



**REPUBLIKA HRVATSKA
MINISTARSTVO POMORSTVA, PROMETA I
INFRASTRUKTURE**



CLASS: 303-03/13-01/150
REG: 530-08-2-3-2-15-141
Zagreb, 27th July 2015

The Ministry of Maritime Affairs, Transport and Infrastructure based on Article 73, paragraph 2 of the Environmental Protection Act („Official Gazette“, issues 80/13 and 153/13) as well as Article 19 of the Regulation on strategic assessment of the impact of plans and programs on the environment („Official Gazette“, issue 64/08), after the completion of strategic assessment of impact of the Transport Development Strategy in the Republic of Croatia in the period of 2014 – 2030 on the environment brings

**A REPORT
ON THE IMPLEMENTATION PROCEDURE OF STRATEGIC ASSESSMENT OF
THE IMPACT OF THE
TRANSPORT DEVELOPMENT STRATEGY IN THE REPUBLIC OF CROATIA
IN THE PERIOD OF 2014-2030 ON THE ENVIRONMENT**

I. INTRODUCTION

Transport Development Strategy in the Republic of Croatia in the period of 2014-2030 (hereinafter: Strategy) was developed by the Ministry of Maritime Affairs, Transport and Infrastructure, and adopted by the Croatian Government at the session held on October 30th, 2014. The Strategy was developed in order to achieve the objectives of traffic development, in accordance with the transport policy of the European Union.

II. ACTIVITIES WITHIN THE STRATEGIC ASSESSMENT PROCEDURE

The procedure of strategic impact assessment on the environment (hereinafter, SEA) was implemented in accordance with the provisions of the Environmental Protection Act („Official Gazette“, issues 80/13 and 153/13), Regulation on strategic assessment of the impact of plans and programs on the environment („Official Gazette“, issue 64/08), Regulations of the Committee for Strategic Assessment („Official Gazette“, issue 70/08) and Regulation on the information and participation of the public in environmental protection („Official Gazette“, issue 64/08). The following activities have been implemented within the strategic assessment procedure for the Strategy:

- The Ministry of the Environment and Nature Protection has issued a Decision on the need to carry out the Main assessment of the acceptability for the ecologic network

within the strategic assessment procedure of the impact on the environment dated October 31st, 2013. (CLASS: UPI/I-612-07/13-71/129, NUMBER: 517-07-2-2-13-4),

- The Ministry of Maritime Affairs, Transport and Infrastructure (hereinafter: Ministry) has issued a decision of the implementation of SEA procedure for the Strategy dated November 5th, 2013. (CLASS: 303-03/13-01/150, NUMBER:530-08-2-3-2-13-25),
- the public has been informed about the process of determining the content of the Strategic study of the impact on the environment, and was invited to participate by publishing the information on the website of the Ministry, www.mppi.hr.

The Ministry has obtained in the legally prescribed period the opinions of the authorities and/or individuals designated by special regulations, as well as opinions of the regional governments about the content of the Strategic study and the coverage level of data that must be processed in the Strategic study. In order to get the highest quality of feedback from the stakeholders concerning the content of the Strategic study, the Ministry on November 27th, 2014 organized the presentation for all the interested stakeholders. The decision on the content of the Strategic study of the impact on the environment was issued by the Ministry on January 17th, 2014. (CLASS: 303-03/13-01/150, NUMBER: 530-08-2-3-2-14-59),

