringements identified during on-road inspections in Italy, many of the infringements were considered the result of inadequate training of the sector in relation to both proper welfare practices and what the regulations mean (Padalino et al., 2020). Padalino et al. (2020) recommend workshops to educate transporters and drivers in relation to management of transportation, whilst protecting animal welfare, to reduce the number of infringements related to animal welfare.

Similarly, in laboratory animal transportation, ensuring that staff are trained, empathetic and competent is considered to be key for ensuring the welfare of dogs and cats during transportation (Swallow et al., 2005). Furthermore, training to ensure knowledge in key areas impacting welfare during transportation²⁸ is considered to be essential (Swallow et al., 2005, FVE, 2018).

<i>Pros</i>	<i>Cons</i>
Improved welfare of dogs and cats, as they benefit from trained, competent attendants who understand how to protect animal welfare.	There is already a requirement in the Regulation for attendants/ drivers to be trained and competent; however, more training is required.
Potential for improved job satisfaction and reduced turnover of staff as they feel invested in.	Increased burden for officials who may be required to provide more training.
Reduction in infringements caused by lack of training or knowledge of regulations.	Financial cost of implementing more training.
	Difficulty in assessing compliance unless specific standards, qualifications or certificates are required.

²⁶ Attendant; Person directly in charge of the welfare of the animals, who accompanies them during a journey.

²⁷ All personnel should be familiar with the signs of heatstroke in dogs and cats and appropriate actions to take in terms of first aid.

²⁸ For example, staff responsibilities, organisations to contact for advice, enforcement authorities, journey planning, authorisation requirements, vehicle use and how driving impacts welfare, appropriate handling methods, statutory feed, water and rest requirements, stocking densities, causes of stress in the relevant species, ability to recognise signs of poor welfare or health, knowing when to contact a veterinarian, assessing fitness to transport, caring for animals who become sick or injured, emergency protocols, and the importance of temperature and humidity in relation to welfare, and how to make adjustments accordingly (Swallow et al., 2005).

Increased financial burden for transporters to ensure all drivers and attendants receive training.

5.2. Recommendation: Minimum Training Curriculum

All handlers and drivers of dogs and cats must undertake a minimum training curriculum.²⁹

<i>Pros</i>	<i>Cons</i>
Dogs and cats benefit from improved welfare, recovery, and increased chance of survival in the event of an injury or onset of illness during transportation.	There is already a requirement in the Regulation for attendants/ drivers to be trained and competent, however more specific training is required.
Potential for improved job satisfaction and reduced turnover of staff as they feel invested in.	Increased burden for official veterinarians who are required to provide more training.
Existing training curriculums for farmed animals could be adapted for cats and dogs.	Financial cost of implementing more training.
	Difficulty in assessing compliance unless specific standards, qualifications or certificates are required.
	Increased financial burden for transporters to ensure all drivers and attendants receive training.

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Swallow, J., Anderson, D., Buckwell, A.C., Harris, T., Hawkins, P., Kirkwood, J., Lomas, M., Meacham,

²⁹ The curriculum should cover;

- basic animal behaviour
- animal handling
- age determination
- checking all legislative requirements (e.g. microchip, passport, vaccinations, etc)
- recognition of disease symptoms
- needs regarding feeding, drinking, thermocomfort zones
- pet first aid
- the requirements of the Regulation in regards to dogs and cats

S., Peters, A., Prescott, M., Owen, S., Quest, R., Sutcliffe, R., Thompson, K., 2005. Guidance on the transport of laboratory animals. *Lab. Anim.* 39, 1–39.
<https://doi.org/10.1258/0023677052886493>

6. TEMPERATURE AND HUMIDITY

The Regulation currently does not state a temperature and humidity range suitable to dog and cat needs and thermal comfort. The group recommends that:

6.1. Recommendation: Ventilation

Adequate ventilation and temperature control are required, and containers should have ventilation apertures on at least 3 sides.

Auxiliary ventilation, such as fans, heater, blowers or air conditioning must be used in the animal cargo space. The total combined surface area of all ventilation openings of any animal container must make up 14%³⁰ of the total combined surface area of all walls/sides of the containers, with at least one third of the total ventilation area located on the upper half of the container. Each wall/side with a ventilation opening must have a projecting external rim to prevent obstruction of openings and must allow a minimum of 2cm air circulation space between the container and any wall or other object.³¹

<i>Pros</i>	<i>Cons</i>
Dogs and cats benefit from reduced risk of thermal stress.	Potential additional financial burden for operators who may need to upgrade their existing containers.
Improved health and welfare of dogs and cats from proper ventilation and temperature control.	Increased administrative burden from inspections and penalties.

