

Political plans of toll collection in Poland

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ABSTRACT

Changes in the act on Public Roads and some other acts are intended to implement in Polish law the provisions of European Parliament Directive 2006/38/EC on fee collection for use of some types of infrastructure by heavy vehicles. According to the bill submitted to the Polish Parliament (Sejm) by the government, the vignette system was to cease to operate on 1st July 2008. After the works undertaken by Infrastructure Commission some changes was introduced to the bill to the act on public roads. The main changes concern maintain the vignettes up to the half of 2011 and introducing the electronic fee system from 1st July 2011, also rise the vignette charges to stabilise the NRF's budget for next three years. The paper present the evolution of legislative path accompanied constructing motorways in Poland.

KEYWORDS: toll collection, vignette, road charging, motorways

1. Introduction

Changes in the act on Public Roads and some other acts are intended to implement in Polish law the provisions of European Parliament Directive 2006/38/EC on fee collection for use of some types of infrastructure by heavy vehicles. This Directive stipulate conditions of vignette fees collection and toll fees collection from heavy vehicles for use of roads in the territory of the Member States. Proposed statutory changes concern also the other issues connected with the system of payments for using public roads in Poland. Namely the replacing flat-rate fee system for a vehicle transit on national roads (so called „vignette system”) with system dependent on the travelled kilometres, in final stage collected by electronic means. The new act abolish the right to free movement of heavy vehicles on paid motorways on the basis of vignette and further annul the payment from National Road Found

to companies holding contracts for the construction and operation, or exclusively an operation, toll motorways.

According to the bill submitted to the Polish Parliament (Sejm) by the government, the vignette system was to cease to operate on 1st July 2008. Because the summer break as well as works in parliament took longer than expected in the end of September the bill returned on agenda. During the works undertaken by Infrastructure Commission some changes was introduced to the bill to the act on public roads. The changes concern:

- maintain the vignettes up to the half of 2011,
- introducing the electronic fee system from 1st July 2011 or alternatively from 1st July 2012,
- rise the vignette charges valid a year from 800 Euro to 1100 Euro,
- reduce the compensation paid by the NRF to concessionaires and therefore to stabilise the NRF's budget for next three years.

2. The first approach to construct motorways

In Poland exist about seven hundred of motorways, but only a one third of them is covered by tolls. Moreover the charges concern only the cars and those trucks and buses which have not vignette.

Table. 1. Progress in works under construction motorways in Poland
Source: pl.wikipedia.org/wiki/Autostrady_w_Polsce

Motorway	Destination length	Existing	Progress
A1	~582 km	~42 km	~7%
A2	~610 km	252,2 km	~41%
A4	~670 km	364,8 km	~54%
A6	~29 km	21,6 km	~76%
A8	35,4 km	0 km	0%
A16	~78 km	17 km	~21%
total	~2004,4 km	~697,6 km	~35%

In time when the plans about Polish motorways were born the way to build ones seems straight and wide. If this plans come true in present time all motorways should be finished. To systematize the history of political plans concerning constructing motorways in Poland after the transformation of the political system, on the time scale were selected important events:

1993 - the government amended the Public Roads Act in order to build 1691 km of motorways in Poland within the next 15 years. The amendment allowed to collect tolls for using motorways and express roads and to spend that money as well as the income from the concession fees, on constructing, modernizing and maintaining the system of motorways.

1994 October – the Polish Parliament (Sejm) passed the Toll Motorways Act, which stipulated, among others, preliminary conditions of motorways construction as well as conditions of granting concessions and contracts on constructing and operating the following toll motorways: A1 (North – South) Gdańsk - Łódź - Katowice (Ostrava), A2 (West – East) Świecko - Poznań - Warsaw - Terespol (Minsk) and A4(south-west – south-east) Zgorzelec - Wrocław - Katowice - Cracow - Przemyśl (Kiev). The construction of the above motorways was to be financed according to the BOT system (financed by the concessionaires). The acronym stands for: Build (using your own finances),

Operate (during the concession period), and Transfer (back to the organ granting the concession after the concession expiry). However, the extraordinary measures used in adopting the act on toll motorways (so called a “quick legislative path”) did not facilitate the construction of motorways in any way.

