

## **URBAN TRAFFIC POLICY OF LEZ AS A RESPONSE TO THE DEMANDS FROM THE EU LEGISLATION**

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### **ABSTRACT**

*First and foremost, the EU, declaratively and without obligations to its members, and afterwards with obligations, has committed to limiting and stabilizing the release of harmful substances in traffic, in order to improve the protection of public health and the protection of the environment in general.*

*In that context, a number of normative acts have been passed in order to not only stop the growth tendency, but also to lower and stabilize the release of harmful substances in traffic, principally in the urban traffic areas where the concentration of these substances is at the highest level, and with it their harmful effects. As a response to the abovementioned goal of the EU legislation, various traffic policies have been developed in the urban traffic areas, from which the most important is the LEZ (Low Emission Zones).*

**Keywords:** LEZ, traffic policy, harmful substances.

### **1. INTRODUCTION**

Regardless of the quality of competitiveness of other forms of mobility, still the highest level of trust is placed to those least justifiable in ecological terms in the urban traffic areas. Therefore, the European Union (EU), not underrating mobility as one of the key conditions for a quality living, attempts at times, with strict and restrictive legislation, to force its member states to pass and implement operative programs which would result in the reduction and stabilization of the release of harmful substances in vehicle traffic.

The EU has therefore passed a number of legislations on clean air, out of which the Clean Air Directive presented the most strict legal act on clean air in the world at the time of its passing. Precisely because of it, the urban traffic policy „Lower Emission Zones“ has appeared as an answer to this restriction in European cities.

### **2. DEMANDS IN THE EU LEGISLATION**

Even in its early integration, the EU treated the problem of polluting substances in the air, so the Council of the European Union passed an act in 1980 which determined the levels of sulfur dioxide (SO<sub>2</sub>) and suspended particles in the air, with which it aimed to contribute to the improvement of public health and the protection of the environment in general [1].

The Directive thus harmonized the concentration of these polluting substances in the air, the methodology for its measuring, including all the details of the measuring, as well as measuring stations of pollution which have to be placed in places which are presumed to be exposed to the highest level of air pollution.

The normative acts on air quality concerned, passed by the EU, had more content and treated air pollution more accurately, so the Council Directive 96/62/EC [2] not only determined the general

legal frame for air pollution, but also the basic technical principles in assessment and measuring of air quality.

It contains a detailed list of air pollutants, determines how the EU member states need to incorporate the operationalization of general legal principles into their national legislation. Due to its general legal principles, this directive is effectively known as the „General Air Quality Directive“, and due to its content solutions and consequent directives („daughter directives“) which complement, but also change some of its solutions, it is also known as the First Directive.

Therefore, the Council Directive 1999/30/EC specifies the limit values for sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide and nitrogen oxides (NO<sub>x</sub>), particulate matter (PM) and lead [3].

The normative law of the EU divides particulate matter into two types (PM<sub>10</sub> and PM<sub>2,5</sub>), and this directive treats the limitations numerically only for PM<sub>10</sub> [4].

This directive initially divided the PM<sub>10</sub> limits into two phases, with the first phase covering 2005 to 2009 and the second stage covering 2010 and beyond. During the first stage, PM<sub>10</sub> is regulated such that at a city's highest-polluting station

- the daily average does not exceed 50 µg/m<sup>3</sup> on more than 35 days annually and the yearly average does not exceed 40 µg/m<sup>3</sup>[5]. Ten years later, Council Directive 2008/50/EC[6], on Ambient Air Quality and Cleaner Air for Europe, established PM<sub>2.5</sub> thresholds for the first time:

- a) By 2020 member states must reduce their PM<sub>2.5</sub> Average Exposure Indicator—or AEI--by up to 20%, based on their 2010 levels. The AEI is calculated as the three-calendar year running annual mean concentration averaged across targeted urban areas.

- b) The PM<sub>2.5</sub> AEI of these targeted urban areas is set at 20 µg/m<sup>3</sup>, to be met by 2015.

