Ministry of infrastructure of the Republic of Slovenia

Infrastructure Directorate

Langusova 4, 1535 Ljubljana

ITS Directive 2010/40/EU

THREE YEAR REPORT

of the Republic of Slovenia on the progress made in the deployment of the actions referred to Article 17 (3)

Version 1.0

Ljubljana, December 2014

Contents

0 INTRODUCTION

Traffic analysis and studies including 27 EU Member States predicts that by the year 2020 the freight traffic will increase by 50 % and passenger by 35 % according to data form 2000. Therefore, transport policy aims for more sustainable, efficient and safer traffic in the Union.

It is important to stress that new road infrastructure most likely won't solve the traffic related problems (congestions, costs, safety, carbon footprint), therefore the measures like intelligent transport systems (ITS) will play an important role. ITS provides the basis for connecting technology, society, and transport systems with systems for automation, communication and information exchange. ITS development and implementation is included in the strategic national documents (Nacionalni program varnosti, Celostne prometne strategije, Program razvoja prometa in prometne infrastrukture itd.)

0.1 DIRECTIVE 2010/40/EU

The priority areas for the development and use of specifications and standards defined in 2010/40 are:

I. Optimal use of road, traffic and travel data,
II. Continuity of traffic and freight management ITS services,
III. ITS road safety and security applications,
IV. Linking the vehicle with the transport infrastructure.

Within the priority areas the following shall constitute priority actions for the development and use of specifications and standards, as set out in Annex I:

a) the provision of EU-wide multimodal travel information services;
b) the provision of EU-wide real-time traffic information services;
c) data and procedures for the provision, where possible, of road safety related minimum universal traffic information free of charge to users;
d) the harmonised provision for an interoperable EU-wide eCall;
e) the provision of information services for safe and secure parking places for trucks and commercial vehicles;
f) the provision of reservation services for safe and secure parking places for trucks and commercial vehicles.

The Commission shall submit a report every three years to the European Parliament and to the Council on the progress made for the implementation of this Directive. The report shall be accompanied by an analysis on the functioning and implementation, including the financial resources used and needed, and shall assess the need to amend this Directive, where appropriate.

0.2 Report

With this report the Ministry of infrastructure of the Republic of Slovenia fulfils the obligations from Article 17 (3) of the Directive 2010/40 on the framework for the deployment of Intelligent Transport Systems in the field of road transport and for interfaces with other modes of transport with regard to data and procedures for the provision, where possible, of road safety-related minimum universal traffic information free of charge to users.

The report was prepared by the Ministry of Infrastructure of the Republic of Slovenia in cooperation with experts from University of Ljubljana, Faculty for civil and geodetic Engineering.

1 PROGRESS MADE FOR THE IMPLEMENTATION OF THIS DIRECTIVE 2010/40/EU

1.1 OPTIMAL USE OF ROAD, TRAFFIC AND TRAVEL DATA

Priority area I: Optimal use of road, traffic and travel data			
Activities linked to optimal use of road, traffic and travel data	2011: ☒ Implemented 2014: ☒ Implemented	2011: ☒ Planned 2014 ☒ Planned	2011: ☒ No Plan 2014: ☐ No Plan
Responsible person in the administration	*Darja Kocjan, darja.kocjan@gov.si, tel.: +386 (1) 4788172* *Dean Herenda, dean.herenda@gov.si, tel.: +386 (1) 4788212*		
Comment	Activities linked to optimal use of road, traffic and travel data were implemented widely and are planned to be implemented also in the future.		
Detailed specification:			
Multimodal travel information services	2011: ☐ Implemented 2014: ☐ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	Variety of travel information services are available, mainly given to users separately for different transport modes in Slovenian and English language. Services are not centralized and are operated by different operators, especially for public transport. Main services are on-line and are reachable by different communication media. Travel planning in Slovenia lacks in both		

