

## LITHUANIA

### **REPORT TO THE EUROPEAN COMMISSION ON NATIONAL ACTIVITIES AND PROJECTS REGARDING THE PRIORITY AREAS OF THE DIRECTIVE 40/2010/EU**

#### **GENERAL VIEW**

According to the European Commission analysis Lithuania is evaluated as an active EU member in planning ITS (Intelligent Transport system) development.

Lithuania has already gained ITS projects development practice in roads, rails and safety areas. Information system of state roads was finalized in 2006. The purpose of the system is to optimize the maintenance of road infrastructure.

Lithuanian capital Vilnius has deployed an automated traffic light management system in 2007-2009. The objective of the system is to increase traffic speed and reduce congestion in the city.

However there is still huge potential for ITS development and deployment.

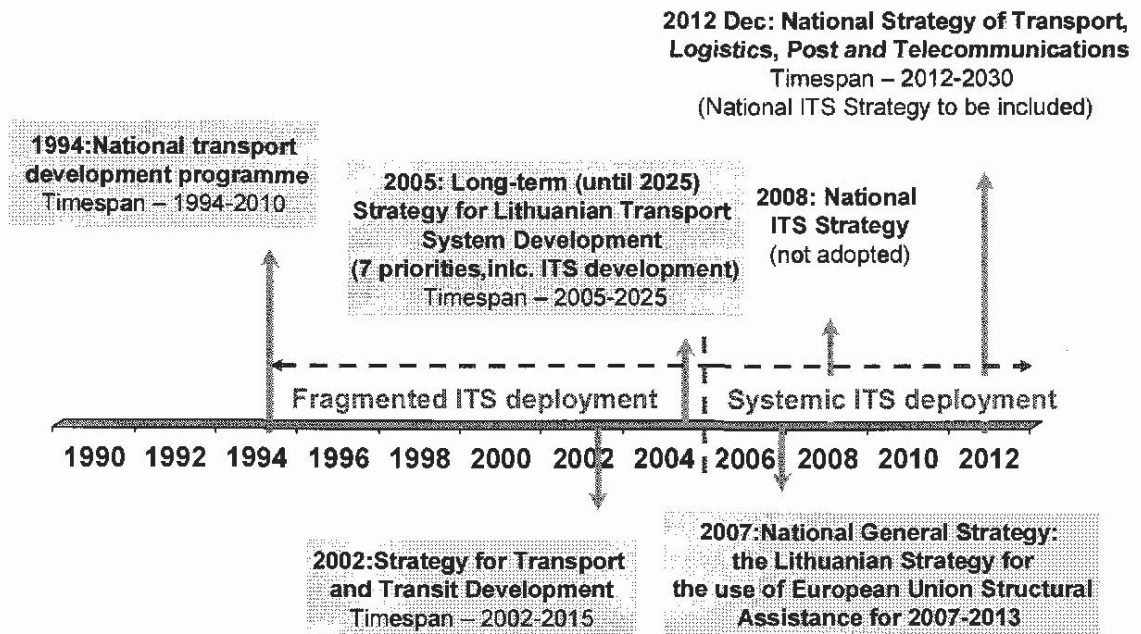
#### **ITS LEGAL FRAMEWORK IN LITHUANIA**

##### **Strategy level**

So far, there is no single strategic document in Lithuania, which could provide Lithuanian ITS policy with sustainable development and deployment system.

Since 2009 national strategic planning rules require limiting the number of sector-specific strategic documents, therefore the draft National ITS strategy was included into the National Transport and Communications Development Programme, which is currently under preparation and is due to be adopted later this year. Generally, the programme will involve climate change issues, promotion of modern technologies development and integration, as well as international trade and logistics expansion and mobilization and efficient energy use in transport area.

Relation of ITS policy to strategic documents in Lithuania is presented on the table below.



(Strategy level of ITS implementation)

### Coordination of ITS policy

In order to adapt the national legislation to European ITS policy, Lithuanian law establishing the fundamentals of transport activities was amended in 2011. The new law was supplemented with definitions, notions related to ITS user's data protection, responsibilities of provision of ITS service and ITS coordination matter. It imposed clear and consistent terminology, as well as removed technical issues of few ITS projects.