- c) The annual average PM<sub>2.5</sub> level cannot exceed 25 µg/m<sup>3</sup> in any targeted or non-targeted area by 2015.

- In 2020, the annual average PM<sub>2.5</sub> limit will be tightened to 20 µg/m<sup>3</sup>, to be met by any measuring station (for both the targeted areas and non-targeted areas) [7].

As the goal, we have mentioned some demands from certain normative acts, aside from which there are others, such as various programs, directives, guidelines, etc.

### **3. URBAN TRAFFIC POLICY LEZ**

The member states of the EU developed various operational programs for cutting greenhouse gas emissions, of which we only mention the most common ones: an Urban Air Quality Improvement Program, a scheme to shift domestic hauliers from HDV trucking to public transportation services, a High-Speed Motorway Bus Transfer Scheme, a Rail Traffic Enhancement Scheme, a Park & Ride Scheme (with P&R lots on the outskirts of cities, at railway stations and at motorway exits), toll collection measures, the implementation of an Odd-Even Traffic Scheme, a vehicle speed reduction system, “urban trap” prevention measures, low pollution zones, rules on parking tickets, the transportation of children, traffic bans, traffic limitation, setting an approximate timetable for public transportation services [8].

Like most of Europe, Germany has struggled to meet the EU PM<sub>10</sub> limits, especially the daily limit. Between 2005 and 2007, 79 German cities violated the 35-day limit (i.e., their daily average PM concentrations exceeded 50 µg/m<sup>3</sup> on more than 35 days in each year) while only 12 of these cities also violated the 40 µg/m<sup>3</sup> annual limit.

Moreover, almost all of Germany was at risk of being in non-attainment of the announced 2010 standards. Based on historical emissions levels from 2005 to Implementation of LEZs has emerged as the most common, yet most aggressive and controversial, feature of Germany's clean air action plans

[9]. LEZ as one of the most strict responses to the demands of the EU anticipates the introduction of the so-called environmental zones, in which only those vehicles that are classified and appropriately marked as vehicles with low emission of harmful substances can enter, as well as the introduction of those environmental zones in which vehicles that are ecologically acceptable (such as electric vehicles) and public interest vehicles (such as ambulances, firetrucks, various delivery vehicles, public transport vehicles, etc) which have also been classified, and appropriately marked as vehicles with low emission of harmful substances.

This urban traffic policy has been gradually introduced to more than 200 cities of the EU, and taking into account its strict policy, it is interesting to notice that there have been no negative reaction of the public to these restrictions.

#### **4. CONCLUSION**

Considering that the EU, even in its early integration, aimed towards limiting and stabilizing air pollution coming from vehicle traffic, and that later it started passing the obligatory legal acts that anticipated sanctions for breaking the defined daily and yearly limits, it was completely justifiable to expect that the urban traffic zones, which were hit first by these normative restrictions of the EU, will start to create urban traffic policies that will fulfill the demands of the EU legislation.

It is to be expected that the urban traffic policy LEZ will spread to other cities of the EU that have not been successful in reaching satisfactory results by implementing some other urban traffic policy. Next to that, it is to be expected that those ecological zones with the most strict restrictions will spread in the centers of urban European areas, surrounded by limiting ecological zones, which will surely contribute to the improvement of public health and the protection of the environment in general.

#### **5. REFERENCES**

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- [2] Council Directive 96/62/EC of 27 September 1996 on ambient air quality assessment and management. Official Journal of the European Communities, No L296/55.
- [3] Council Directive 1999/30/EC of 22 April 1999 relating to limit values for sulphur dioxide and oxides of nitrogen, particulate matter and lead in ambient air, Article 3, 4, 5 and 6. Official Journal of the European Communities, No L 163/41.
- [4] PM is an acronym for Particulate Matter. PM10 are hard particles smaller than 10 micrometers, and PM2,5 are smaller than 2.5 micrometers. PM2,5 are generally speaking more dangerous for public health, since they are smaller and enter the lungs more easily during breathing.
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