	intermodality and integration on national level. The project "Integrated public transport system" (IJPP) established Google transit platform for Ljubljana public transport (bus operator) and Slovenian Railways (railway operator). Establishment of a national public transport management centre is planned.		
Real-time travel information services	2011: ☒ Implemented 2014: ☒ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	Real-time travel information service is currently provided by Traffic Information Centre for Public Roads (PIC) and the information is available online via free-of-charge voice station, telephone number, teletext, live reporting on local radios and TV stations. Real-time travel information is also partially transmitted to drivers via Variable message signs (VMS) which are not implemented on the whole motorway network. Real-time travel information is transmitted to drivers also via RDS-TMC system (by private provider TrafficNav Ltd. and Radio SI). Public RDS-TMC system is planned. On the national level the travel information are available in real-time and in both, Slovenian and English language. Information on current Level of Service on state roads in Slovenia is also available online on the website www.here.com (private provider). Real-time travel information is provided also for the freight traffic. The provision of information for dangerous freights optimization is planned. Real-time cross-border traffic data monitoring and exchange was established between Italy and Slovenia with TCC in Palmanova (Italy) and Kozina (Slovenia), and between Austria and Slovenia for monitoring traffic situation and for defining common measures in case of accidents in motorway tunnel Karavanke (cross-border tunnel). Services for automatic data exchange between Slovenia and Austria, Croatia, and Hungary with common strategic traffic management on motorway corridors are planned.		

Availability of road, traffic and transport services data used for digital maps	2011: ☒ Implemented 2014: ☒ Implemented	2011: ☒ Planned 2014: ☐ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	Road, traffic and transport services data for the national road network are available with coordinates and therefore are suitable for further use in digital maps. The national data access point is not defined yet (data are spread in different databases in Slovenian motorway company DARS d.d., Traffic Information Centre for state roads, the Surveying and Mapping Authority of the Republic of Slovenia, Slovenian Roads Agency, etc.). It is planned to improve data quality to ensure coherent traffic management; today the data are collected only for the infrastructure management. "SIJPRIS" is geographical information system for the management of the public inter-urban bus transport services and represents a central public transport database. Advantages of the system are: • central public transport database, • web services for data exchange, • tools for maintenance and analysis of infrastructure data, • time-schedule register, • supports running business with concessioners.		
Road safety related traffic information provided free of charge	2011: ☒ Implemented 2014: ☒ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	Road safety related traffic information are available via Traffic Information Centre, Administration of the Republic of Slovenia for Civil Protection and Disaster Relief - national notification centre, other associations (e.g. AMZS Roadside Assistance - EuroRAP), and media. The Republic of Slovenia has not yet established an access point in accordance with the regulation No. 886/2013. Also a national body competent to assess the requirements with regard to the regulation No. 886/2013 has not been designated. Both services are foreseen to operate in National Traffic Management Centre, when it will start to operate.		