Most importantly, the law establishes clear legal base for coordination of ITS development in Lithuania. Ministry of Transport and Communication (MTC) was appointed to coordinate ITS development and deployment, as well as to legislate acts for implementation and use procedures. It means that ITS in Lithuania is provided with clear and concrete party responsible for ITS policy coordination (Ministry of Transport and Communications).

Moreover, Lithuanian ITS definition has a wider meaning, than description proposed in 2010/40/EU directive. In case of Lithuania ITS includes all means of transport (public transport, railways, light vehicles, commercial transport, bicycles, electric vehicles, planes, ferries, ships and etc.), while directive applies ITS just for road transport and its interfaces with others means of transport. It was made for a reason of clarification and coherence in national law system.

More recently, Minister of Transport and Communications launched a decree on Development and use of Intelligent Transport Systems. It emphasized ITS definitions, which should be used in deployment and development of ITS, recommended principals for ITS implementation and architecture of Lithuanian ITS model. Last part of the document (architecture model) stresses position of Transport and communication ministry on ITS development and deployment matter, it is emphasized as an institution which develops and asserts Lithuanian ITS architecture model. The architecture model should include ITS structure, use and integration principles. Further, Intelligent Transport Systems should be standardized and legal, likewise it has to be integrated with surrounded area and previously adopted ITS.

## **Legal framework of separate projects**

### *Open data policy*

Lithuania supports and contributes to European Union practice on open data policy. In order to develop efficient, public and permanently updated Multimodal Journey Planning database system (VINTRA) Fundamental Transport Activity law was amended. Local governments and transport operators were entitled to provide journeys data related with schedules, cost rates and routings. Information will be published online and it will be widely accessible for everyone (companies, institutions, individuals) and for various purposes (to use, reuse, and redistribute).

The Lithuanian Road Administration (LRA) was assigned to manage VINTRA by Lithuanian Transport and communication ministry. It is entitled on Lithuanian Road law.

Furthermore, the law describes definitions (traffic data, road data), LRA competences (collect, systemize, save, inform) and local governments coherence with LRA on VINTRA.

### *Infringement law amendments*

Due to technically disordered or overloaded vehicles damage roads (appears ruts, cracks, different strains) and road structures (bridges, viaducts, culverts), also police officers often notice operated vehicles without a technical inspection or without valid car insurance.

Lithuania expects to install traffic monitoring systems, which will track vehicles infringements on the road. The New traffic tracking system will identify the vehicle by its registration number to check whether the vehicle operator has valid car insurance, his car passed technical inspection and if the vehicle does not exceed the allowable weight. The road surface will be equipped with electronic sensors which will measure vehicle speed, weight, axle workload, dimensions, and video cameras will record vehicle's registration numbers.

However, in order to record infringements with new traffic monitoring system, it is necessary to amend Lithuanian Administrative code 260 article, it will enable suspected person to bring against administrative responsibility.

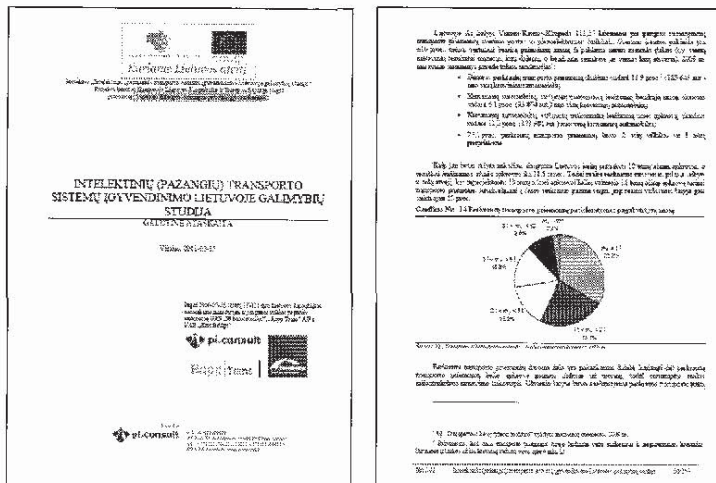
More detailed project information is discussed in forthcoming paragraph.

