



Department for Transport

Guidance

E-scooter trials: guidance for local areas and rental operators

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<https://www.gov.uk/government/publications/e-scooter-trials-guidance-for-local-areas-and-rental-operators/e-scooter-trials-guidance-for-local-areas-and-rental-operators#eligibility-and-dft-trial-requirements>

Background

To support a 'green' restart of local travel and help mitigate reduced public transport capacity, the Department for Transport (DfT) is fast tracking and expanding trials of rental e-scooters. E-scooters offer the potential for fast, clean and inexpensive travel that can also help ease the burden on transport networks and allow for social distancing.

Authorities and operators have learned many lessons since the emergence of the first dockless systems. The UK now can embed these lessons and enhance the safety, integration and benefits of e-scooters as part of large-scale trials, which will create the evidence necessary to guide final decisions about whether and – if so – how to fully legalise e-scooters. This guidance document is intended to inform local areas and e-scooter operators about next steps in the design, implementation and management of trials. Given the need to move rapidly, close collaboration between the DfT, local areas and e-scooter operators will be necessary.

The DfT will:

- coordinate and support the development of proposals, working closely with local areas
- prepare and introduce the legal changes that allow trials to proceed
- let and manage a contract for central monitoring and evaluation across all trial areas
- provide final approval for trial proposals that meet our requirements

Local areas will:

- consider their trial requirements and objectives together with those set out by the department
- work openly with e-scooter operators to understand how they can meet those requirements
- put in place proportionate processes to assess, select and ultimately procure services from operators

Timescales

To help support the green restart of local travel, trials should be operational as soon as possible following necessary changes to legislation, which will come into force on 4 July 2020. Given the need to establish trials swiftly, we expect that in most cases they will commence between the day legal changes come into force and the end of August 2020.

The intention is then for trials to run for 12 months, with the trial period beginning in each area as and when e-scooters become available to the public. The option for trials to continue beyond this 12-month period will be built into the legal mechanism, but any extension would be subject to local/national government agreement.

Proposed regulatory changes to allow trials

For trials to take place, we need to amend existing regulations. In doing so, we proposed to regulate rental e-scooter trials as similarly as possible to [electrically assisted pedal cycles \(EAPCs\)](#). In many ways, e-scooters have a similar road presence to EAPCs and cycles; they are similarly sized with similar visibility for other road users.



CMA Note:

Electric bikes: licensing, tax and insurance

You can ride an electric bike if you're 14 or over, as long as it meets certain requirements.

These electric bikes are known as 'electrically assisted pedal cycles' (EAPCs). You do not need a licence to ride one and it does not need to be registered, taxed or insured.

What counts as an EAPC

An EAPC must have pedals that can be used to propel it.

It must show either:

- *the power output*
- *the manufacturer of the motor*

It must also show either:

- *the battery's voltage*
- *the maximum speed of the bike*

Its electric motor:

- *must have a maximum power output of 250 watts*
- *should not be able to propel the bike when it's travelling more than 15.5mph*

An EAPC can have more than 2 wheels (for example, a tricycle).

Any electric bike that does not meet the EAPC rules is classed as a [motorcycle or moped](#) and needs to be registered and taxed. You'll need a driving licence to ride one and you must wear a crash helmet.

Responses so far received from the ['Future of transport regulatory review: call for evidence'](#) generally supported treating e-scooters like cycles and EAPCs.

During trials, however, e-scooters will continue to be classed as motor vehicles, meaning requirements to have insurance and the correct type of driving licence will continue to apply. In the future, following trials, we may look to amend the law to treat e-scooters more like EAPCs, which are not treated as 'motor vehicles' in law.

We proposed to make the following regulatory changes to enable e-scooter trials.

Vehicle design: current position

An e-scooter will continue to fall within the statutory definition of a motor vehicle. We will define the sub-category of an e-scooter as being a motor vehicle that:

- is fitted with no motor other than an electric motor with a maximum continuous power rating of 500W and is not fitted with pedals that are capable of propelling the vehicle
- is designed to carry no more than one person
- has a maximum speed not exceeding 15.5 mph
- has 2 wheels, 1 front and 1 rear, aligned along the direction of travel
- has a mass including the battery, but excluding the rider, not exceeding 55kg
- has means of directional control via the use of handlebars that are mechanically linked to the steered wheel
- has means of controlling the speed via hand controls and a power control that defaults to the 'off' position

In addition, to achieve this, and in agreement with trial areas, we will issue vehicle orders under [s44](#) and [s63\(5\)-\(7\)](#) of the Road Traffic Act 1988 for vehicles of particular operators assessed as being suitable to participate in trials – see [Annex: Minimum technical requirements for e-scooters](#).

