



REPUBLIC OF ALBANIA  
MINISTRY OF INFRASTRUCTURE  
AND ENERGY



**Road Technical Committee  
Virtual Meeting  
Wednesday 16<sup>th</sup> September, 2020**

**PRESENTATION**

**“STRATEGY FOR APPLICATION OF  
INTELLIGENT SYSTEMS IN THE ROAD  
TRANSPORT”**

**ALBANIA**

## The “Strategy for Application of Intelligent Systems in the Road Transport”, was approved by Order of Minister of Infrastructure and Energy no. 185, dated 18.6.2020

*{Official Journal no. 123, dated 02/07/2020; <http://qbz.gov.al/eli/urdher/2020/06/18/185>}*

This Strategy establishes a set of objectives as well as the policies and priorities which are to be applied during the years to come and shall provide a framework for concrete decisions to be taken in Albania, in the short, medium and long term.

### **Albania’s main objectives to be pursued through ITS are:**

- a) improved traffic safety and reduced likelihood of accidents
- b) improved traffic flows and mobility, and reduced traffic congestion
- c) improved efficiency and predictability of freight traffic, both within Albania and also internationally
- d) improved enforcement of existing laws and regulations, including joint enforcement across borders
- e) gradual integration of some of the Albanian transport corridors into the Trans-European Transport Network (TEN-T) through compliance with ITS-related provisions in European Directives and in the Transport Community Treaty (TCT) signed by Albania.

## Vision statement

Intelligent Transport Systems will help to make Albania's main transport corridors part of a safe, integrated and multimodal European Transport system, thereby facilitating Albania's access to the European transport market and serving the needs of Albanian citizens.

## Mission Statement

Albania shall gradually introduce Intelligent Transport Systems on the basis of the objectives, policies and priorities established in its National ITS Strategy, and in line with the relevant European acquis, European Directives and the provisions of the Transport Community Treaty of July 2017.

Intelligent transport system (ITS) means a system as specified in the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport (OJ L 207, 6.8.2010, p. 1).

The “Strategy for Application of Intelligent Systems in the Road Transport” takes into account the provisions of the following key documents:

- Albania National Transport Strategy and Action Plan 2016-2020, which establishes as a strategic priority the “Completion and Modernization of Albania’s primary and secondary road network” and defines the development of a “National ITS Road Strategy” as Strategic Priority Action.
- Transport Community Treaty (TCT), (*which was ratified by the law no. 8/2018, dated 26.02.2018*), Article 10, establishes that the South East European Parties (which include Albania) shall develop efficient traffic management systems, including intermodal systems and Intelligent Transport Systems. Annex 1 to the TCT shows the roads and other transport infrastructure within Albania which are considered for the indicative future extension of the Trans-European Transport Network (TEN-T).
- Guideline no 3616/3 of July 20, 2017 of the Albanian Ministry of Transport and Infrastructure “On Rules for Implementation of Intelligent Systems in field of road transport and connection with other modes of transport”, which established close linkages with the Directive 2010/40/EU.
- “Report from the Commission to the EU Parliament and Council on the implementation of Directive 2010/40/EU on Intelligent Transport Systems” of 2019.
- “Strategic framework for the Implementation of ITS in the TEN-T Networks in the Western Balkans” developed with EU funding and completed in early 2019.

## Policies to be applied

When introducing ITS in Albania, two policies shall be applied systematically:

**Sustainability of ITS:** Only such Intelligent Transport Systems shall be deployed (i) for which the funding of the annual operation and maintenance cost can be fully budgeted from regular domestic resources, and (ii) for which the institutional roles and responsibilities for their deployment and operation have been clearly established, either by law or by other appropriate legal instruments.

**Compatibility and interoperability of ITS:** All Intelligent Transport Systems to be deployed in Albania are to be designed on the basis of common European Directives, Specifications and Guidelines.

## Priorities

Within the Roads transport sector, priority for ITS deployment is given to:

- a) those inter-urban roads which are identified in the Transport Community Treaty (TCT), Annex 1 “Maps of the indicative TEN-T extension to the Western Balkans”, and starting with the Tirana – Durrës (A1) and Tirana – Elbasan (A3) motorways;
- b) those urban road sections on which problems of road safety, congestion and/or air pollution are particularly severe.

## Application in Albania of Standards and Specifications in the road sector

In the selection and deployment of ITS projects in the road sector, Albania shall apply the Standards, Specifications and Guidelines developed on the basis of “Directive 2010/40/EU of the European Parliament and of the Council of 7 July 2010 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport”, as described above.