Lithuania is designing law patterns to gather and secure public information accessibility (open data policy for VINTRA), also, to collect all information about roads and traffic (in use for road maps or multimodal journeys plan creators).

## LITHUANIAN TECHNICAL MEASURES

### **Problems and potential areas**

Ministry of Transport and Communications of the Republic of Lithuania in order to set valuable priorities on ITS development and deployment ordered study of ITS implementation and potentials in the Republic of Lithuanian.



### Feasibilities study of ITS deployment in Lithuanian

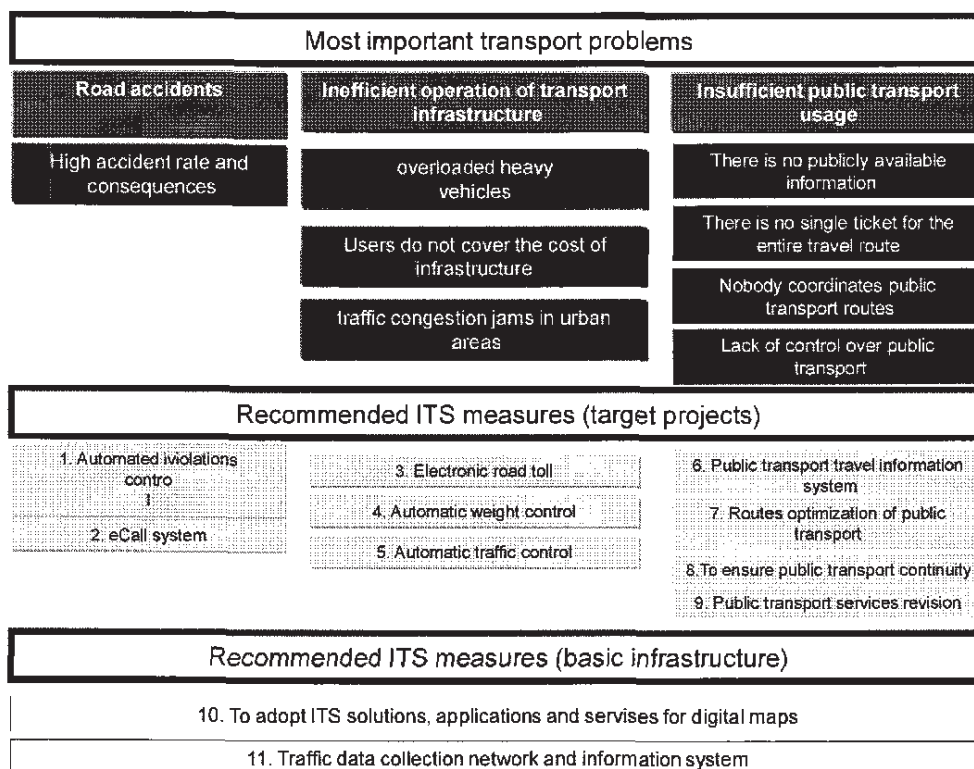
Study has analyzed already established ITS projects in Lithuanian private and public sectors. It was noticed that private sector is widely adopting ITS, however to achieve more effective results they lack of communication between public sector. Also, study revealed biggest positive potential areas for ITS implementation, which could optimize transport activity best. According to the study best areas of ITS implementation in Lithuania are:

1. Public transport;
2. Balance of transport infrastructure supervisory and development cost;
3. Control of rules violations;
4. Traffic control and passengers, road users, operators briefing;
5. Safety and security development.

All those areas and means necessary to achieve it, in principle, match with 2010/40/ES directive's priority areas:

1. Optimal use of road, traffic and travel data;
2. Continuity of traffic and freight management ITS services;
3. ITS road safety and security applications;
4. Linking the vehicle with the transport infrastructure.