E-scooters that already meet vehicle construction and approval requirements will also be able to be used in trials.

In this definition, after considering consultation responses, we decided to allow e-scooters to be used up to a maximum speed of 15.5mph. This matches the speed limit for EAPCs and geo-fencing technology could allow for greater flexibility for lower speeds, where appropriate, across trial areas.

We have also increased the permitted vehicle mass from 35kg to 55kg and removed from the original definition that an e-scooter should have 'no provision for seating' in order to allow seated variants to participate where they comply with our other requirements. Finally, we introduced a maximum motor power – up from 350 to 500W.

Rules for e-scooter users

There are 2 requirements in primary legislation that will continue to apply to e-scooters:

- 1) E-scooters in trials need to be covered by a motor vehicle insurance policy - it is understood rental operators will ensure a policy is in place that covers users of the vehicles.
- 2) E-scooter users need to have a valid driving licence.

We propose that anyone with a full or provisional driving licence can use a trial e-scooter ([categories AM, A1, A2, A and B](#)) by permitting those licence holders to ride Category Q vehicles. Users would not be required to complete a mandatory training course (such as the [compulsory basic training \(CBT\) course](#) required for motorcycles and mopeds), but we recommend e-scooter providers offer training courses to users.

To achieve this, we will amend the various existing requirements in the [Motor Vehicles \(Driving Licences\) Regulations 1999](#) that currently require users to hold a full category A, AM licence, a full category B licence pre-2001, or later full category B licence plus CBT certificate.

Local areas may wish to include provision of training in their agreement(s) with operators. We recommend wearing a cycle helmet for e-scooter journeys, but do not propose that wearing helmets would be mandatory. The government considered mandatory use of cycle helmets in detail as part of its ['Cycling and Walking Investment Strategy safety review'](#) in

2018. We believe these considerations are broadly applicable to e-scooters with a similar speed limit to EAPCs and we will continue to recommend usage of cycle helmets. To achieve this, we will amend the existing requirement in the [Motor Cycles \(Protective Helmets\) Regulations 1998](#), removing the requirement for a motorcycle helmet to be worn, as it relates to e-scooters.

Local areas may wish to include provision of helmets or availability at the point of hire in their agreement(s) with operators.

E-scooter use on the road

We propose to allow e-scooters to use the same road space as cycles and EAPCs. This means e-scooters would be allowed on the road (except motorways) and in cycle lanes and tracks, where possible.

The controls over where e-scooters can be used are split between central government and local authorities. We will make the necessary regulatory changes to allow e-scooters to be used in cycle lanes. But, to have full effect, local authorities hosting trials will also need to ensure that their traffic regulation orders (TROs) are updated and allow e-scooter use.

Cycle lanes: regulatory changes by DfT

We will make amendments to the [Traffic Signs Regulations and General Directions 2016](#) (that will apply to England only) to include e-scooters within the definition of vehicles permitted to use cycle lanes.

We will amend the definition of cycle lane to read 'part of a carriageway of a road reserved for pedal cycles and/or electric scooters that is separated from the rest of the carriageway—' or similar. This will permit e-scooters to be used in cycle lanes. It also means that the cycle symbol on signs will apply to e-scooters.

Cycle lanes: actions required by local authorities

Following the regulatory change, local authorities hosting trials will need to amend their TROs that apply to cycle lanes. These should reflect the change in regulations that the cycle lane is for use by pedal cycles or e-scooters.

Cycle tracks: regulatory changes by DfT

The definition of cycle track is contained in primary legislation so we cannot amend this before trials will start.

Cycle tracks: actions required by local authorities

Local authorities can designate road space as either cycle lanes or cycle tracks. To enable e-scooter use, cycle tracks would need to be redesignated as cycle lanes. This then allows the process above to be used for cycle tracks. We are aware that some cycle tracks were made under the [Cycle Tracks Act 1984](#).

TROs can be amended using the COVID-19 expedited emergency process or through the experimental TRO process. Local authorities should take advice from their legal teams to ensure that the correct orders are in place for trials in their areas.