Albania will also adhere to those standards and specifications developed by CEN/TC 278 and adopted by the European Commission that are relevant for the systems to be deployed in Albania. This is however without prejudice to the right of Albania to decide freely on the deployment (or not) of ITS applications and services on its territory, in accordance with its actual needs and the financial resources available.

Albania’s commitment to apply the Standards and Specifications following EU Directive 2010/40/EU is already established in the Transport Community Treaty (TCT), signed in July 2017 between the EU and six Western Balkan countries (WB6) including Albania.

## Financial arrangements

### Initial investments for ITS

The deployment of Intelligent Transport Systems in Albania will require substantial investments, both for the initial installation and also for the periodic upgrading and expansion. In most if not all cases, these investments will have to be made by the State who for that purpose must mobilize funding. Funding for the initial deployment of ITS may come either (i) from regular internal budgetary revenues, (ii) from internal borrowing by Albanian institutions, or (iii) from external loans, credits or grants.

The deployment of ITS in Albania on the basis of European Standards is part of Albania's agenda towards its planned integration into the European Union as a future member country. On March 26, 2020 the European Council endorsed starting negotiations with Albania on EU accession.

Therefore, for the funding of ITS investments, whenever possible Albania will seek to obtain external grants or low-interest funding from either the European Union or from European development funding institutions, such as the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD). World Bank loans shall also be considered.



## Institutional Framework

The deployment of Intelligent Transport Systems in Albania shall be under the overall leadership and coordination of the sectoral ministry in charge of transport, namely the Ministry of Infrastructure and Energy (MOIE), which shall develop Albania's overall ITS architecture, which is a set of high-level views that enable plans to be made for designing and integrating different ITS applications and services, covering not only technical aspects but also the related organizational, legal and business issues. The existence of a national ITS architecture helps to ensure that the resulting ITS deployment:

- can be planned in a logical manner;
- integrates successfully with other systems;
- meets the desired performance levels;
- has the desired behavior;
- is easy to manage, maintain and extend; and
- satisfies the expectations of the users.

For the road sector technical aspects of ITS design and implementation, MOIE shall delegate responsibility as follows:

- The Albanian Road Authority (ARA), as a beneficiary and manager of the system, also, General Directorate for Road Transport Services (GDRTS) or other institutions with special rights, according to an agreement signed between the parties.





## Implementation Framework

The deployment of new ITS in the road sector will start with two projects:

**A.** Design and implementation of a central Traffic Management Center, including the ITS infrastructure, hardware, software, display screens and communication equipment. Traffic Management Centers are the nerve center of highway monitoring and operations. Engineers, radio operators and other staff work there to:

- *monitor traffic and identify problems, using the images from cameras located along the roads equipped with ITS infrastructure;*
- *use data from traffic detectors on the roads to get a real-time picture of traffic conditions;*
- *coordinate response with the police and other law enforcement and emergency response crews when responding to incidents on the highway or elsewhere;*
- *coordinate activities of incident response teams who help stranded drivers, move disabled vehicles, and also help keep traffic moving safely while emergency responders help people involved in accidents;*
- *operate reversible lane control systems and ramp meters to help manage traffic flow and reduce congestion;*
- *provide up-to-the-minute information to drivers about what is happening on the roadways, including weather conditions, incidents, construction, and travel times, using highway advisory radios, electronic signs, the internet, and the emergency service phone system;*
- *provide up-to-the-minute information to news reporters, particularly radio and television reporters.*

**B:** The deployment of ITS equipment (sensors, cameras, electronic road signs, etc.) along several road sections, in particular on the Tirana – Durres and the Tirana - Elbasan motorways, but also on other road sections yet to be identified in line with the priorities of this Strategy. There is a large array of equipment which can potentially be deployed on the roadway, for various functions, such as:

- Traffic sensors embedded in or above the pavement, for real-time traffic counting and monitoring. Traffic sensors are among the most important tools used to keep track of what is happening on the roadways and Axle load sensors for Weight-in Motion measurements to support the enforcement of weight limits for trucks.
- Variable message sign (VMS) monitoring and control: These are electronic signs used to provide travelers with information about traffic congestion, incidents, roadwork, travel times, special events or speed limits on the highway.
- Traffic cameras, mostly closed-circuit cameras to help detect and quickly respond to congestion, incidents and other problems on the roads. The camera images are received and monitored by the Traffic Management Center, sent to the internet for road users, to the media for information purposes and to the police for law enforcement purposes.
- Active Traffic Management (ATM) systems use a combination of congestion management techniques to dynamically manage traffic based on current and near-term expected conditions.
- Access ramp metering and access control: Ramp meters are traffic signals on highway access ramps that alternate between red and green to control the flow of vehicles entering the highway.
- Traffic light control and coordination systems which modify traffic light phases in response to varying traffic conditions, thereby optimizing traffic speed and road capacity.
- Road Weather Information System (RWIS) monitoring

The deployment of ITS will be expanded both in scope and scale:

Scope is referring the number and “bandwidth” of services provided by this ITS Strategy includes a rather long list of possible services, which can potentially be provided. It appears likely that during the initial phase (short term, until 2025) only some of those services shall be implemented, both because of limited funding available for the initial investment, but also to avoid excessive complexity of the system during the initial phase, which could lead to operational problems and excessive annual operational and maintenance cost. In the medium and long term, the scope of services to be provided through ITS for the road sector shall gradually be expanded, based on actual needs and economic feasibility.

Scale is referring to the length of roads (or the portion of the road network) on which ITS is deployed. Over the years to come, as experience with ITS for the road sector shall be gained in Albania, the perception and appreciation of its benefits by government agencies, direct users and the broader public will grow. It will become easier to calculate the real value of ITS benefits, both in terms of economic and social benefits. Also, it is uncertain how the unit cost per km of ITS deployment will develop and if economies of scale can be achieved on the side of suppliers, bringing down the unit cost per km of road equipped for ITS.

Over the years to come, only the continued evaluation of costs and benefits of ITS will allow to make rational decisions on the expansion of its scale and scope in Albania. Today it is difficult to predict how fast the expansion of both scale and scope of ITS application will happen in the road sector and how far it will go.

## Economic evaluation

The ultimate motivation and justification for the deployment of Intelligent Transport Systems, in Albania and elsewhere, is that ITS will bring benefits to transport users and providers, and to society as a whole. Just like any investment project, ITS projects must be subject to scrutiny during the planning stage, including through cost-benefit analysis in which the expected ITS investment and its operational cost are weighed against the expected benefits. It must however be recognized that while cost estimates can be done fairly easily and reliably, the quantification of the benefits of ITS in monetary terms is often difficult for ITS projects and almost always based on assumptions which may or may not be realistic. A review of literature about economic evaluation of ITS shows that while there is usually consensus about the existence per se of different types of benefits, is often close to impossible assigning a numeric and monetary value to those benefits.

## Stakeholder participation

In the environment described in the previous paragraph, where the economic evaluation of ITS projects may be questionable, it becomes important that the economic evaluation (which in any case must be done) is accompanied by a process which ensures broad consensus among stakeholders on the usefulness of ITS projects. This consensus-building must not be an afterthought, but must be started early in the deployment of ITS projects in Albania. One option is to identify all potential stakeholders for ITS projects and sign a Memorandum of Understanding (MoU) between them. The MoU would create a well-defined group of public and private agencies, which shall undertake the promotion, technical preparation and implementation of ITS projects. Another option would be to engage in a more formal process to create a national ITS stakeholder association, through a legal act. This association would be tasked with the inter-disciplinary cooperation, the drafting of legislative acts, the identification and preparation of ITS projects and other ITS-related activities.

## Marketing

Several factors stand opposed to ITS. These include the innate human resistance to change, the fear of the unknown, a natural aversion to risk-taking, and the high comfort level associated with more traditional methods and approaches. Implementing ITS technologies in the face of these potential obstacles requires that attention is given not only to the technical aspects of ITS, but also to public relations, marketing, and education.

## Marketing strategy.

The most effective marketing campaign will be one that is tailored to each of the target audiences. Each audience will have different information needs, and the best medium for reaching one group may not be the best for every group. Thus, a marketing strategy must be developed that addresses the needs and unique characteristics of each group. An effective marketing strategy must define how to get marketing materials to the audience. Since ITS marketing targets more than one audience, there will be a different strategy for each audience. For example, one or more of the following techniques might be used for disseminating information to the traveling public:

(i) links from popular web sites; (ii) media events; (iii) advertising spots on television and radio; "ITS speakers" available for presentations to civic groups, and educational materials distributed to schools and universities.

**Thank you for your attention!**