Moreover, the detailed analysis of present and future development of ITS in Lithuania showed sensitive problems as well as solutions and target projects, which might solve existing matters. Most important transport problems and areas with ITS implementation potential, likewise recommended measures are combined and showed on the table below.



<sup>1</sup> Most important transport problems in Lithuania and recommended ITS measures

## Measures and projects

### *Green vehicles and infrastructure*

Lithuania has great priority on promoting electric vehicles (EV). We see EV infrastructure as important part of harmonious transport and ITS development. At present, public sector is more orientated to invest into green technologies, however we expect EV expansion in private sector (decreasing prices). So, it is necessary to promote EV charging stations infrastructure across the country. Also, encourage green vehicles in public sector during public procurements (special green vehicles parking-lots, road lines, and etc.). Projects should be implemented by The Lithuanian Road Administration (LRA), State Road Transport Inspectorate (SRTI) and local governments. Projects might be funded from state budget, Cohesion Fund or The European Regional Development Fund (ERDF), estimated price reaches € 4 M.

Increasing number of EVs and others green vehicles, as well as charging and alternative fuel infrastructure will renew Lithuanian Transport Park and reduce air pollution. ITS applications are to be actively used for promotion of electric mobility

<sup>1</sup> Study of Lithuanian ITS implementation and potentials, Vilnius, 201/02, P. 77

## *Security*

Security is one of the main priorities of Lithuania which is proposed by established study and 2010/40/EU directive. Security should be ensured through established security of personal safety, infrastructure, means of transport and transport objects (stations, terminals, ports and etc.), through implementation of modern ITS technologies (automated warning identifications, emergency calls (ecall), observation technologies).

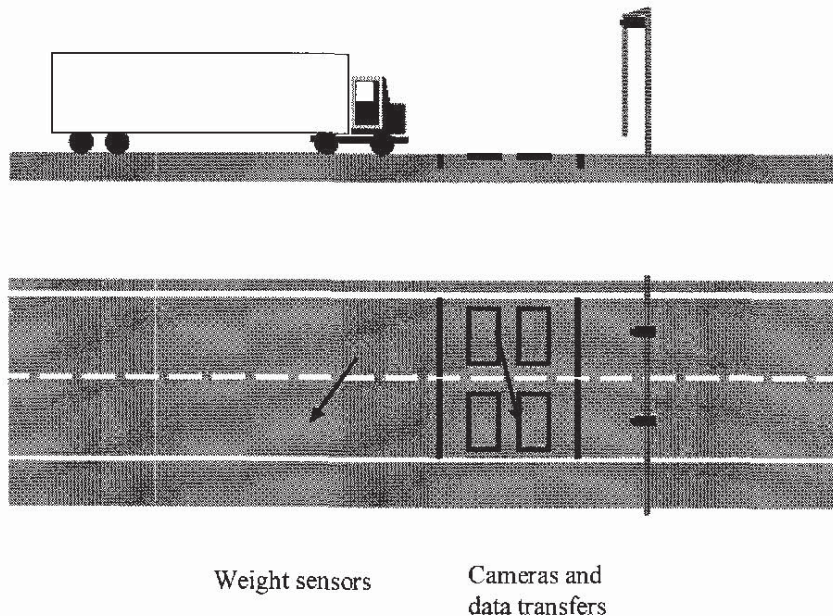
Currently, Lithuania is in the final stages of the adaptation of emergency call centers to effectively manage eCalls. In the next few years it is estimated to start eCall testing on Lithuanian roads, and, finally, full implementation of the initiative.

Interest institution of security projects should be local governments, SC “Lithuanian Railways”, international airports, Klaipeda state seaport, price might reach around € 1.5 M and funding could be from national state budget, Cohesion Fund.

## *Freight transport optimization and weight control system*

We are planning to achieve freight transport and logistics optimization through automated traffic management systems, information centers and electronic tolling. It is estimated that Lithuania could lose approximately € 50 M each year, because of overloaded trucks. During 2007-2013 period Lithuania had an objective to develop basic weight control infrastructure, though it hasn't completely solved a problem. On 2014-2020 perspective Lithuania anticipates to develop weight infringements control system in synergy with already established infringements technologies (speed, insurance, technical inspection and etc.)