- in the process of public procurement the Ministry has chosen a foreign authorized person for the development of the Strategic study, Dimitrios Oikonomidis, residing in the Hellenic Republic, Planet S.A. (hereinafter: Authorized person),
- the minister of Maritime Affairs, Transport and Infrastructure has appointed Advisory expert committee for strategic impact assessment of the Strategy on the environment (hereinafter: SEA Committee) by the decision dated February 19th, 2014. (CLASS:303-03/13-01/150, NUMBER:530-08-2-3-2-14-65) and by amendment to the Decision dated May 7th, 2014. (CLASS: 303-03/13-01/150, NUMBER:530-08-2-3-2-14-77),
- The SEA Committee held two sessions and on June 16th, 2014, issued its Opinion on the integrity and professional merits of the Strategic study (CLASS: 303-03/13-01/150, NUMBER: 530-08-2-3-2-14-81),
- On March 10th, 2014, (CLASS: 303-03/13-01/150, NUMBER:530-08-2-3-2-14-71) the Ministry has informed the Ministry of the Environment and Nature Protection about the possible cross-border impacts of the Strategy. In accordance with the provisions of the Protocol on strategic assessment of the environment and Convention on impact assessment on the environment beyond country borders (Espoo Convention), the Ministry of the Environment and Nature Protection within the strategic assessment informed the responsible authorities of the neighboring countries in April, 2014 (Hungary, The Republic of Serbia, Bosnia and Herzegovina, Italy and Montenegro) about the implementation of the strategic assessment procedure of the Transport Development Strategy impact on the environment in the Republic of Croatia and submitted the notification form and report on the content of strategic study in electronic form, as well as requested the submission of notice about any interest in participating in the procedure within 30 days,

- On June 13th, 2014, the Ministry has issued a Decision on the beginning of the public discussion procedure (CLASS: 303-03/13-01/150, NUMBER: 530-08-2-3-2-14-80) and informed the public by publishing the information in a daily newspaper „Jutarnji list“ dated June 18th, 2014, and publishing the complete documentation: a Draft proposal of the Strategy, Strategic study and non-technical summary of the Strategic study at the website of the Ministry. The public discussion on the Strategic study and Draft proposal of the Strategy was carried out in the period from June 26th to July 26th, 2014. Access to documents is provided in the premises of the Ministry. Public presentation was carried out on July 1st, 2014,

- in the process of cross-border consultations in July, 2014, the Ministry of the Environment and Nature Protection submitted to Hungary, The Republic of Serbia, Bosnia and Herzegovina, Italy and Montenegro a Draft proposal of the Strategy, Strategic study and non-technical summary of the Strategic study, and requested the submission of opinion within 30 days after receipt of documentation.
 The Ministry of Foreign Affairs of Bosnia and Herzegovina in its opinion dated 5.9.2014, Number: 06/1-32-05-1-13554-5-/14, informed the Ministry of the Environment and Nature Protection about not participating in the process of strategic evaluation.
 The Ministry of Agriculture and Environment of the Republic of Slovenia informed the Ministry of the Environment and Nature Protection about its intention to participate in the cross-border procedure on 2.9.2014. (Number: 35409-102/2014/10). Upon completed procedure, the Ministry of Environment and Space of the Republic of Slovenia in its final opinion on 2.3.2015. (Number: 35409-102/2014/19) informed the Ministry of the Environment and Nature Protection about its agreement to go on with the development of the Strategy.
 The Ministry of Agriculture and Environment Protection of the Republic of Serbia informed the Ministry of the Environment and Nature Protection on 29.5.2014. about its intention to participate in the cross-border procedure (Number: 350-01-10/2014-16). Upon completed procedure, the Ministry of Agriculture and Environment Protection of the Republic of Serbia submitted its comments on 10.9.2014. (Number: 350-01-010/14-16).
 The Ministry of Rural Development of Hungary informed the Ministry of the Environment and Nature Protection by e-mail on 29.5.2014 about its intention to participate in the cross-border procedure. Upon completed procedure, the Ministry of Agriculture of Hungary submitted its comments on 29.8.2014. (Number: KMF/350/2014.).
 The Ministry of Environment, Land and Sea of Italy informed the Ministry of the Environment and Nature Protection on 16.6.2014. (DVA-2014-0019079) about its intention to participate in the cross-border procedure. Upon completed procedure, the Ministry of Environment, Land and Sea of Italy submitted its comments on 10.11.2014. (DVA-2014-0036693).
- At the same time the Ministry put the Strategic study and a Draft proposal of the Strategy to the public discussion, it also submitted those to the authorities mentioned in the Annex II of the Decision to start the process of SEA (CLASS: 303-03/13-01/150, NUMBER: 530-08-2-3-2-14-82, dated June 30th, 2014.). The answers to the obtained opinions are given in the Annex 1. of this Report,

- during the public discussion the opinions of the following authorities on the Strategic study have been obtained: Ministry of Agriculture, Ministry of Tourism, Croatian Railways Infrastructure, Port Administration Osijek, Plovput d.o.o., City of Rijeka,

Koprivničko-križevačka County, Ministry of Health, Željko Tufegčić, Primorsko-goranska County, Ministry of the Environment and Nature Protection. The opinions on the Draft proposal of the Strategy were obtained from: The City of Zagreb, Croatian County Union, Brodsko-posavska County, Promet d.o.o., Varaždinska County, Međimurska County, Požeško-slavonska County, Bjelovarsko-bilogorska County, Brodsko-posavska County, Šibensko-kninska County and Splitsko-dalmatinska County.

