TSM GUIDE

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TSM

NATIONAL AXLE WEIGHT MEASUREMENT SYSTEM

WHAT IS THE NATIONAL AXLE WEIGHT MEASUREMENT SYSTEM (TSM)?

The TSM is a complex measurement network system that enables the measurement of vehicles' axle weight and determines their total weight without stopping the vehicle itself, thus allowing the filtering of overloaded cargo vehicles and the imposition of fines.

Until now, cargo vehicles overloaded in violation of regulations were identified randomly by directing them out of road traffic and measuring their weight on site. The TSM system, on the other hand, enables the measurement of gross vehicle weight through its 107 measurement stations installed at 89 measurement points with the help of sensors integrated into the road pavement that can measure the axle weight of moving vehicles passing over the measurement station.
Thanks to this new method, inspection coverage has improved from 2 percent to over 50 percent. The application of the TSM is expected to reduce the risk and severity of accidents involving cargo vehicles, slow down the pace of road degradation and significantly improve the competitiveness of carriers observing the regulations.

WHY IS IT NECESSARY TO IMPLEMENT THE TSM SYSTEM?

Three main factors make it essential to improve the effectiveness of cargo vehicle weight controls:

1. Improving road safety

Overloaded vehicles pose an increased risk of accidents – among other reasons due to longer braking distances and reduced manoeuvrability.

These vehicles are more likely to cause accidents and there is a much higher probability of such accidents leading to severe injuries or death. By forcing overloaded cargo vehicles out of traffic, many of these accidents can be prevented or the outcomes from such accidents can be mitigated.

2. Preserving the condition of the road network

Overloaded vehicles significantly boost the deterioration of public roads.

The rate of road deterioration caused by a 40-ton articulated vehicle combination equals the damage in road pavement caused by thousands of passenger cars, while this rate is multiplied when a vehicle is overloaded. The damage to road pavement caused by overloaded vehicles is estimated to be tens of billions of HUF per year. This harmful practice cannot be curtailed with an acceptable level of effectiveness using traditional methods (measurements using mobile devices after randomly directing vehicles out of traffic).

3. Promoting the competitiveness of carriers

Overloaded vehicles can generate more profit, which is detrimental to the market position of businesses operating in a law-abiding manner.

The TSM system helps to establish equal terms and filters out businesses violating the regulations. The competitive environment becomes balanced among carriers, and the ones operating in violation of regulations cannot benefit from such a competitive advantage anymore.

HOW DOES IT WORK?

The TSM system is built onto the existing elements of the toll enforcement system (UD system). The control measures in the UD Toll System are combined with sensors integrated in the road pavement at measurement points (WIM sensors – Weigh In Motion), which can determine the axle weight while vehicles are in motion. The system determines the gross vehicle weight based on measurements.

Furthermore, there is a central authority control system in operation, which receives the data recorded at measurement points from the UD Toll System. This central IT system establishes whether the gross weight and axle weight of a given vehicle is in compliance with regulations based on the comparison of the registration/licence plate number, measurement data and information coming from various technical systems (maximum admissible gross vehicle weight, axle weight, whether an exemption applies or if it has the approval of the road manager). The central authority control system can be accessed by on-site controlling personnel using IT devices.

If, based on the recorded data, the system signals an overload in violation of the regulations, the fining process can occur in two ways:

Imposing a fine based on a pre-filtering and on-site control		Fining on the basis of objective responsibility
1. When passing over the measurement points, the WIM sensors integrated into the road pavement and the assessment unit determine the axle weight and gross weight of the vehicle, cameras installed at measurement points record images of the vehicle, and then using these data the system identifies the registration/licence plate number, the country of origin of the vehicle, the number of axles and the vehicle category.		
2. Vehicles are selected for on-site controls based on the measurement results. The vehicles for which the system detects an excess of gross weight or axle weight can be directed out of traffic by the traffic officer and, using the on-site measurement, it can be determined whether the vehicle meets traffic regulations or if a fine should be imposed.		2. The system uses certified measurement data to determine whether the vehicle complies with the requirements set out in the regulations or it is overloaded.
3. If, after directing the vehicle out of traffic and performing the measurement, a severe violation is established, the driver must remedy the overloaded condition of the vehicle.	3. If the violating vehicle is directed out of traffic for on-site control, the fine will be imposed on the basis of certified measurement data in the TSM system. If a severe violation is found, the driver must remedy the overloaded condition of the vehicle.	3. If the violating vehicle is not stopped, the operator of the vehicle will receive the decision on the imposition of fine by mail.