Weight control system scheme:

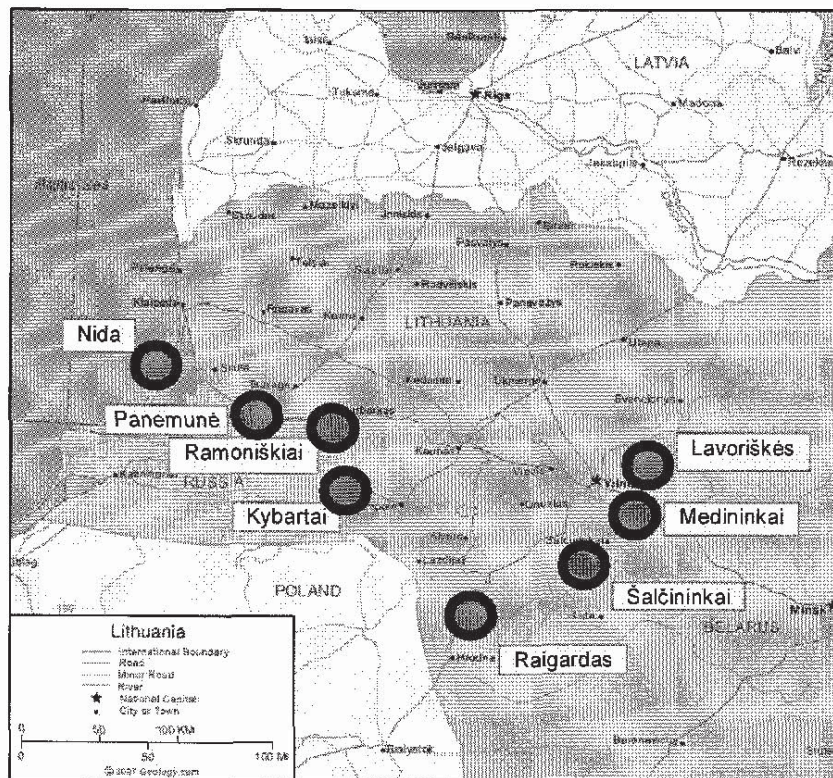


Estimated price is € 40.5 M (for weight control) and € 43 M (for data optimization system and applications). Funding means are National state budget and Cohesion Fund. Main interest institution is LRA.

Moreover, queues of heavy goods vehicles at the border crossing points with the third countries (Belorus, Russia) are a common problem, causing slow-down of traffic, delays of delivery, environment pollution, more CO<sub>2</sub> and etc. Lithuania aims at addressing this queue regulation problem through an internet-based system of queue management, which allows the driver to pre-order a specific timeslot to enter the border crossing point and thus creates a “virtual queue”. Drivers will be able to order specific timeslot in border crossing queue through internet, telephone or in the terminals.

Establishment of this internet-based queue management system is going to be funded by Lithuanian state funds and it should be operational in 2012. There will be ensured a possibility to order specific time slot and to cross border for free of charge, but the additional services could be paid (eg. SMS services). The system will be based on the existing systems on Lithuanian border crossing points with Russian Federation and will cover all international border crossing points with the third countries in the future.





International border crossing points with third countries

### *Public transport optimization*

The main purpose is to optimize public transport routes, to ensure comfortable journey continuity and constant public service improvement.