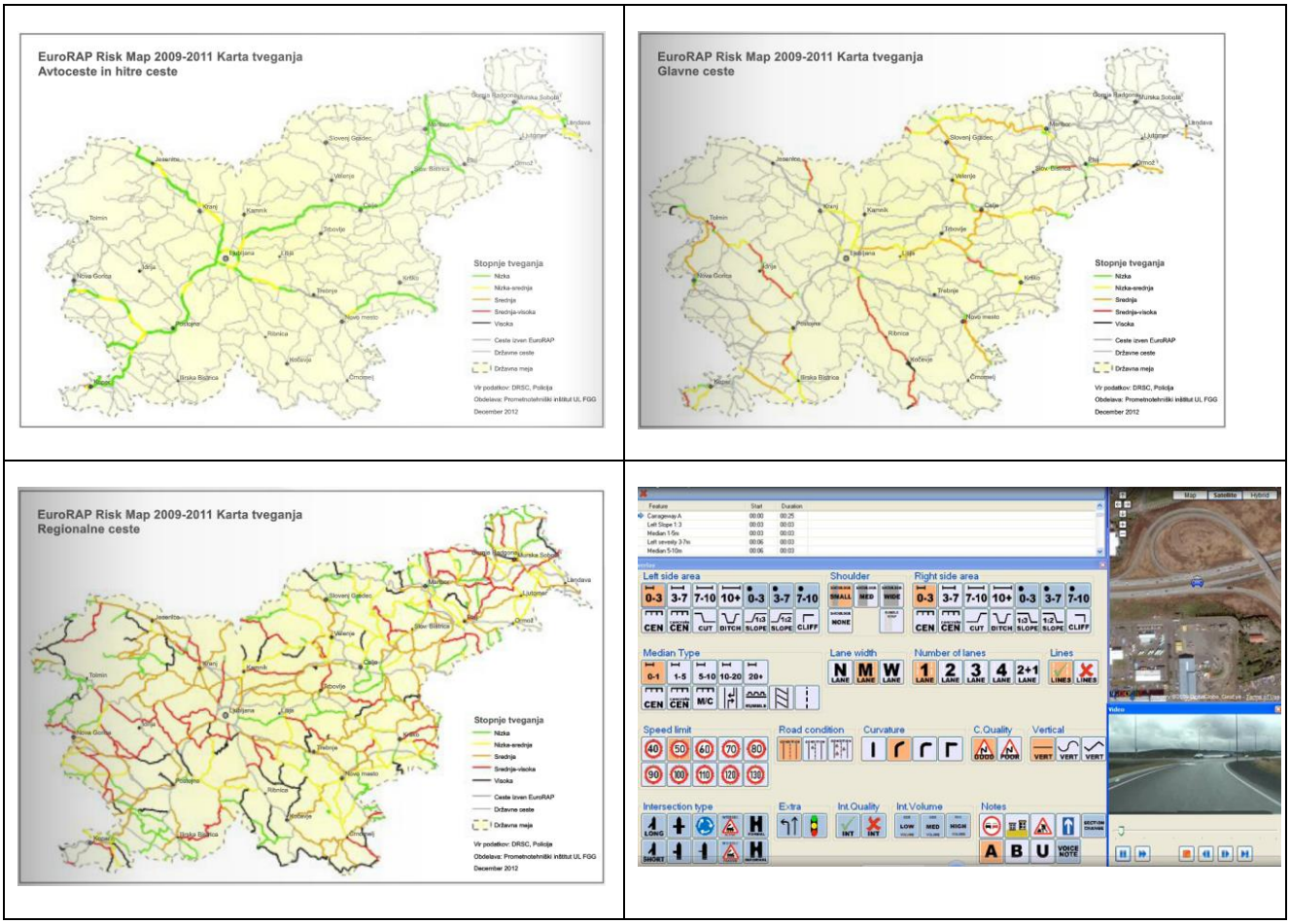

Figure 1: EuroRAP risk maps for Slovenian road network 2012 (source: www.amzs.si)

1.1.1 Summary of on-going activities within priority area I.

In the future Slovenia will implement multimodal travel information services and also continue with the activities for optimal road use, and traffic and travel data; we will provide real-time travel information for road users; we will continue to provide road, traffic and transport services information applicable for digit maps and we will provide road safety information free of charge.

The Ministry of Infrastructure and spatial planning has been working on Integrated Public Passenger Transport (IPPT) project in Slovenia since 2007. The tariff system and integrated ticketing database have been done in 2008. There is the process on for standardisation of timetables for buses and rail transport. There is plan to establish the information web portal for travelers IPPT in next two years, including uniform national e-ticketing system.

Slovenia is involved in many projects supporting ITS deployment on the European and National level. The largest volume of ITS activity has been realized in the field related to information and communication

infrastructure through the implementation of TCS introducing new telecommunication hub of the RNC Ljubljana. This RNC together with PIC became a temporal centre for the management of the entire Slovenian part EU corridor between tunnel Karavanke (Austria) and Zagreb (Croatia) and represents the infrastructure base for the new National Traffic Management Centre (NCUP), taking into account the new EU directive on the deployment of intelligent transport systems in the field of road transport. Legally, NCUP is framed in the Roads Act, which reorganise the existent TIC for state roads to NCUP with the new and very important function of traffic management for all public roads including public transport. In this respect the main objective is to assure safe, optimal and smooth flow of traffic. In order to facilitate the realisation of these objectives, certain guidelines in the form of a document should be prepared, defining the assignments when various tasks are being performed. At the same time mutual agreements between each party should be defined. NCUP includes all public road network in Slovenia, i.e. all national roads and strategically important local roads. Within NCUP the integration of five components are foreseen (Figure 2).

