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Performance toll collection

Antonín PELTRÁM[1]

PROPOSED LEGAL AND ADMINISTRATIVE PRECONDITIONS FOR A TOLL DERIVED FROM PERFORMANCE ON THE NETWORK OF MOTORWAYS AND INTERNATIONAL HIGHWAYS IN THE CZECH REPUBLIC AS AN EXAMPLE OF A STATE WITH UNDERDEVELOPED MOTORWAYS INFRASTRUCTURE

There is described at present discussed proposal to introduce electronic toll collection (ETC) on the network of motorways and international roads network of the Czech Republic, based on the system chosen in Germany. The ETC is there used only as a tool of transport policy, the infrastructure of ETC is usable for other tasks connected with value added services, but out of ETC.

PROPONOWANE PRAWNE I ADMINISTRACYJNE WARUNKI WSTĘPNE DLA OPŁAT POCHODZĄCYCH Z DZIAŁALNOŚCI TRANSPORTOWEJ NA SIECI DRÓG EKSPRESOWYCH I MIĘDZYNARODOWYCH AUTOSTRAD W REPUBLICE CZESKIEJ JAKO PRZYKŁAD PAŃSTWA Z NIEROZWINIĘTĄ INFRASTRUKTURĄ DROGOWĄ

W artykule opisano dyskutowane obecnie wprowadzenie elektronicznego pobierania opłat za korzystanie z dróg (ETC) na sieciach autostrad i sieciach dróg międzynarodowych w Republice Czech, w oparciu o system wybrany w Niemczech. ETC jest wykorzystywany jako narzędzie polityki transportu, natomiast infrastruktura ETC jest użyteczna dla innych zadań związanych z usługami spoza zakresu ETC.

1. INTRODUCTION

The Czech Republic suffers as all European countries by lack of money for development and even maintenance of transport infrastructure, especially railways, motorways and roads. The density of roads is very high, derived from the historical development of the territory, (for centuries crossings of international paths), industrial development etc. (Area app. 78 866 km ^{2}, 55 000 km of roads, about 65000 local roads, but within the network of roads only not full 900 km of motorways and speed ways). The targets introduced in the State Road Network Plan from the end of 40thies in building motorways and four lane speedways were many times reviewed, but with no great changes in targets; they has been reached till now at about 40 %. There have been important, steadily growing flows of international road traffic concentrated on motorways and speedways, but their routes are in

[1]Antonín PELTRÁM, rector of the School of Internationale and Public Relations,
Former Minister of Transport and Communications, Praha 5, U Santošky 17, 150 00, peltram@vip-vs.cz

many cases rather fragments of continuous lines, mix of four and two and three lanes ´ roads. Traffic jam is growing, though it has not reached the level of the most developed EU countries. On the contrary to the development during some periods of central command economy there are no other political obstacles to speed up the development of motorways but money.

The state budget financing based on the previous system of taxation has less income in favour of transport because of other priorities. If we suppose that in total only one part of the taxation of road users could be connected with transport (mostly road transport - the other part is for general purposes of the state budget), and that the charging and taxation does not reflect higher costs of infrastructure connected with heavy road transport, than there is necessary to go up with the present level of taxation and charging of heavy vehicles.

It is clear that because of political constrains there is rather difficult to propose growing level of taxation. But just at present in the Czech Republic such step is facilitated by the fact, that from the 1st of September the system of performance tolls shall be introduced in Germany and from the 1st of January – with higher tariffs – in Austria. The probability that substantial part of international traffic should find cheaper routes through less developed stretches of the Czech road transport infrastructure, because the Czech Republic could not react with adequately higher charging based on time of operation of vehicles is very realistic.

There is another important reason to bring nearer charging and taxation of heavy road vehicles to the costs of infrastructure caused by wear and tear of the network caused by heavy vehicles: more appropriate charging and taxation of road transport could improve the competition position of railways that is in case of the Czech Republic extremely important.