The details are presented in the Annex 1. of this Report,

- pursuant to the development of the Draft proposal of the Strategic study with the included Main Assessment for the ecologic network, the Ministry requested from the Ministry of the Environment and Nature Protection, Administration of nature protection their opinion on the acceptability of the Transport Development Strategy in the Republic of Croatia in 2014-2020 for the ecologic network (CLASS: 303-03/13-01/150, NUMBER: 530-08-2-3-2-14-122, on October 13th, 2014.). The Ministry of the Environment and Nature Protection has submitted to the Ministry its opinion (CLASS: 612-07/14-58/13, NUMBER: 517-07-2-1-14-13) asking for additional corrections in the Main assessment for the ecologic network (presented in detail in the Annex 1. of this Report). Having made the changes, the Ministry again submitted the request for obtaining the opinions on the acceptability of the Transport Development Strategy in the Republic of Croatia for the ecologic network (CLASS: 303-03/13-01/150, NUMBER: 530-08-2-3-2-14-125)
- final opinion on the acceptability of the Transport Development Strategy in the Republic of Croatia for the ecologic network with the use of measures to mitigate the negative impact on the ecologic network determined in the Main assessment of the acceptability for the ecologic network, which is an integral part of the Strategic study of the impact on the environment for the Strategy, was submitted by the Ministry of the Environment and Nature Protection, Directorate of nature protection, on October 29th, 2014. (CLASS: 612-07/14-58/13, NUMBER: 517-07-2-1-14-14)
- pursuant to the development of the Draft proposal of the Strategic study with the included Main assessment for the ecologic network, the Ministry requested from the Ministry of the Environment and Nature Protection, Administration of nature protection and sustainable waste management, their opinion on the implemented strategic assessment (CLASS: 303-03/13-01/150, NUMBER: 530-08-2-3-2-14-123, October, 13th, 2014.). The Ministry of the Environment and Nature Protection submitted the final opinion on the implemented strategic assessment of the impact on the environment on October 29th, 2014. (CLASS: 351-03/14-04/575, NUMBER: 517-06-2-1-2-14-2)
- the Government of the Republic of Croatia adopted the Transport Development Strategy in the Republic of Croatia on October 30th, 2014.
- All procedure acts of informing or participating of the public have been published on the website of the Ministry (<http://www.mppi.hr/default.aspx?id=10357> and <http://www.mppi.hr/default.aspx?id=16279>).