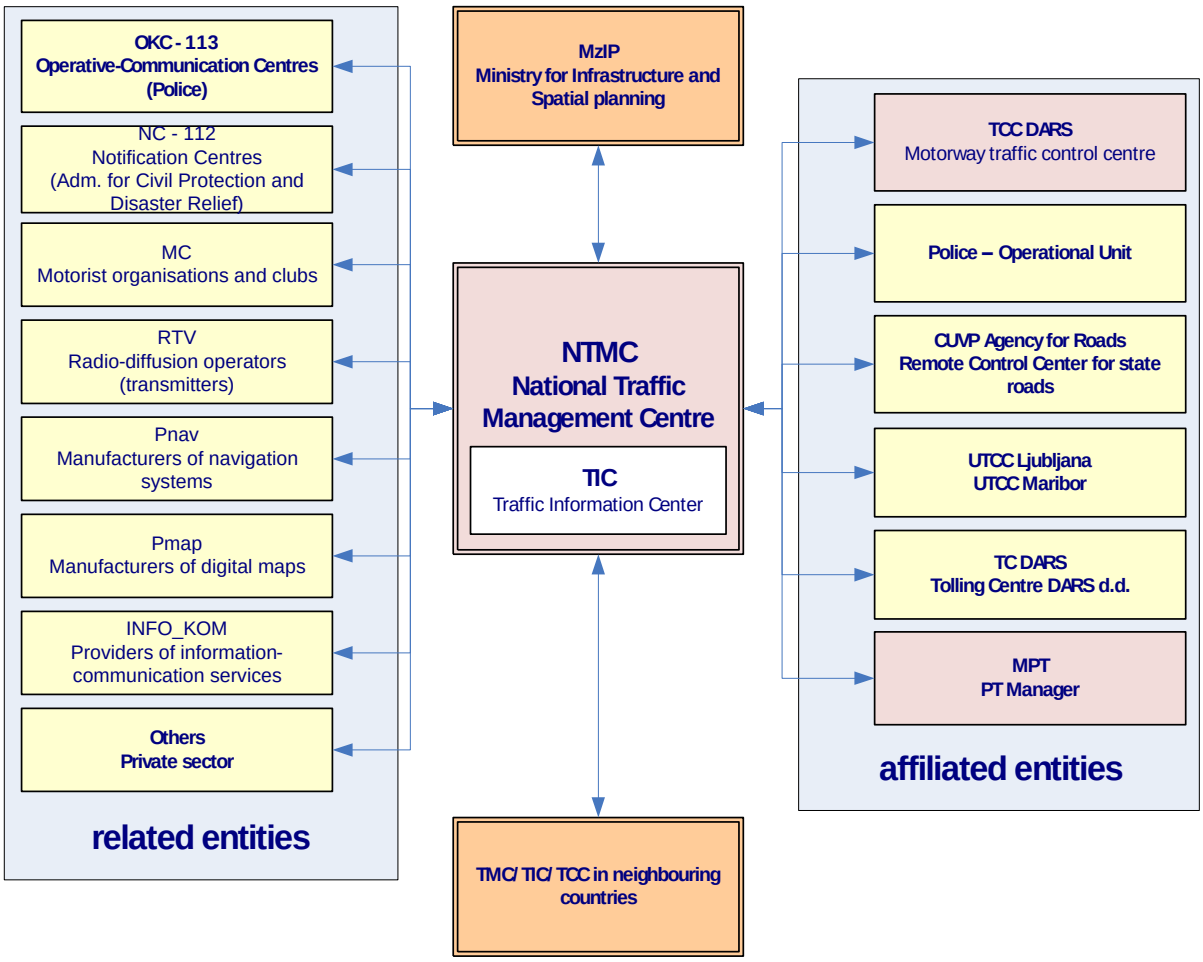

Figure 2: Organizational Traffic management concept on the national level in Slovenia ver. 2012 (source: MzIP)

