

Transport of steelwork by road

No. 7.06

Scope

This guidance note relates to the transport of large items of steelwork, machinery and equipment, both on public roads and at the construction site.

Vehicles

All delivery vehicles, large mobile crane bodies and support vehicles are principally road-going vehicles and conform to the various statutory HGV categories.

They all have attachments which allow them to be towed but these are not designed to be used where the vehicle is loaded and on bad ground.

Most large mobile cranes (i.e. 300 t and above) are attended by low loaders which are usually used to transport counterweight. Owing to their low ground clearance and small diameter wheels, these vehicles are the least tolerant to bad ground.

Abnormal loads and movement orders

Vehicles with rigid vehicle length less than 18.65 m, width less than 2.9 m, gross weight less than 44 tonnes, with no axle over 10.0 tonnes for a single non-driving axle and 11.5 tonnes for a single driving axle, and overall height less than 4.95 m can travel anywhere at any time, except where the route includes an underbridge with weight restriction or an over-bridge with height restriction (Ref 1). In the case of transportation of bridge girders, rigid vehicle length is usually the girder length.

Transportation requirements for main girders on bridge projects often fall outside the above limits and there are then various restrictions on movement.

Certain vehicles that exceed the above 'ordinary' limits are covered by a section of the Road Traffic Act 1988, entitled "Road Vehicles, (Authorisation of Special Types) (General) Order". The latest Order is SI 2003 No.1998 (Ref 2). The letters STGO, which are displayed on the tractor unit of most abnormal loads, are an abbreviation for this section of the Act. The regulations apply to "Abnormal Indivisible Loads". The word indivisible is important; if the load could be readily split into two or more loads each complying with the normal regula-

tions, as set out in the first paragraph above, then approval is likely to be denied. If, for example, the girder being transported were formed of two part-girders bolted together, it might be regarded as divisible; if it were formed of two parts that were welded together it would be considered indivisible. In any event, it is a matter for the fabricator and his haulier to consider and resolve.

Table 1 sets out the limits for the three STGO categories. Loads within these categories can move subject to notice to the authorities.

It is necessary to give notice to each police area on the planned route when the load is longer than 18.65 m or wider than 2.9 m, or the gross weight is in excess of 80 t.

It is also necessary to give notice to bridge owners (Highway Authorities, Network Rail, British Waterways, etc.) along the route if the gross weight exceeds 44 tonnes or the axle weight exceeds 11.5 tonnes. (The notice given indemnifies the owner against damage potentially caused by the load.) They do not have to be notified if only the dimensions (length or width) are abnormal.

Recently, the operation and maintenance of some sections of roads have been privatised. In such cases, the responsibility of receiving and acting upon notification from hauliers falls to the private company responsible for the road.

Special provisions exist for Greater London and for holiday regions in high season, which may restrict movements at peak periods and at weekends.

If the vehicle and load to be moved fall outside the STGO categories it is still possible to move, but approval must be gained from Highways England (or Transport Scotland or the Welsh Government) in the form of a VR1 Permit or a Special Order. All details of the load must then be notified, together with precise dispatch and delivery points. At least three months should be allowed between the first application for such a permit or order and the anticipated date of the actual movement.

A Special Order details the approved route and must be followed exactly.

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Special Orders are usually valid for 6 months. The specified notice must be given to each police region for the actual movement. Notice

must also be given to the relevant bridge owners, together with a specific indemnity to each.

Table 1 Limits of weight and size for STGO vehicles

Vehicle Type (STGO)	Max Laden Weight	Max Axle Weight	Max Vehicle Length	Max Vehicle Width	Notice to Police
Category 1	50 tonnes	11.5 tonnes	30 m‡	5 m (6.1 with VR1)	2 days
Category 2	80 tonnes	12.5 tonnes*	30 m‡	5 m (6.1 with VR1)	2 days
Category 3	150 tonnes	16.5 tonnes ⁺	30 m‡	5 m (6.1 with VR1)	5 days

The notice period given above is normal working days (i.e. excluding weekends and public holidays). The period excludes the day of movement and the day of notification. (a VR1 permit form is obtainable from Ref 3)

* Provided the distance between axles exceeds 1.35 metres, otherwise limited to 12 tonnes

⁺ Provided the distance between axles exceeds 1.35 metres, otherwise limited to 15 tonnes

‡ Maximum rigid length 27.4 m (over 27.4 m requires a special order)

Length of load

A vehicle of rigid vehicle length over 18.65 m but less than 27.4 m (and within the limits of width, weight and axle load mentioned above) requires that notice be given to police.