Other regulations that apply to e-scooters

There are other regulations that apply to e-scooters that we consider are not relevant to running trials. Therefore, we propose to exempt trial e-scooters from vehicle registration and licensing (vehicle excise duty). To achieve this, we will amend the [Road Vehicles \(Registration and Licensing\) Regulations 2002](#).

We also propose to exempt trial e-scooters from the requirements for vehicle type approval. To achieve this, we will exempt e-scooters from the type approval requirements in the [Road Traffic Act 1988](#).

Non-regulatory e-scooter trial controls

In addition to the regulatory provisions above, local areas may wish to specify their own additional requirements for trials, such as:

- the number of e-scooters to be provided in trials – the department must authorise operator vehicles being used in trial areas, but the total number of vehicles should be agreed by local areas and demand can be met gradually based on usage data
- geo-fencing, either to limit the trial area within a local authority or to prevent e-scooters being used in other local areas not participating in trials, except with their agreement; this could also include ensuring e-scooters serve particular areas or address specific local transport needs
- while the department is not mandating user training or wearing of helmets, local areas may wish to include the availability of training or helmets in their agreements
- authorities may want to specify specific areas where trial e-scooters can be parked – for trials to be effective, there will need to be sufficient parking provision in trial areas; where a dockless operating model is being used, local authorities should ensure that e-scooters do not become obstructive to other road users and pedestrians, particularly those with disabilities
- data-sharing between the local area and e-scooter operator, in addition to the required data-sharing between operators and the department (which can be agreed on the basis that certain data are then shared with the local trial area)

It should be noted that these arrangements would be for the duration of the trial period only. The ongoing legal and regulatory basis for e-scooters will then be considered by the department based on findings from the trials.

The department considers that the option to set out local requirements and controls within appropriate contractual arrangements, together with the time-limited nature of trials and likelihood of well aligned incentives on all sides, should reassure participants.

As set out above, the DfT will, in agreement with trial areas, issue vehicle orders under [s44](#) and [s63\(5\)](#) of the Road Traffic Act 1988 for vehicles and operators assessed as being suitable to participate in trials. The DfT, however, retains its legal ability to revoke the administrative orders that allow e-scooter vehicles to operate where e-scooter use is not in accordance with regulations, agreements with local areas or the effective conduct of the trial.

Eligibility and DfT trial requirements

All local areas in England, Scotland and Wales can consider participating in e-scooter rental trials; however, the final decision on which trials take place sits with the DfT and all trial proposals will be assessed.

As such, all areas will be asked to submit a consolidated bid that demonstrates their proposed trial can meet the DfT's requirements. These are to demonstrate:

- relevant local high-level objectives and requirements have been established
- a high-quality service will be provided that should meet these requirements and objectives
- trials can conceivably commence between June and the end of August 2020, and can run for 12 months
- proposals are feasible and deliverable
- the trial area will provide useful evidence and insights
- licence details of users will be captured by operators

- operators have appropriate insurance in place – motor insurance requirements apply to e-scooter operators, therefore a minimum of third-party cover is required by operators (though not a legal requirement, they may also want to insure against vehicle theft/damage and include personal insurance too – to all users or on an optional basis)
- impacts for people with disabilities have been considered and addressed
- arrangements are in place between operators and the DfT for central data access for third-party evaluation
- TROs for cycle lanes and cycle tracks are updated, where required, to allow e-scooter use
- any new signing, road markings and public information (such as areas where e-scooters are prohibited or parking areas) will be implemented
- enforcement issues have been considered with relevant authorities, and that vehicles can be made visible and distinct from privately owned e-scooters
- safety issues have been appropriately considered and addressed, including:
 - appropriate levels of vehicle servicing/maintenance and vehicle hygiene arrangements
 - vehicles deployed meet prescribed vehicle standards (see [3.1 Vehicle design: current position](#) and [8. Annex: Minimum technical requirements for e-scooters](#))
 - appropriate training of some sort will be offered to users
 - how wearing of protective headgear will be encouraged
 - that operators use automatic vehicle lights where possible

These requirements suggest that, for proposals to be successful, agreement will be needed across all relevant levels of local authorities – for example, ensuring support and buy-in across relevant local highway authorities, boroughs and city councils, with overarching support from combined authorities where they are in place.

Where trial areas include and involve several tiers of local government, the DfT recommend agreeing a lead authority. In most cases, it is expected that the lead authority will have strategic oversight across all local trial areas.