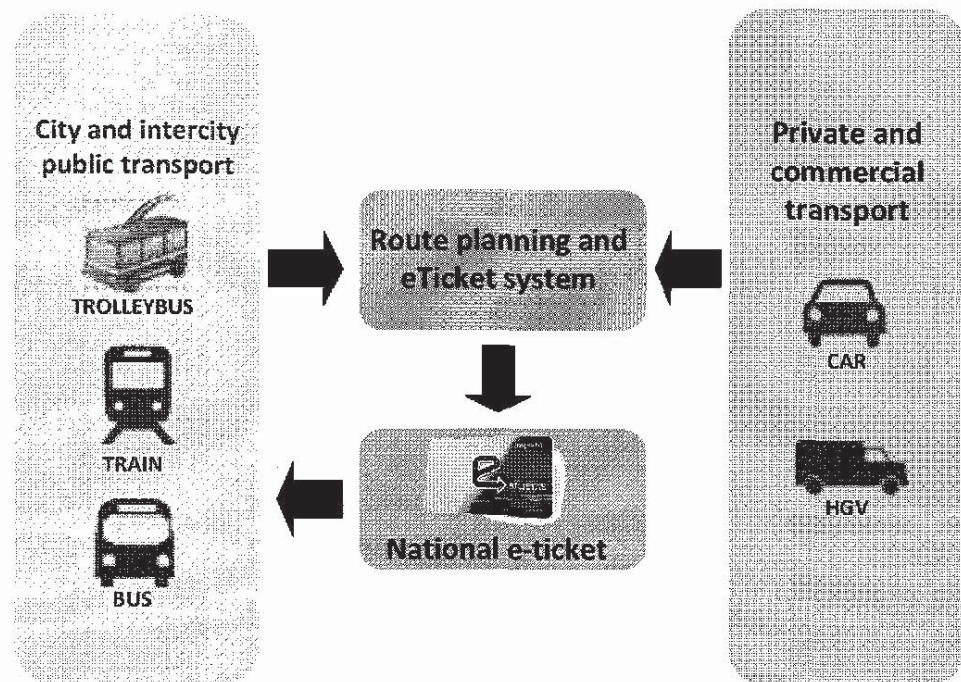
Currently, public transport coordination is widely decentralized and it lacks of control. The study of ITS implementation and potentials in the Republic of Lithuanian proposed several solutions to existing problem. Optimization of public transport routes could be achieved through:

- 1) Separate transport planning in local governments (too complex and expensive);
- 2) Creation of regional transport agencies (More efficient, but still expensive);
- 3) Centralized public transport optimization. (Most efficient)

A single unified public transport optimization on the national level was chosen to optimize public transport routes. It is necessary to develop the infrastructure and methodology of common national public transport system. Local governments exercise the same prepared and designed methodology based on operators and clients needs. It is most efficient measure, because it ensures integrity and mobility of whole public transport system.

Lithuanian public transport operators have already started to modernize their transport services. Three major cities in Lithuania (Vilnius, Kaunas, Klaipeda) have adopted e. ticket system in period of 2007-2011. The second stage is to ensure further modernization and development of public transport journey continuity. We are preparing fully accessible National routes data system (VINTRA). VINTRA will be provided with all public transport routes and schedules. Later this system will be improved with real-time information on the traffic by help of Global Navigation Satellite System (GNSS) receivers. Passengers will be able to plan trips, to take travelling decisions based on reliable information. The final stage of system development is a single payment system that allows immediate payment of different transport operators services (trolleybuses, trains, buses and etc). This system will increase public transport's competitiveness and attractiveness.

Responsible institutions for public transport optimization should be LRA, SRTI and funding might be € 1 M from Cohesion fund, National state budget and ERDF.



National route planning system

### *Accessible database of road and traffic information*

It is much easier to plan freight transport and logistics operations with accurate information about roads infrastructure, limitations, traffic and weather conditions. This information is also important for other users (public utilities providers, digital maps creators, individuals). Basic traffic planning infrastructure was developed and it has been already in use since 2011 (website: [www.trafficinfo.lt](http://www.trafficinfo.lt)). It is expected to expand weather condition tracking posts network and to create detailed roads infrastructure network database in 2014-2020. Purpose of the database is to collect, save, manage and give information (road data, traffic data) to interest institutions, organizations, companies and individuals. More specifically, database should share information about speed limitations, forbidden turns and others prohibitions, measures of road, bridges, public transport schedules, stations and whole transport infrastructure. The purpose of inquire could be various (route planning websites, digital maps and applications developers and etc.). Centralized and fully accessible database will facilitate coordination of ITS development and deployment in Lithuania. Estimated price of project is € 5 M. Interested institution are LRA, SRTI and funding is from Cohesion fund, ERDF and National state budget.