2. OWN OR ASSUMED SYSTEM?

There are well known trials and even errors in Germany in its effort to harmonise conditions of road and rail transport with charging of road infrastructure- Another attempt with varied success were made in Austria and out of EU in Switzerland (Introduction of vignettes in Germany, in Austria an attempt to put higher toll on only one motorway crossing Alps that is profitable to finance other 4 no profitable crossing of Alps etc.). They will gain, but after many troubles and it has been a pity to undergo such martyrdom especially for new EU member states. Therefore from the very beginning there was an idea to take over the more developed system of one of those EU countries.

It was quite clear, that the "Austrian "system should use in maximum possible extent the system developed for "Ecopoints". But such system because of an earlier start of operations could not taken into account possibilities of satellites´ navigation, that has been developed later and would be more progressive (see proposals for a Directive of the European Parliament and of the Council on the widespread introduction and interoperability of electronic toll systems in the Community from 23rd of April 2003). The Austrian representatives several times mentioned that they would follow decision to introduce performance (and therefore electronic) toll system in Germany. In Austria there was very strong pressure not to develop too much international road traffic because it could strengthen road to railways. The proportion of international road traffic of the Czech Republic crossing Austria and Germany is 1:4 in favour of Germany. During very short time and after full liberalisation of road transport with Germany the share could reach about 40 %.

The German system is much simpler: it has used the theorem accepted by the European Commission in the second half of 80th that has been still taken into account: the wear and tear

of road infrastructure connected with performance could be covered up to 12 tonnes of total weight vehicles by one part of excise duty on fuel; it could enable "regionalisation" of income in case such political wish would by expressed. For the vehicles with the weight over 12 tonnes the wear of roads is over proportional to the performance expressed in kilometres and therefore it should be additionally charged. In Germany the threshold is therefore 12 tonnes, with the possibility to lower it on the level of 7,5 tonnes. in Austria is set 3,5 tonnes.

These all reasons led four years ago the former Czech minister of transport to several times repeated proposal to his German colleagues that the Czech Republic would take over the system that would be successful in international procurement in Germany if it would be

- acceptable for public finance and users,
- enable to give opportunity to employ maximum domestic as suppliers.

The last quarter of the year 2002 the German side gave a message, that the system is ready to start in Germany and could be used in the Czech Republic too. The State fund of transport infrastructure approved following the proposal of its chairing person – present minister of transport, to order at the School of international and public relations in Prague to work out during the first half year 2003 a study of necessary legal and administrative measures and tools to implement the conquering system in Germany in the Czech Republic.

3. TECHNOLOGICAL SPECIFICATIONS FOR GERMANY

From the very beginning of our effort to get more knowledge about the German system there was clear, that the system should be operated for 12 years by a private company that should finance investment and operations, collect toll in favour of state budget and by return receive money to cover costs of system. It was not quite easy to gain the technological part of specifications for the system that should be used after the procurement. It has been a part of very costly reached "know-how". After some consultation with the two remaining competing consortiums in Germany (from 5 consortiums at the beginning and three during the process of procurement) before the final decision based on judgements was accepted we came to a conclusion, that from the side of German government there had not been prescribed technological solutions, but only operational parameters, limits etc. The other area has been let on the shoulders of participants of procurement - applied elements of technology, were on the side of competitors for this project. After receiving the technological specifications during this April it would be clear, that the only characteristic connected with the used technology was the DSRC frequency 5,8 GHz. There have been prerequisites like procurement for suppliers of elements of system and other very acceptable provisions that based on intergovernmental agreement allowing taking over the system developed for Germany on the next stage; there must be than transparent procurement for all elements of system with the preferences given to local suppliers, if there would be a competitive domestic producer.

Very acceptable for everybody is a condition for suppliers of the system that system must be compatible with all electronic toll system not only in Germany, but in other European countries too.

There is another attractive condition: within the conditions of procurement there was separated the system of performance electronic toll collection from other possibilities how to use infrastructure of ETC, for example for value added services.

If we have taken into account, that the system that succeeded in Germany should operate just now, there are many reasons to suppose that such system selected after very long procurement process in Germany could be for the Czech Republic the best solution.

After the mission of representatives of the TollCollect consortium through the neighbouring states it is to supposed that there is not necessary to introduce the TollCollect system in details. Therefore only a very simple scheme on the Fig.1.