Designing and agreeing proposals

How to take part in trials

Areas and operators interested in taking part in trials should do as follows:

- 1) Notify DfT (if they have not already done so) by emailing micromobility@dft.gov.uk. Details of participants will allow us to coordinate and collect information from areas and operators to track progress being made, and we will keep in close contact with participants to support throughout the process.
- 2) Rapidly develop and agree local high-level requirements and objectives for trials, although, for some areas, more detailed consideration of requirements may be necessary and this is a local matter.
- 3) Establish their procurement approach and proceed with appropriate market engagement (for example, a supplier event). DfT will be keen to understand the approach taken in each area and likely timescales. Some things to consider:
 - Dialogue with several areas suggests that light-touch contractual arrangements may be suitable for many authorities and better able to rapidly deliver e-scooter trials in response to COVID-19. In some cases, however, areas may choose to undertake a more traditional procurement exercise with a more detailed contractual arrangement. This is entirely a local decision.
 - Trials are a time-limited opportunity for both areas and operators to collaborate and learn how best to integrate e-scooters into local transport. Incentives should, therefore, be well aligned, and a degree of flexibility is likely to be beneficial for areas, operators and – ultimately – users.
 - Areas can look to more than one operator to fulfil their requirements – indeed, from an evaluation perspective, this could provide interesting insights. We are keen to see

diverse approaches where possible, for example, use of long-term lease arrangements for e-scooters as well as dockless shared systems.

4) Once areas have engaged with operators and received proposals as part of their procurement process, they should advise the department on their preferred operator(s) to work with. Preferred operators should be made known to the department as soon as possible and with the competition window (June to August) in mind.

5) Submit proposals by emailing micromobility@dft.gov.uk. There is no fixed template, but submissions must demonstrate our requirements have been addressed within a 3-page (6 side) limit, although additional annexes are permitted.

What will happen next

1) DfT will consider proposals to ensure our requirements have been met, including that the e-scooters to be used meet our [prescribed vehicle standard](#) (below), and suitable data-sharing arrangements between operators and the department can be set up.

2) The Secretary of State will then sign off administrative orders, where required, that will approve vehicles/operators to take part in trials.

3) Once confirmed, local procurement processes can complete. The DfT is very happy to work iteratively with areas as they develop proposals, and is able to 'pre-approve in principle' ahead of procurement processes taking place and a final decision being issued.

Monitoring and evaluation, and DfT data requirements

Although local areas are able to commission their own research, the DfT will contract and manage central monitoring and evaluation by third parties across all trials. This will include case studies within selected areas and a deep dive into local effects.

We ask that areas notify the DfT of an intention to conduct local research or evaluation, so that we can support where desired, but also to discuss with you any crossover points: to avoid research participants being contacted multiple times, leading to fatigue and unreliable results.

DfT is committed to ensuring the accessibility of online forms and surveys and meeting the [WCAG 2.1 AA standard](#). To make sure everyone can participate in the e-scooter research, online surveys will have a supplementary telephone service.

We are identifying accessibility issues and we are working to make future surveys of this kind meet the WCAG 2.1 AA standard.

How we will evaluate the trials

The primary aim of the evaluation is to build robust evidence about the safety, benefits, public perceptions and wider impacts of e-scooters in order to inform legal changes that may be necessary after the trial period ends. The secondary aim is to understand how the local transport systems are working, what factors support or hinder this, and learn lessons for future rollout.

Key areas where we will be gathering information include:

- safety outcomes for e-scooter users and what influences this
- interaction with, and effect on, other road users
- public perceptions of e-scooters, including people with disabilities and related groups
- nature of modal shift and new journeys that have been enabled. *details of trips made: how far, routes, speed
- characteristics of users, and how uptake and outcomes differ for different groups
- local authority perception of effects on their transport system
- lessons for future rollout
- what a future regulatory system for the future should include, such as speed, vehicle standards or licensing
- any other unexpected outcomes
- overall costs and benefits to society

To answer these questions, we and our monitoring and evaluation (M&E) contractors require access to operator data sets, including personal data in some cases.

Data access and protection

The DfT will agree access to these data sets directly with trial operators – local areas may require similar data and should agree on access separately as part of their procurement processes. Alternatively, the DfT is able to agree local areas access to the data that we collect centrally.

We are committed to working with partners to ensure a proportionate approach to data gathering and will ensure that relevant data protection processes (including opt-out, where relevant) are in place before any personal data collection begins.