6.2. Recommendation: Temperature

For cats and dogs, the temperature in all areas of the cargo space should ideally be maintained between 15°C and 25°C³², and never below 10°C or above 30°C. The temperature should be maintained at between 20°C -25°C for puppies and kittens being transported (for puppies up to 8 weeks, kittens up to 6 weeks³³; at this age they will be transported with their mother).³⁴ The vehicle should be equipped with sensors (with a display in the drivers' cabin and/or an alarm that alerts the driver if the temperature falls outside of these ranges)

Part of the group considers that there is a need for more scientific underpinning before this recommendation/provision would be included in the Transport regulation.

³⁰ <https://journals.sagepub.com/doi/pdf/10.1258/0023677052886493>

³¹ [References to ventilation requirements](#)

³² 15 °C is too low for dogs and cats without fur (Sfinx, hairless dog breeds) if they do not have special bedding or extra blankets to hide under; 25°C is too high for flatfaced dogs and cats.

³³ <https://www.thesprucepets.com/kitten-development-6-to-12-weeks-4584325>

³⁴ Insulation and temperature regulation should aim to keep the ambient temperature within these parameters. Best practice would ensure that the temperature remains stable at around 20°C.

6.3. Recommendation: Humidity

Humidity levels should be within 30 to 70%³⁵ but kept ideally at 50% throughout the journey and monitored with a humidity gauge.

The vehicle should be equipped with sensors (with a display in the drivers' cabine and/or an alarm that alerts the driver if the humidity level falls out of these ranges)

Part of the group considers that there is a need for more scientific underpinning before this recommendation/provision would be included in the Transport regulation.

The normal range of temperatures for cats and dogs in which they can maintain their body temperature, without expending energy to increase heat production or heat loss, is between 20°C and 30°C, with variation depending on breeds (Jordan et al., 2016; McNicholl et al., 2016). When ambient temperatures are outside this range, the dog or cat has to expend energy to maintain body temperature, and hypo- or hyperthermia occurs when they are no longer able to do this. Humidity levels can have a direct effect on an animal's ability to cope with temperatures, and may significantly worsen high temperatures (Villarroel et al., 2011). A humidity range of 30-70% humidity, with sufficient ventilation is considered optimal for cats and dogs in confined areas (Jordan et al., 2016). Many factors influence overall temperature and humidity, including container size, number of containers and number of animals, the size of the vehicle, and the age, condition, breed and anatomy of the cat or dog (Jordan et al., 2016; McNicholl et al., 2016). Therefore, ensuring that temperature and humidity fall within these optimum parameters will ensure well-being of the animals (Jordan et al., 2016). As puppies and kittens are less able to thermoregulate, they require additional measures (Jordan et al., 2016), and the cargo space temperature should be maintained between 20-25°C to ensure their wellbeing. Particular attention should be paid when transporting brachycephalic dogs or cats; as their ability to thermoregulate is significantly reduced, these breeds are far more susceptible to overheating.

<i>Pros</i>	<i>Cons</i>
Dogs and cats benefit from reduced risk of thermal stress.	The microclimatic conditions (temperature, humidity) as felt by the animal must be measured close to the animals, but it can be difficult to measure temperature and humidity inside an animal's container.
Reduced risk of emergency veterinary visits by transporter.	Increased burden for transporters who need to take additional measures to manage temperature and humidity.
In case of automated solutions for temperature and humidity verification, reduced burden for the transporter.	During extreme weather, journey lengths and timings may be restricted.
	Particular burden for long-distance journeys across different temperature ranges if there is no air conditioning.

³⁵ <https://www.extension.purdue.edu/extmedia/VA/VA-16-W.pdf>

6.4. Recommendation: Sensors

Sufficient sensors to ensure temperature and humidity control throughout the vehicle must be fitted in appropriate locations, and not next to air conditioning vents. Sensors should be calibrated regularly according to the manufacturer’s recommendations.

Further research is needed into the management of temperature and humidity and the resulting microclimates in dog and cat transportation, before a ratio or number of sensors required can be established. Unlike livestock transport, dog and cat transportation vehicles are typically closed-sided. Consequently, there is a need for species-specific research to understand the critical locations within typical vehicles, and number of sensors required to ensure consistent temperatures throughout the vehicle, including inside animal containers.

<i>Pros</i>	<i>Cons</i>
Dogs and cats benefit from reduced risk of thermal stress.	The microclimatic conditions (temperature, humidity) as felt by the animal must be measured close to the animals, but it can be difficult to measure temperature and humidity inside an animal's container.
In the case of automated solutions for temperature and humidity verification, there will be reduced burden for the transporter.	Increased burden for transporters who need to take additional measures to manage temperature and humidity and to fit new sensors.
Reduced risk of emergency veterinary visits by the transporter.	Particular burden for long-distance journeys across different temperature ranges and climates.

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