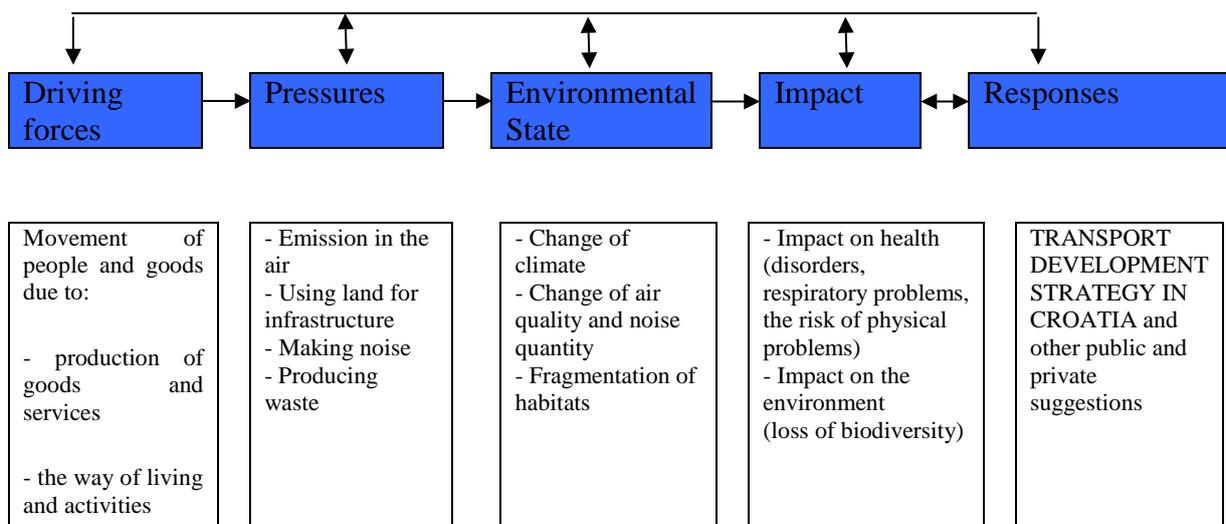
III. SUMMARY OF THE WAY THE ISSUES OF ENVIRONMENTAL PROTECTION AS WELL AS THE RESULT OF THE STRATEGIC STUDY, COMMENTS, SUGGESTIONS AND OPINIONS OF THE AUTHORITIES AND/OR INDIVIDUALS, OPINIONS OF THE PUBLIC AND THE RESULTS OF CROSS-BORDER CONSULTATIONS ARE INTEGRATED IN THE STRATEGY

The vision of the Strategy is the improvement of economy and development of the country through combined, sustainable, efficient and safe transport system.

The general aim of the Strategy is to achieve efficient and sustainable traffic system on the territory of Croatia, taking into account the new role of the Republic of Croatia after its accession to the European Union in July, 2013.

Reducing the impact of implementation of the Strategy on the environment is one of the priority issues arising from the preview of the current state for all forms of transport. Furthermore, the analysis of complex cause-and-effect relationships between the traffic and environmental protection used a DPSIR principle. DPSIR refers to Driving forces, Pressures, State, Impact and Responses. It is a tool that is often used for analysis and reporting on the policies of the environmental protection sector. DPSIR model shows the correlation between the causes of environmental problems, their impacts and responses to the policy, in an integrated manner.

The following figure shows the DPSIR model:



Environmental protection issues are also taken into account in the SWOT analysis of the transport sector in Croatia, where old equipment and the increase of harmful gases emissions are identified as weaknesses of the sector, while it has been acknowledged that Croatian natural and urban environment is very valuable, but extremely sensitive and can be endangered by the development of the new traffic infrastructure.

The fulfillment of the general aim of the Strategy means the adoption of the principles in accordance with the EU-policies, standards and regulations, including:

- Ensuring environmental and social sustainability,
- Improving the division in favor of public transport, environmentally friendly and simple traffic (pedestrians and bicycle).

OBJECTIVES	SUB-OBJECTIVES
1. Improvement of traffic connection and coordination with the neighboring countries	1a Elimination of border „bottlenecks“
	1b Improving the accessibility of distant international travel destinations (including transit)
	1c Improving the accessibility of international cargo destinations (including transit)
2. Improving the accessibility of distant international travel destinations in Croatia	2a Improving the accessibility of distant international travel destinations – Central Croatia (Zagreb)
	2b Improving the accessibility of distant international travel destinations – North Adriatic (Rijeka)
	2c Improving the accessibility of distant international travel destinations – Eastern Croatia (Osijek - Slavonski Brod)
	2d Improving the accessibility of distant international travel destinations – North and Central Dalmatia (Split - Zadar)
	2e Improving the accessibility of distant international travel destinations – South Dalmatia (Dubrovnik)
3. Improvement of passenger regional connections in Croatia through the improvement of territorial cohesion	3a Improvement of passenger regional connections on mainland
	3b Improvement of passenger regional connections to/from/between the islands
4. Improvement of passenger accessibility to and within the main urban agglomerations	4a Improvement of passenger accessibility – road junction Zagreb
	4b Improvement of passenger accessibility – road junction Rijeka
	4c Improvement of passenger accessibility – road junction Zadar
	4d Improvement of passenger accessibility – road junction Split
	4e Improvement of passenger accessibility – road junction Osijek
	4f Improvement of passenger accessibility – road junction Dubrovnik
5. Improvement of freight transport accessibility within Croatia	5a Improvement of freight transport accessibility – Central Croatia (Zagreb)
	5b Improvement of freight transport accessibility – North Adriatic (Rijeka)
	5c Improvement of freight transport accessibility – Eastern Croatia (Osijek - Slavonski Brod)
	5d Improvement of freight transport accessibility – North and Central Dalmatia (Split - Zadar)
	5e Improvement of freight transport accessibility – South Dalmatia (Dubrovnik)
6. Organizational and operational improvement of the transport system to ensure the efficiency and sustainability of the system	6a Adjustment of legislation, rules and standards to European and requirements and best practice
	6b Improvement of organizational setup of the system and cooperation between relevant stakeholders of the interested parties
	6c Improvement of operational setup of the system
	6d Improvement of safety of the transport system
	6e Reducing/mitigating environmental impact
	6f Improvement of energetic efficiency
	6g Financial sustainability of the transport system