Given our personal data access requirements, the DfT is in the process of drafting a data protection impact assessment (DPIA) to ensure compliance with data protection obligations and meet individuals' expectations of privacy.

Governance and reporting

This fast-tracked trial process will require robust but dynamic governance to ensure objectives and timescales are met. We propose to:

- establish a governance structure to ensure timescales are tracked, objectives focussed on, decision points and risks highlighted
- set up regular collective and one-to-one calls with registered local areas and operators to create a dashboard tracker of progress
- once trials are underway, we will request a summary report every 6 weeks

Annex: Minimum technical requirements for e-scooters

The technical provisions for e-scooters have been written into vehicle special orders that enable operators of e-scooters to participate in trials. In order to be approved for vehicle special orders, operators have demonstrated that their vehicles meet the following technical requirements.

Summary of technical requirements required from operators

Section	Description of requirements
General safety	All aspects of the design and construction of the vehicle, which are not covered by other items, shall be such that no danger is caused or likely to be caused to any person using the vehicle or other road users.
Anti-tampering	Measures shall be taken to prevent tampering of: <ul style="list-style-type: none"> – controls – maximum speed – power
Audible warning	Each vehicle shall be fitted with a bell or horn suitable for giving audible warning of the approach or position of the vehicle.
Braking	Each vehicle should be fitted with two independent braking systems, each of which is capable of bringing the vehicle safely to a halt. Combined braking systems are allowed provided: <ul style="list-style-type: none"> – a failure in one system does not affect the performance of the other – each system meets the given brake performance requirements below At least one brake must be hand-operated. If a kinetic energy recovery

Section**Description of requirements**

system is counted as one braking system, then the second braking system shall be a friction brake.

The braking systems shall meet the following requirements on a dry and level surface and when fully laden:

- i. When all braking systems are used in combination, a minimum deceleration rate of 3.5m/s^2 or max stopping distance $\leq 7\text{m}$ from a speed of 15.5mph.
- ii. Each braking system shall independently be able to achieve a minimum deceleration 1.5m/s^2 or max stopping distance $\leq 15\text{m}$ from a speed of 15.5mph.

If a mudguard brake is used, the following conditions shall be met:

- i. It shall be constructed of materials that limit wear of wheel and mudguard.
- ii. It shall be possible to actuate the foot brake over its full travel without interference.
- iii. Mudguard brake shall have a non-slip surface. The braking force shall be progressive and graduated.

Where the e-scooter is fitted with brakes which are intended to be hand-operated:

- i. The brake lever intended to be operated by the right hand must operate the front brake.
 - ii. The brake lever intended to be operated by the left hand must operate the rear brake.
- A single lever operating both braking systems shall be permitted to be operated by either hand.

Means to operate brakes must be exclusive for braking.

Every part of every braking system and the means of operation shall be maintained in good and efficient working order and be properly adjusted.

Mass and dimensions of e-scooters

Minimum payload capacity: 100kg
Maximum mass without rider: 55kg
Maximum length: 1.5m
Maximum width: 0.7m
Maximum height: 1.5m

Electrical safety

The vehicle and its components of the electrical system including the battery shall be so designed, constructed and fitted as to:

- minimise and protect against the risk of electrolyte leakage, fire, explosion and electric shock
- ensure electromagnetic compatibility

Lighting and reflectors

Obligatory lamps:

- i. The vehicle shall be fitted with a front position lamp meeting the following requirements:
 - colour: white
 - visibility: easily visible for other road users from a reasonable distance,

Section**Description of requirements**

but not to dazzle oncoming road users

ii. The vehicle shall be fitted with a rear position lamp meeting the following requirements:

- colour: red
- alignment: at or near the rear
- visibility: easily visible for other road users from a reasonable distance, but not to dazzle oncoming road users

iii. Flashing lamps are permitted with a flashing frequency of 1–4Hz (60–240 times per minute).

Optional lamps:

i. The vehicle may be fitted with direction indicators. If fitted, the colour of the direction indicators shall be amber.

ii. The vehicle may be fitted with a stop lamp. If fitted, the stop lamp shall meet the following requirements:

- colour: red
- alignment: to the rear

Obligatory retro reflectors:

i. The vehicle shall be fitted with a red reflector to the rear.

ii. The vehicle shall be fitted with reflectors that are capable of reflecting light to each side of the vehicle and shall be of colour either amber or white.

iii. Reflective materials (eg reflective tapes) shall be allowed.