1996 – by the end of 1996 not a single kilometre of motorways was built out of the planned 338 km. In addition, due to hasty preparation the act contained many unfavourable regulations. The most dangerous of them was the procedure of selecting the concessionaires, who would build (or adapt) and operate motorways sections. Briefly, a specially appointed commission would first choose the candidate who had offered the most favourable conditions and only then the future motorways operators were to negotiate contract terms with the government. As result, after the candidate had won the tender, they increased the costs of construction, even twofold, and demanded greater and greater guarantees of financing from the State Treasury, up to the point in which demanded guarantees exceeded the total value of the investment (by law financing should not exceed 50% of the construction costs, and under the Toll Motorways Act the concessionaire shall gather the funds necessary to operate the motorway). Additionally, problems with location and other legal difficulties occurred.

1997 September – the first two contracts on construction and operation of toll motorways were concluded by the Minister of Transportation and Maritime Economy (motorways A4, section Krakow – Katowice, and A2, section Świecko – Stryków). However, only a 61 km-long fragment of A4 was opened to traffic; also the operating entity had considerable difficulties with implementing the toll collection under their concession.

2000 April – fees collection has started on A4 section Katowice - Krakow.

2000 September – the BOT system failed, the Sejm amended the act on toll motorways and created new possibilities of financing the construction and operation of motorways under the public-private partnership (PPP). A new institution, National Motorways Fund (Krajowy Fundusz Autostradowy), was created within National Economy Bank (Bank Gospodarstwa Krajowego). The Fund was to be financed from the vehicle excise duty transferred from the Budget, motorways tolls, donations and other public resources.

2002 January – trucks and buses were encompassed by the vignette system. It meant that the drivers had to pay two different fees for using the toll motorway A4, and in the future for another launched paid sections.

2002 December – fees collection has started on 47 km-long A2 section Konin - Września.

2003 – the Minister of Infrastructure submitted an amendment to the act on motorways, which proposed establishing National Road Fund (Krajowy Fundusz Drogowy) in place of the former Motorways Fund, which was financed from the sale of vignettes, administrative penalties and a newly introduced fuel excise fee (imposed on the importers and producers of vehicle fuels and sellers of the liquefied gas, LPG). According to the bill, the NRF is responsible for financing not only the construction of motorways but also for “gathering means for construction, modernization and maintenance of express roads and other national roads”.

2003 November – fees collection has started on 37 km-long A2 section Września - Poznań Krzesziny.

2004 October – fees collection has started on 50 km-long A2 section Poznań Komorniki - Nowy Tomysl.

2005 – because of the charges of double fees brought by the European Commission the act on toll motorways and on National Road Fund was changed. Trucks were exempted from motorways tolls but the concessionaires were to be paid a compensation by the NRF. One of the principles of that change, introduced in 2005, was its temporariness. The solution was adopted only to gain time until a new system of collecting tolls was created and would operate only until the total value of liabilities by way of compensations did not exceed the NRF's income from the vignettes.

2008 February – fees collection has started on 25 km-long A1 section Rusocin – Swarozyn.

2008 March – the Ministry put forward a bill changing the act on public roads and some other acts. The most important change concerns the system of charges for using national roads, and specifically, replacing vignettes with tolls.

3. The main reasons for changes in the system of road charging

As it was mentioned at the beginning of the paper the changes in the act on Public Roads and some other acts are intended to implement in Polish law the provisions of European Parliament Directive 2006/38/EC. Furthermore the current system is based on a flat-rate fees, paid by purchasing the appropriate fee card (vignette), constituting the right of transit on national roads through the respective period (from one day to one year). That kind of payments are not correlating with the amount of travelled kilometres on the national road network, and therefore does not adequately reflect the costs resulting from consumption of national roads, caused by trucks. The toll system is considered as a more efficient than the vignette system for road users, therefore in many European countries (Austria, Germany, Czech Republic) the vignettes are more and more replaced by electronic toll collection systems based on the travelled kilometres.