During the development of SEA, the objectives of SEA were adjusted to the objectives of the Strategy, concluding that the objectives of the Strategy are in the spirit of the development of sustainable traffic and are adjusted to the relevant European policy, especially Objective 6, which is adjusted to the objectives of SEA, as it relates to ensuring sustainability of traffic in the country, to adoption of European standards and improvement of organizational structure of the sector. Objective 6 is a "horizontal objective", and one can say, it represents the spirit of the Strategy, through the improvement of the transport system of the country, in accordance with the legislation of the EU, standards and the best practice. Based on the examination of the current situation in the country, analyzing and defining the intermodal and specific objectives, the set of intermodal measures is defined by the achievement of each objective.

The measures are developed in the following fields:

- Organization (ticket sales, transport associations, coordination of the schedule, etc.),
- Business (elimination of old and introduction of new stations, re-routing of lines, changes in the operating concept, railway vehicles, traffic management, etc.),
- Infrastructure (expansion, increasing capacity, increasing speed, restoration of stations, etc).

During the development of SEA potential impacts of the Strategy's measures have been identified, relating to: air quality, climate change, energy, inland waters, sea, biological diversity/ flora and fauna, noise, soil, cultural heritage, land use, material assets, waste management, population, human health, safety.

Interactive development of the Strategy and SEA resulted in a number of general principles to be followed while implementing the measures:

- construction environmental management plans are required on all construction sites,
- a map of waste management plans will be required on all construction sites,
- quarry rehabilitation plans will be developed for areas of extraction,
- for materials used on construction sites, recycling/reuse will be encouraged at the local level if possible,
- materials extracted by the dredger will be reused if possible,
- waste will be separated, and hazardous waste will be properly treated and disposed,
- for maritime and inland waterway sector, the following reducing measures of dredging impact on water will be applied:
 - planning measures, minimizing of dredging, choice of adequate positions, specific exclusion zones, etc.,
 - measures related to the equipment, including the choice of adequate dredging systems, or use of special equipment,
 - institutional measures, high water and seasonal time constraints, constraints of dredging positions or disposal activities, restrictions on the operation of dredger, etc.,
- construction will be planned in a way to ensure the restoration of water circulation, which will prevent eutrophication;
- measures relating to the specialization of ports in the maritime sector will be examined in an integral development model of coastal areas, in order to avoid

excessive exploitation and harmful impacts mainly on water, as well as landscape and cultural heritage

IV. REASONS FOR ADOPTING THE SELECTED SOLUTION VARIANT

The methodology applied for the preparation of the Transport Development Strategy in the Republic of Croatia has led to the determination of measures that can help to meet each objective of the Strategy. For each objective those measures will be implemented, that clearly show the high level of internal compatibility, are complementary to one another and demonstrate that they are needed regardless of the final decision on the preferred methods, since they do not compete with any other group of measures. These measures are grouped under the name "GENERAL". However, there are also other measures that would enable progress in meeting the objectives. They build another group of (alternative) measures related to different forms of transport. Within this framework, the following alternatives have been examined:

- railway
- plane
- public transport
- road transport
- sea transport
- inland navigation

In the framework of SEA, the so-called "alternative packages" were reviewed to comment on their compatibility with SEA and possible use included in the main measures of the Strategy.