Optional retro reflectors:

i. The vehicle may be fitted with a reflector to the front. If fitted, the colour of the reflector shall be white;

ii. Reflective materials (eg reflective tapes) shall be allowed.

Use:

i. No person shall use/permit to be used on a road any light to cause undue dazzle or discomfort to other persons using the road.

ii. Obligatory lamps are required to be kept lit and unobscured when the vehicle is:

- used between sunset and sunrise, or in seriously reduced visibility between sunrise and sunset
- allowed to remain at rest on a road between sunset and sunrise

iii. Lamps and reflectors must be clean and maintained in good working order.

Manufacturer's label

A tamper-resistant, weather-proof label shall be firmly affixed, legible and located in a conspicuous place displaying:

- manufacturer's name
- model identifier
- unique identification number
- maximum payload
- maximum speed
- maximum continuous rated power

The unique identification number may be located on a separate label positioned elsewhere on the vehicle.

Section	Description of requirements
	If removed, a new label shall be put in its place.
Stands	<p>The vehicle must be fitted with a stand which can support the e-scooter when left unattended.</p> <p>The stand – once retracted – shall remain in the retracted position whilst driving so as not to disturb the vehicle whilst in motion.</p>
Towing	<p>Towing is prohibited.</p> <p>The use of side-cars is prohibited.</p>
Tyres	<p>Tyres may be of either pneumatic or non-pneumatic construction. The tyre shall be suitable having regard to the use to which the e-scooter is being put.</p> <p>Any pneumatic tyre shall be so inflated as to make it fit for the use to which the vehicle is being put.</p> <p>The tyre shall:</p> <ul style="list-style-type: none"> – be maintained in such condition as to be fit for the use to which the vehicle is being put – not have any defect which might in any way cause damage to the surface of the road, rider or other persons using the road
Stability	The vehicle shall be so designed and constructed as to pass the stability tests outlined in 8.2 .

Stability tests

In the following stability tests, the vehicle is to be operated on the carriageway elements at 20km/h (or at the maximum design speed if this is lower) and at a speed of 8±2km/h. The carriageway elements in tests 1 and 2 (in both cases only on the up ramp) and 4 (where the front wheel in the direction of travel is in direct contact with the up ramp/kerb) are in both cases to be approached from a standstill.

In each test, the vehicle must be ridden over the complete carriageway elements and the rider must be able to control it at all times. The direction of travel in which the rider wishes to head must be retained, with a maximum deviation between the target and actual trajectory of 20 degrees being permissible.

Test conditions

The tests are to be performed on a dry, level, non-slip concrete or asphalt surface.

The longitudinal gradient of the test track shall not exceed 1% and its transverse gradient shall not exceed 3%.

The ambient temperature must be between 0°C and 45°C, and wind conditions shall be such that they do not affect the testing.

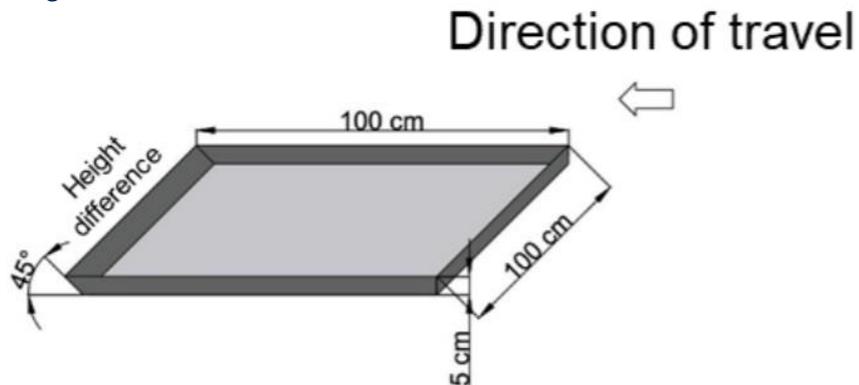
The battery state of charge shall be at least 75%.

In the case of pneumatic tyres, the pressure shall be set in accordance with the manufacturer's instructions.

The mass of the vehicle shall be equivalent to its 'ready-to-ride' state and the tests are to be performed with a rider of mass between 70kg and 100kg.