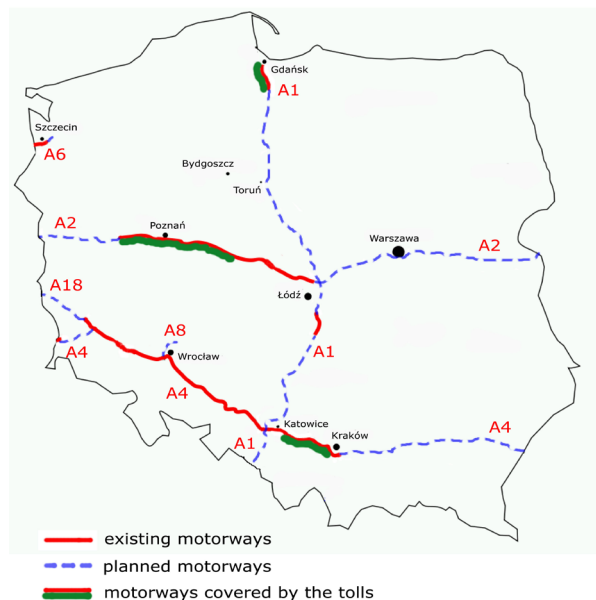


Fig. 1. The present state of highways in Poland with marked length of paid section
Source: www.gddkia.gov.pl

No less important for changes are the financial reasons. As a result of the provisions regulating compensations for the uncharged tolls, as well as irregularities concerning establishing the rates of vignettes and tolls, 86% of the resources that the NRF collected from the vignettes were eaten up by compensations for the concessionaires. Having in mind that the total length of the concession sections of motorways amounts merely to 1.1% of all national roads, it can be clearly stated that there was a great imbalance between payments made to the concessionaires and the NRF means allocated to investments and maintenance of the national roads. In that situation, if one more section of a toll motorway operated by a private entity had been opened to traffic, the NRF would have been rendered practically insolvent.

The Ministry of Infrastructure calculated that within the next few years the NRF's revenues will not cover the payments for the shareholders. The newest estimates of the General Directorate for National Roads and Motorways indicate that even this year the total amount of the compensations can exceed the revenues from the tolls and penalties stipulated in the acts on road transportation and on public roads by PLN 150 mln, an equivalent of an average yearly budget of a province for roads maintenance. Retaining the system of compensations can result in the situation in which the fuel excise duty (a part of the NRF) will be used to finance compensations.

The estimates of the Ministry of Infrastructure show explicitly that the system of collecting tolls for using national roads has to be changed. Changes in the bill amending the act on public roads have been accepted by all political groups, which is a great rarity in politics. Introduced changes that is an increase the price of vignettes and decrease compensations to motorways operators are to not allowed the situation of NRF's insolvent until the time of introduction electronic tolls. It is also the time that the ministry of infrastructure should spent on selection a system tolls technology and the preparation of that solution to the extent required for its presentation of a wide range of customers.

According to the act the introduced systems of the electronic toll collection should employ at least one of the following technologies:

- satellite positioning;
- the system of mobile communication based on the GSM-SPRS standard, compatible with the standard GSM TS 03.60/23.060;
- a radio system using the 5.8 GHz frequency band used to operate transport and road traffic.

The electronic fee, according to a bill, will cover vehicles with a permissible total mass over 3.5 tonnes and buses regardless of their permissible total mass, and will concern selected national roads - especially roads belonging to the TEN-T network, that is motorways and express roads.

4. Technologies for electronic toll collection

Allowing for the global tendencies, there are two dominating alternatives: the solution using the wireless short range technology (DSRC) or the other one, based on the system of satellite positioning GPS (alternatively Galileo, if it is activated) and mobile communication GSM/GPRS. The main factors taken into consideration during implementing the system should be flexibility (regarding future extensions as well as the modifications in the conditions of services) and the cost of system construction and its further operation.

Reliability of the system and simplicity of its operation are among important features that speak well for the short wave communication system, and have been acknowledged in many European countries, such as the Czech Republic, Austria, Spain and Italy. However, it is also bound with the necessity to develop the road infrastructure (gates with sensors) at least at the posts most vital for effective toll collection.