1.2 CONTINUITY OF TRAFFIC AND FREIGHT MANAGEMENT ITS SERVICES

Priority area II: Continuity of traffic and freight management its services			
Activities or projects concerned with continuity of traffic and freight management ITS services	2011: ☒ Implemented 2014: ☒ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
Responsible person in the administration	*Darja Kocjan, darja.kocjan@gov.si, tel.: +386 (1) 4788172* *Dean Herenda, dean.herenda@gov.si, tel.: +386 (1) 4788212* *Mirko Komac, mirko.komac@gov.si, tel.: +386 (1) 4788842*		
Comments	On the national level the activities or projects concerned with continuity of traffic and freight management ITS services are handled moderate, due to small size of the Republic of Slovenia.		
Detailed specification			
ITS Framework architecture	2011: ☒ Implemented 2014: ☐ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ Implemented
	The first version of National ITS framework architecture for road transport was made and is named SITSA-C . This version still has a status of a proposal, since it was never accepted by main decision stakeholders in the field of ITS in Slovenia. Base for the Slovenian ITS framework architecture was project "FRAME", therefore the conceptual design of Slovenian ITS framework is compatible with the European framework. The upgrade is needed, since user's needs have changed in last five years, especially in the area of subsystems Public Transport Management System and Personal Device System.		

<table>
<tr><td rowspan="2">Management of passenger transport across different modes</td><td>2011:
☐ Implemented
2014:
☒ Implemented</td><td>2011:
☒ Planned
2014:
☒ Planned</td><td>2011:
☐ No Plan
2014:
☐ No Plan</td></tr>
<tr><td colspan="3">In Republic of Slovenia traffic and travel information are available separate for road traffic, public bus and railway traffic. Project “IJPP” provided a background to enhance intermodality services and information in Slovenia. A progressive approach of the service is predicted.

At the moment Google transit service is available for two operators LPP (Ljubljana public bus transport) and SŽ (railway transport), connecting Ljubljana with other regions. It is planned to assure transit service for the whole public transportation network.

An important step towards efficient intermodal travel planning services is establishment of a national public transport management centre, which would provide reliable static and dynamic information on public transport.</td></tr>
<tr><td rowspan="2">Management of freight along transport corridors</td><td>2011:
☒ Implemented
2014:
☒ Implemented</td><td>2011:
☒ Planned
2014:
☒ Planned</td><td>2011:
☐ No Plan
2014:
☐ No Plan</td></tr>
<tr><td colspan="3">For the transit traffic in direction West-East and South-North management of multimodal freight transport is well developed by private logistics operators (international port in combination with railway and/or road: e.g. use of block trains on international journeys).

Slovenia is relative small country and due to high costs for shifting the cargo on distances shorter than 200 km, the wider use of multimodal transportation is not foreseen. However, control of commercial vehicle in Slovenia is organised with WIM point detection system, called SI-WIM (operated by Cestel Ltd. on behalf of DRSC). Control of dangerous goods transport in Slovenia is accomplished in three fixed locations (control points) on Slovenian motorways. It is planned to improve information for freight traffic, e.g. information service on available parking places, service for planning safe freight itineraries (specific dimensions, gross weight, axle load) and for planning and risk management of dangerous goods transport.</td></tr>
</table>

Tracking and tracing of freight across all modes of transport (freight transport logistics, eFreight)	2011: ☐ Implemented 2014: ☐ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	Monitoring of goods in sense of tracking and tracing on road and railway networks in Slovenia is a matter of an agreement between transport operator and contracting authority. No transport document is handed to any of the state institutions with a purpose of monitoring status of goods and origin/destination data. Risk management of e.g. dangerous goods, with the purpose of accident prevention, is not provided.		
Urban ITS architecture	2011: ☒Implemented 2014: ☒ Implemented	2011: ☒Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	Also the Urban Traffic Management was made as a proposal, which will be used in the case of new centre for non-motorway roads, called CUVP (State for traffic management of non-motorway state roads), established by Slovenian Road Agency. This centre will exclude the cities Ljubljana and Maribor, which have their TCC on the Municipality level. Base for the Slovenian Urban ITS architecture was project “FRAME”, therefor the conceptual design of Slovenian framework is compatible with the European framework.		