Test 1 – Depression

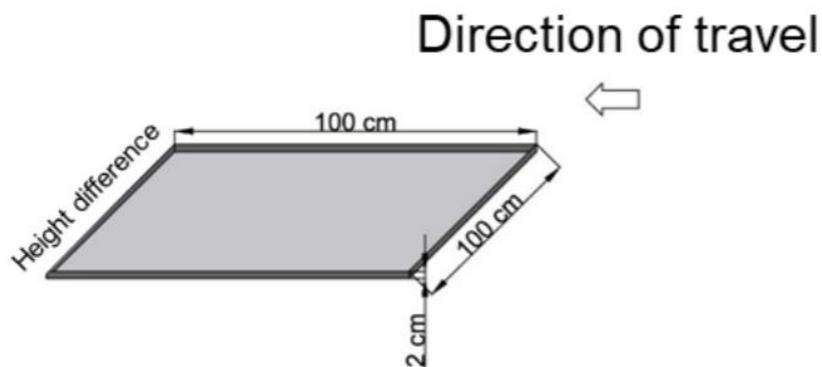
Structure of the carriageway element: a depression in relation to the riding level measuring at least 100cm long x 100cm wide x 5cm high with vertical walls and an exit ramp at an angle of 45 degrees.



The vehicle to be tested is to be ridden through the depression in a straight line over the kerb towards the ramp parallel to the direction of travel shown.

Test 2 – Up and down ramps

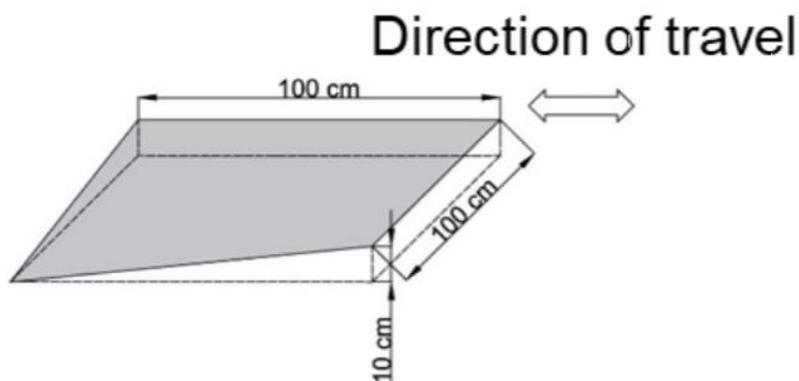
Structure of the carriageway element: a down and up ramp with a height difference of 2cm in relation to the riding level (size 100cm long x 100cm wide).



The vehicle to be tested is to be ridden through the depression in a straight line over the kerb towards the up ramp parallel to the direction of travel shown.

Test 3 – Drop on one side

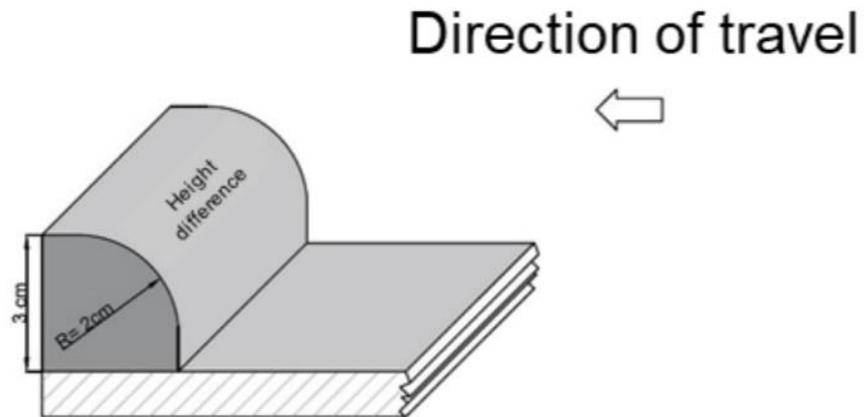
Structure of the carriageway element: a stretch on which the riding level, over a length of 100cm, drops by 10cm on the left-hand side in the direction of travel or rises by 10cm on the right hand in the direction of travel (drop or rise on one side).



The vehicle to be tested is to be ridden up and down on the stretch with a drop on one side parallel to the direction of travel shown. The vehicle must not be ridden over the edge of the carriageway element with a height of 10cm.

Test 4 – Kerb

Structure of the carriageway element: a kerb with a rounded profile, as shown in the figure below, and a height difference between the carriageway level and the upper edge of the kerb of 3cm.



The vehicle to be tested is to be ridden up over the kerb at an angle of 90 degrees and an angle of 45 degrees.