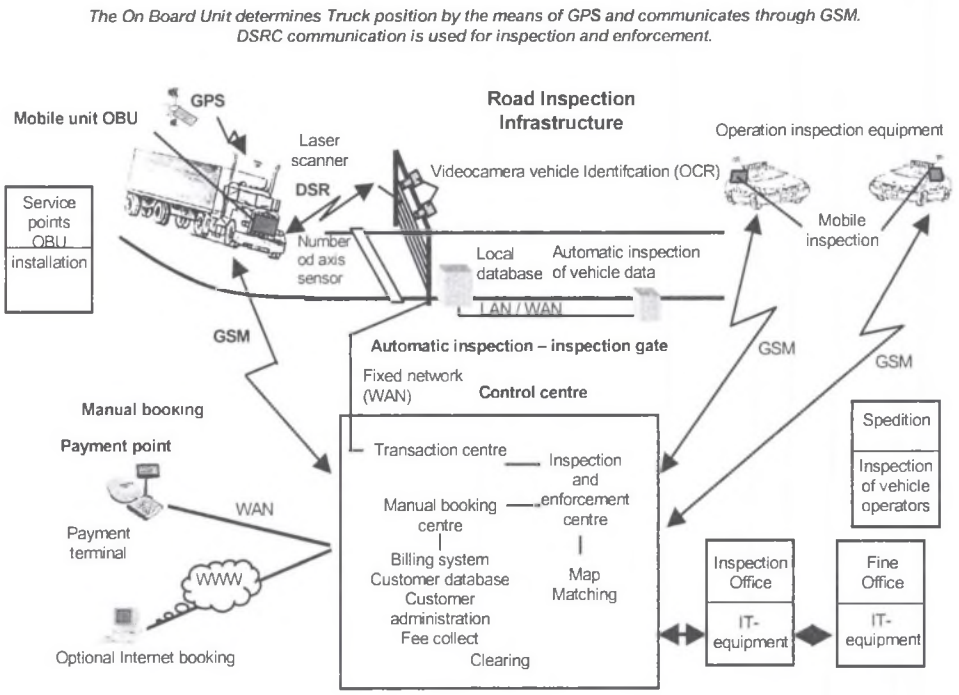


Fig.1. Principles of the system chosen in Germany

I have already mentioned, that despite of very high density of road transport infrastructure the length of motorways and speedways is much lesser.

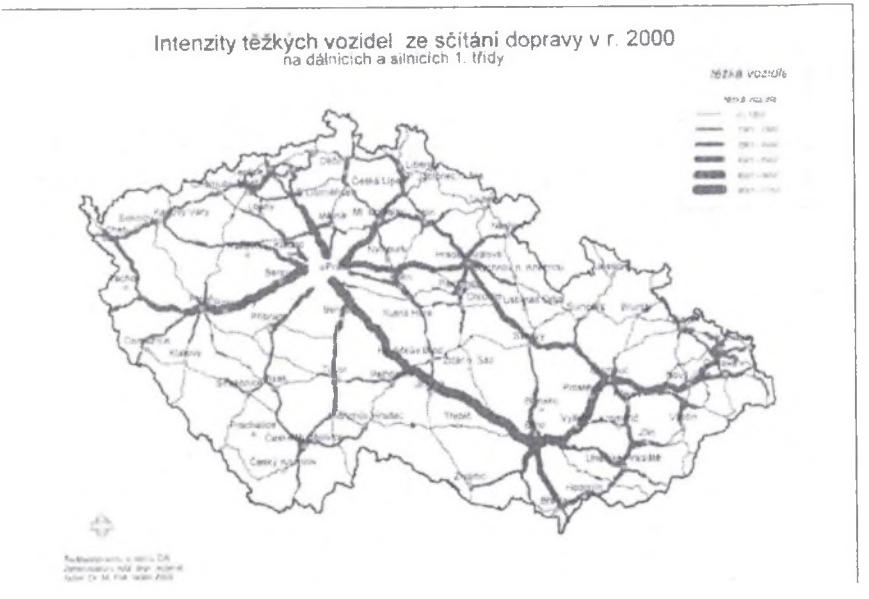
There were discussed 3 possible options of introducing the stretches into the tolled system of international road connections:

1) motorways and speedways only – 768,1 km
2) option 1) + smaller part of the 1st class roads – 1901,4 km,
3) option 2) + nearly all parts of the 1st class roads for international traffic – 2991, 4 km (the total length of future motorways and speedways network; some stretches of them are partially operated).