A great advantage of the system is that cargo vehicles carrying loads complying with the regulations will not have to interrupt their transport, since they will not be directed off for on-site weight measurement.

The TSM has been in operation with its pre-filtering function since 31 March 2017. Now, overloaded cargo vehicles are not selected from traffic by traffic officers in a random manner.

The branch of the system functioning on the basis of the principle of objective responsibility was launched on 19 September 2017, which is capable of fining without stopping the vehicle. The TSM performs automatic measurements, but until 31 May 2018, it will not send a decision on the imposition of fine, only a warning to the operators.

MEASUREMENT ACCURACY

The measurement accuracy of WIM sensors is established by the metrology office.

Owing to the physical characteristics of individual measurement points, there may be slight differences in measurement accuracy, hence values are always corrected before a fine is imposed. The system corrects the measurement result within the rate of accuracy, and examines the compliance of vehicles passing over using this corrected value. **This guarantees that vehicles under the weight limit are never fined.**

It is important to note that any action to manipulate measurement results is liable to penalty. Pursuant to Article 20 of Act I of 1988 on Public Road Transport, "Anyone violating the provisions forbidding the manipulation of measurement result achieved using the National Axle Weight Measurement System is liable to pay a penalty." In any case where the system detects an overloaded vehicle or an attempt to manipulate the measurement, the personnel operating the system will check camera images and received data to establish whether the driver of the vehicle has attempted to manipulate the measurement result.

FINING

The implementation of the system does not create new payment obligations for affected businesses, but will remarkably facilitate the enforcement of requirements set out in the regulations.

The purpose of the TSM system is not to increase the budgetary income from fines, but to promote law-abiding conduct. Accordingly, the launching of this system will not lead to significant changes in the number or amount of fines imposed.

You can learn more about the exact amount of fines in the context of objective procedure without stopping the vehicle in Annex 4 of Government Decree 410/2007 (XII 29.) on the scope of traffic offences punishable by administrative fines, the fines to be imposed in case of infringement of the traffic rules concerned, the rules for appropriating the collected amount and the terms and conditions of collaboration in regulation, You can learn more about traffic control with the stopping of vehicles in Annex 8 of Government Decree 156/2009 (VII. 29.) on the fines to be levied in case of the breach of certain provisions related to public road goods and passenger transport, and also public road traffic, furthermore on the authority tasks related to levying fines, or at www.tengelysulymeres.hu.

IMPORTANT: The system is capable of measuring the weight of motorcycles, passenger cars, trailers and recreational vehicles, but the operators of these vehicles will not receive a decision on the imposition of fine in accordance with the regulatory environment. However, this fact does not release owners of the above-mentioned vehicles from complying with regulations applying to the weight of these vehicles.

BENEFITS OF THE TSM SYSTEM

- The risk of severe and tragic accidents often resulting in death caused by overloaded cargo vehicles is reduced.
- Damages of some billions of HUF in road pavement can be prevented.
- The competition becomes balanced among carriers, and no one can obtain a competitive advantage through the violation of regulations.
- The time of axle weight and gross weight measurement on public roads is reduced, and compliant cargo vehicles will not be directed out of traffic and be subjected to on-site measurements.
- The lead time for administrative fining procedures is reduced, due to more effective management thanks to the implementation of objective responsibility.
- The coverage of controls is expected to increase from 2% to 50% in terms of axle weight measurement.
- The number of fines increases in the short term, while it will drop over the long term (owing to a greater coverage of controls and hence through law-abiding conduct becoming more common).
- The rate of overloaded cargo vehicle traffic will significantly decline over the medium and long terms.
- The principle of social justice prevails, meaning that those pay who are responsible for the deterioration of the road, not the taxpayers collectively.

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