1.2.1 Summary of on-going activities within priority area II.

Management of passenger transport across different modes - Variety of road and public transport information is available. Integration of all information into multi-modal portal for multi-modal journey planning for whole country is not questionable due to small size of Slovenia, but maybe due to reduced use of long distance public transport and consequently a small number of potential users.

Management of freight along transport corridors - The future will introduce the deployment of freight and logistics systems and services with multi/co-modality solutions. Due to small size, Slovenia is waiting in the first phase for common EU multi/co-modal eFreight web portal (database) to monitor freight along transport corridors. However, the emphasis will remain on sustainable mobility through focused activities for safe, convenient and environmentally friendly road network following the principle - fair user pricing based on the pay-as-you-drive and the proportion of the pollution emitted. The main on-going and open question is, how to shift the cargo from roads to other transport modes with the existing principles.

Tracking and tracing of freight across all modes of transport (freight transport logistics, eFreight) - Management of freight transport along transport corridors (or transit traffic) in direction West-East and South-North a multimodal freight transport is well developed by logistics operators (international port in combination with railway and/or road operator, e.g. the use of block trains on international journeys). The use of RFID is foreseen, but can be freely changed to other technologies, used by other systems and services such as electronic toll system.

1.3 ITS ROAD SAFETY AND SECURITY APPLICATIONS

Priority area III: ITS road safety and security applications			
Activities or projects concerned with ITS road safety and security applications	2011: ☒ Implemented 2014: ☒ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
Responsible person in the administration	*Darja Kocjan, darja.kocjan@gov.si, tel.: +386 (1) 4788172* *Dean Herenda, dean.herenda@gov.si, tel.: +386 (1) 4788212*		
Comments:	On the national level the emergency call is successfully implemented, other road safety and security applications will be implemented according to Regulation No. 885/2013 and No. 886/2013. Implementation of some applications, e.g. on-board HMI and driver assistance systems will probably depend on international researches and proposed solutions		
Detailed specification			
Automatic emergency call	2011: ☒ Implemented 2014: ☒ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	Emergency call system is implemented on the motorway road network and it is integrated into the existing traffic information system that ensures quick and reliable mean of providing traffic information to traffic control centre and 112 regional Public Safety Answering Point. Operator can detect unexpected events and response faster. Slovenia was one of the first counties in EU that introduced 112 number. Slovenia has routing calls to 112, from fixed and mobile network, arranged in a way that the caller gets competent regional centre with the highest reliability. Slovenia use the "push" method of providing fixed caller location information in most alternative fixed networks. Automatic "pull" method is used as back-up. In the case of nomadic VoIP systems operator providing services is obliged to communicate beside registered subscriber address also a note that it is nomad user. Operator is obliged to proving technical inability in accordance		

	with Act on electronic communications. For mobile caller location and the time needed to provide it on the "push" method is used, too. One mobile operator reports that use both pull and push method. The system use Cell ID/ Sector ID based localisation. National companies, ministry and associations (Telekom Slovenije, Ipkom, Iskratel, Administration of the Republic of Slovenia for Civil Protection and Disaster Relief, and Auto-moto club AMZS) are testing eCall system implemented in the vehicles.		
Information services for safe and secure parking places for trucks and commercial vehicles	2011: ☐ Implemented 2014: ☐ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	In the Republic of Slovenia some public parking places are secured with video surveillance and are free of charge. Private operators provide more secure and physically protected parking places usually not free of charge. Activities according to Regulation No. 885/2013 are planned.		
Safety of road users with respect to their on-board HMI	2011: ☐ Implemented 2014: ☐ Implemented	2011: ☐ Planned 2014: ☐ Planned	2011: ☒ No Plan 2014: ☒ No Plan
	Design and implementation depends on international solutions. The information will be provided in DATEX II format, public RDS-TMC service is planned.		