Any vehicle with rigid vehicle length over 27.4 m requires a Special Order, as well as the notices to police, etc.

Loads that create a rigid vehicle length between 40 m and 50 m are fairly common, and loads in excess of 75 m have been approved for relatively short movements. No maximum length is given by statute for loads subject to Special Order. However, it should not be taken for granted that an Order can be obtained for any long load, as it is a matter for agreement in each case.

Width of load

Loads over 2.9 m and up to 5.0 m wide require notice to be given to police. Notice to local authorities and other bridge owners would only be required if other limits (on gross weight or axle load) are also exceeded.

Loads between 5.0 m and 6.1 m wide require a VR1 permit, and those over 6.1 m a Special Order. As with length, there is no statutory limit to width, each case being treated on its merits.

Widths up to 5.2 m receive regular approval for movements around the UK. Wider loads often

receive permission to move on individual assessment. In those cases the road distance is not likely to be great.

Load height

A height clearance of 16'3" (4.95 m) is available on all motorways. Any load height above 16'6" must be notified to wire authorities (telephone, electricity, etc.).

Many railway and other bridges over roads have less clearance than 4.95 m. Great care should be exercised to ensure that sufficient height clearance is available under any bridges along the route. Police approval, or approval from any bridge owner is no guarantee that height clearance is available.

It is the driver's responsibility to obey height restriction signs, although highway authorities will give help and guidance if requested.

Site roads

Although steelwork fabricators generally require Main Contractors to be responsible for providing suitable access roads, there is a general obligation for the fabricator to take reasonable steps to satisfy himself that what has been provided is safe and satisfactory. The site roads and any areas on which the vehicles are to stand or travel must be properly prepared to carry the wheel loads and the layout must be adequate for manoeuvring.

The availability of towing equipment (to tow transport vehicles that might become stuck)

should not be accepted in lieu of adequate ground preparation. If a vehicle should for any reason lose traction then it is for the driver to decide if towing is appropriate. On no account should pushing be permitted.

Gradients on site roads require surface conditions such that delivery and crane support vehicles are able to generate sufficient traction to propel themselves. If in doubt, consult the haulage company/crane supplier.

The transitions at the top and bottoms of gradient are particularly important.

Ground clearance is important to low loaders on convex curves.

However, the most critical vehicle in this respect is the multi-axle crane body, where certain axles steer and certain axles drive. Therefore, to maintain proper control of this vehicle, all axles must stay on the ground; it is unacceptable to rock on a convex curve or to bridge a concave curve.

Note that heavy dump trucks, tippers etc., run on large diameter and wide tyres inflated to low pressures to enhance their rough terrain capability. They are therefore unrepresentative of road going vehicles.

The site access road should be suitable in all weather conditions likely to be encountered. Therefore beware of assessments made in prolonged dry weather or prolonged freezing conditions.

Temporary structures on site must be checked for each abnormal load. In carrying out such checks, care should be exercised if the axle loads stated on the Special Order are used. These can give a significant over-estimate of vehicle gross weight, because hauliers often claim maximum allowable load on each axle to give latitude in the positioning of the load on the vehicle.

DFT procedures, ESDAL

The Department for Transport (DFT) has established the ESDAL Project (Electronic System Delivery for Abnormal Loads) with a web-site, which seeks to co-ordinate notifications for abnormal loads. Supporting information and appropriate forms are available for download.

The address is:

www.gov.uk/esdal-abnormal-load-notification

References

1. Transporting Abnormal Loads (*available from www.gov.uk/esdal-and-abnormal-loads/abnormal-loads, accessed 1/12/14*)
2. Statutory Instrument SI 2003 No. 1998 Road Traffic- The Road Vehicles (Authorisation of Special Types) (General) Order 2003
3. VR1 form can be obtained from: www.gov.uk/government/publications/abnormal-load-movements-application-and-notification-forms