To apply the future toll system only on motorways and speedways – four and more lanes ' roads now under operation should push the traffic from the tolled stretches of motorways and speedways to the roads of the 1st class, with mostly only two or three lanes 'roadways, with more traffic jams, higher rate of accidents, amplified negative environmental impact etc.

The Fig.2 shows the 1st variant:

If you compare this variant with the scheme of main domestic and international road traffic in 2000, so it is clear, that such variant does not cover the very impressive parts of flows of traffic.



The third variant reflects these flows of traffic more fully.

In comparison with Germany in the Czech Republic the new system could have some advantages and disadvantages:

Disadvantage: lesser discipline in road traffic with bad impact on the rate of accidents. It should be reflected in our proposal in setting up a police unit with 80 vehicles and 800 policemen, because the Czech Republic does not have Bundesamt für Güterverkehr. Even the number of stationary devices (gates etc.) to assure efficient control must be relatively higher to Germany.

Advantages: after the accession the Czech Republic will be an island on the EU territory. Therefore there will be in comparison with the present stage too much customers. They can come over to the police and take over the mobile control of the ETC system.

Presence of additional 80 police cars day and night should strengthen to rule of law on the Czech roads. At the same time it could help to solve a substantial part of problems connected with lowering the customers 'stuff and to reach people with a base for necessary qualification.

There is not necessary to have so large density of toll station terminals as in Germany that must in some way follow the previous system of points for selling Eurovignettes, because the predominant part of hauliers in the Czech Republic has now and will have internet (beside of on board units).

There is a State fund of Transport Infrastructure, to which there is possible to address the incomes from the new system. There are preconditions for the Czech producers of elements of the system to even export some devices.

Incomes should go directly in the State fund of Transport Infrastructure; that should change in some way its mission and be a partner of foreign supplier of technology.

On such selected network we have proposed following elements:

- 47 gates for every direction, it means 94 gates in total,
- only 150 toll station terminals, some of them according to the technological conditions of the German ministry could be used as joint toll station terminals),
- mainly internet and on board units, (even produced by local works)
- 80 police cars with about 800 hundred policemen for permanent mobile control 24 hours day and night.

Some items of the calculation are not clear until negotiations on the governmental level with Germany would be finished and later on decided in connection with the joint-stock agreement.

Despite of an evaluation in the direction of world (ASSHO tests) and Communities transport policies the ETC shall affect in some way hauliers and final consumers. We have estimated the impact on the final consumer on appropriate so low rate, as it was appreciated by the German ministry of transport.

During the present process of discussions how to arrange the public finance there is possible to adjust some rules as to the financing of transport infrastructure of other modes of transport with special regards to shift only justifiable amount of incomes from road transport in favour of railways. Otherwise the opposition of road hauliers will be much stronger.

4. NO TECHNOLOGY, NO TECHNICAL ELEMENTS ARE THE MAIN PROBLEMS, BUT POLICY, LAW, REGULATION

From the very beginning of preliminary negotiations with the German side it was clear, that the main problems are not in technological characteristics of elements and their incorporation into the whole system. The main problem is to change in rather too short time period the legal milieu for the proposed system. Therefore the group dealing with legal and administrative preconditions oriented its attention to the amendment of law that must accompany the new systems. As a result there are proposal for amendment of 15 laws, dealing with problems of road infrastructure and its charging, budget arrangements, but the powes of police not only to control the toll system, but to protect equipment too. There are necesary special arrangements in justice: there must be the possibility to appeal, in case of both police and administrative bodies to courts and to obtain decisions in due course.

We prepared these amendments in a very simple for to be incorporated in present acts, using a scheme: the present wording, the proposed wording and reasons for changes.

We suppose that proposed legal framework despite of originality of law all other countries should be usable even for another countries with underdeveloped tranport infrastructure. And we offer to use our experience.

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Reviewer: Prof. Barbara Kos