Nomadic devices to support driving task and/or the transport operation	2011: ☒ Implemented 2014: ☒ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	Transport operators use different solutions for vehicles and freight tracking. Usually the solutions are not integrated as the original equipment of the vehicle, but are built-in later. RDS-TMC service is available in public-private partnership; the public RDS-TMC service is planned. The information shall be provided in DATEX II format.		
Security of in-vehicle communications	2011: ☐ Implemented 2014: ☐ Implemented	2011: ☐ Planned 2014: ☐ Planned	2011: ☒ No Plan 2014: ☒ No Plan
	Design and implementation depends on international solutions.		
Safety and comfort of vulnerable road users	2011: ☒ Implemented 2014: ☒ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	Design and implementation depends on international solutions..		
Advanced driver assistance systems integrated into vehicles and road infrastructure	2011: ☐ Implemented 2014: ☐ Implemented	2011: ☐ Planned 2014: ☐ Planned	2011: ☒ No Plan 2014: ☒ No Plan
	N/A		

1.3.1 Summary of on-going activities within priority area III

Automatic emergency call – future development depends on international solutions of in-vehicle on board units. "WAP 112 and SMS112" are constantly upgraded and other functionalities such as video calls are planned in the future. For other devices (roadside infrastructure) there are some prototypes for automatic language recognition and redirection of emergency call.

eCall – implementation in Public Safety Answering Points (PSAPs) is planned according to the state-of-the art standardization. There are still problems to be solved, especially the enhancement of existing "112" service to provide cross-border enabled eCall service (compliant with HeERO initiative). Vehicles, equipped with eCall-compliant in-vehicle systems (GNSS unit, GSM modem) will be serviced with same quality of service in the case of emergency calls in any state that participates in HeERO project; thus providing cross-border continuation and harmonization of the service in neighbouring countries. All new vehicles in the European Union, and also in Slovenia, after 2015, will have to be equipped with a device, which will automatically transmit an emergency call in the case of an accident. Slovenia will prepare update of legislation for the approval of new vehicles.

Information services for safe and secure parking places for trucks and commercial vehicles – In Slovenia infrastructure for safe and secured parking is not available. Security will be increased due to implementation of parking area video surveillance system.

Safety of road users with respect to their on-board HMI – implementation depends on international solutions.

1.4 LINKING THE VEHICLE WITH THE TRANSPORT INFRASTRUCTURE

Priority area IV: Linking the vehicle with the transport infrastructure			
Activities or projects concerned with linking the vehicle with the transport infrastructure	2011: ☐ Implemented 2014: ☐ Implemented	2011: ☐ Planned 2014: ☒ Planned	2011: ☒ No Plan 2014: ☐ No Plan
Responsible person in the administration	*Dean Herenda, dean.herenda@gov.si, tel.: +386 (1) 4788212*		
Comments:	Cooperative traffic management is not implemented or in test at any regional or national level. There are some pilots on the local level, such as using wireless ZigBee DSRC communicators to request for signal bus priority and for better information about bus stop in the City of Ljubljana (see Civitas Elan project).		
Detailed specification:			
Integration of different ITS in an open in-vehicle platform	2011: ☐ Implemented 2014: ☐ Implemented	2011: ☐ Planned 2014: ☐ Planned	2011: ☒ No Plan 2014: ☒ No Plan
	Design and implementation depends on international solutions.		
Cooperative systems (vehicle-vehicle, vehicle-infrastructure, infrastructure-infrastructure)	2011: ☐ Implemented 2014: ☐ Implemented	2011: ☐ Planned 2014: ☐ Planned	2011: ☒ No Plan 2014: ☒ No Plan
	Design and implementation depends on international solutions.		

Viability study of RFID based transport services	2011: ☐ Implemented 2014: ☐ Implemented	2011: ☒ Planned 2014: ☒ Planned	2011: ☐ No Plan 2014: ☐ No Plan
	Initiative for RFID based transport service was proposed in program “EasyWay”, guidelines for freight and logistics activities. In 2012 the study did not provide any guidelines for RFID implementation.		