Table 2. The estimated rise amount of compensations for the shareholders

Source: [7]

Year	2007	2008	2009	2010	2011	2012
Revenues from the tolls (mln PLN)	599	660,3	705,8	821,1	859,4	899,3
Amount of compensations (mln PLN)	529	814,7	1 380,3	1 559,8	2 423,4	2 540,6
Difference (mln PLN)	70	-154,4	-674,5	-738,7	-1564	-1641,3

The system based on satellite positioning seems to be more profitable. Its advantage over the system based solely on DRSC is particularly visible when the network of toll roads is very dense. Additionally, thanks to its flexibility and no requirements of additional infrastructure, the satellite system can be easily expanded. It should be also noted that the system facilitates the process of roads management. By processing information gathered during toll collection, the system enables to estimate the volume of traffic in a particular section of the road, the number of vehicles of a particular type, etc. and thus it provides the information necessary to model the streams of vehicles. The satellite system of the road tolls collection can also cooperate with other fees collecting systems, e.g. with a system collecting fees for entering the city centres.

5. Benefits and problems resulting from the introduction of electronic charges

According to the government, resigning from the vignettes will pave the way for the electronic system of tolls collection and will help to:

- eliminate subsidies to motorway tolls for some carriers at the expense of all other road users and introduce a more just principle „the user pays”;
- create a stable source of financing the operation and maintenance of the whole net of roads as it is expected that in years 2011-2020 the system of electronic toll collection will generate higher revenue than the vignette system;
- decrease the costs of small and medium transport businesses operating locally, where there are no motorways
- keep a transition period allowing to adapt to the new rules – a vignette bought before the act enforcement will enable its owner to use the toll motorways up to one year with no additional charge
- create a transparent system of road tolls, compatible with the systems of other Member States
- keep the heavy vehicles traffic on motorways and express roads by introducing favourable fees, improve safety on roads and protect other national roads
- create tools for managing the volume of traffic on roads (depending on the type of the vehicle, a road standard and time of day)
- balance different sectors of transport by creating the demand for road and railway transport (give equal chances to compete and develop).

- On the other hand, the proposed changes are criticized as:
- the changes will increase the costs of big carriers
 - the government does not do anything to decrease the costs of transport: they do not try to lower the excise nor counteract the rising costs of fuels, fail to lift the limits on importing fuel from the eastern border (currently the limit is 200 liters) or to solve the problem of long queues at the eastern border of Poland
 - alternative routes will be devastated as a lot of vehicles will try to avoid motorways
 - as a result safety conditions on local roads will deteriorate
 - conditions along the roads most likely to be used as alternative routes will deteriorate as well (due to e.g. noise).

The toll system is considered as more efficient than vignette system and more just for road users. Because the vignette is a flat-rate fee, while the toll is the charge for the actual number of travelled kilometres which reflects the principle „user pays”. The amount of toll can be better refer to the cost of construction and operation of road infrastructure. Additionally, electronic toll systems ensure better fiscal efficiency than traditional systems based on vignette. Therefore these systems are better both from point of view of user as well as collector of payments.

It should also be noted that using the electronic fee system, assuming its interoperability, enable in the future introducing an European electronic fee service. Through the service the road user will be able to move freely in the trans-European networks in frames of a single contract with the supplier of the above mentioned service.

Covering the tolls both motorways and express roads, which the network be built in the years 2008-2012, will generate higher revenues during 2011-2020 compared with revenues that were generated in the vignette system. The influence on the amount of incomes from electronic fee will have the rise in the movement and the gradual height lengths of road networks covered with electronic system. The electronic tolls system can be gradually extended to the alternative roads to prevent the escape traffic on the roads outside the system, because enlarged traffic in consequence could lead to increase the cost of maintenance alternative roads.

6. Conclusions

In the EU countries functioning both vignette system and a direct payment schemes. However vignette fees type are, in many European countries, more often replaced by electronic fee systems based on travelled kilometres (Austria, Germany, Czech Republic, and in the near future, also Slovakia, Hungary and the Netherlands).

In many EU countries (among others France, Italy) operate systems based on the traditional toll gates, but even there more and more are introducing fees collection by electronic means. Electronic systems enable smoothly flow of traffic and shortening the duration of transfer process.

Using the toll motorways is much cheaper in Europe than in Poland. Driving 1 km on a toll motorway costs on average 4 eurocents in Spain, 5 eurocents in France and 6 in Italy. In Germany, Denmark, Estonia and Benelux there are no toll motorways. In Poland 1 km of a toll motorway costs 6-8 eurocents.

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