The most important conclusions of the assessment of alternatives are as follows:

- public transport, railways and inland waterways are alternatives with better environmental protection performances
- the alternative of public transport is one that should be considered as a priority
- railway transport is the most environmental friendly alternative for the fulfillment of the objectives where there is no alternative of public transport, but it can also be synergistic for public transport where there is such alternative
- the alternative of inland navigation has generally good results and can act synergistically for the alternative of railway transport, but must be carefully considered in order to avoid significant impacts
- alternative to sea transport should be carefully examined. Although it has fairly good ecologic results, it should be considered within the broader perspective for the development of coastal areas, in order to avoid excessive use of coastal areas
- road alternative represents an uncertainty. It consists on construction works on infrastructure, which can have negative consequences for the environment
- air transport is not an „independent“ alternative and should be considered mostly as an addition to other alternatives, because it mostly covers various transportation needs.

V. ENVIRONMENTAL PROTECTION MEASURES

In the context of strategic assessment, and in accordance with the Decision of the Ministry of the Environment and Nature Protection, Directorate of nature protection dated October 31st, 2013, CLASS: UP/I 612-07/13-71/129, NUMBER: 517-07-2-2-13-4, the procedure of Main assessment of acceptability for the ecologic network was carried out. Directorate of nature protection of the Ministry of Environment and Nature protection submitted its Opinion on

October 29th, 2014, CLASS: 612-07/14-58/13, NUMMER: 517-07-2-1-14-14, according to which the Transport Development Strategy in the Republic of Croatia in 2014. – 2030. is acceptable for the ecologic network with the application of measures to mitigate the negative impact on the ecologic network determined in the Main assessment of the acceptability for the ecologic network, which is an integral part of the Strategic study.

7.1. Measures to mitigate the impact on the air quality

To reduce air pollution during the construction phase (for all sub-sectors), the following is necessary in terms of reducing particulate matter (PM):

- water all exposed surfaces (clumps of soil, slopes, unpaved parking lots, lay-bys and access roads);
- cover tugs or keep at least a half meter free space between the tugs transporting soil, sand or other bulk cargo to the construction site
- cover all tugs that will move on the local roads or main roads;
- use vehicles for wet cleaning of streets to remove any visible trace of mud or dirt on neighboring roads, at least once a day;
- restrict the driving speed on unpaved roads at 25 km /hour,
- all roads, access roads, sidewalks, parking lots planned for paving should be completed as quickly as possible,

and in terms of reducing gas emissions

- minimize ‘no-load’ (idle time)
- maintain all construction equipment in good working condition in accordance with the specifications of the manufacturer (equipment should be inspected by a certified mechanic and it should be stated that it is in a working condition prior to use)
- keep plans of environmental management during construction at construction sites and use them for the measures listed above
- use environmental friendly forms of transport (railway, inland waterways, public transport), which are promoted in the Strategy;
- implement the measures that are foreseen by the Strategy (Ro 25-reduce of impact on the environment and Ro 26-energetic efficiency) in terms of reduction of air pollution due to road traffic;
- increase the use of alternative fuels (as foreseen for the sector of urban traffic)
- use tolls on new roads to reduce the impact due to demand;
- prevent dust emissions by proper maintenance of road infrastructure (foreseen in Ro 17);
- plant near the transport infrastructure
- electrify railway lines in order to improve the reduction of air pollution du to railway traffic.
- increase energetic efficiency in the sector of inland navigation and maritime;
- use „cleaner“ fuels (already foreseen in the measures I.10 and M.15);
- avoid or reduce traffic jams;
- establish programs for cleaner air in ports;
- control fugitive emissions during maintenance work.
- develop operational procedures to reduce noise of air traffic on takeoff;
- develop procedures /techniques of Continuous Descent Approach (CDA) and Low Power - Low Drag
- avoid waiting for aircraft on the runway
- avoid unnecessary use of auxiliary power units in air transport
- increase the use of public transport in access to airports
- avoid operation with combustion engine when it is not needed
- systematically manage energy in airport buildings and on airfields
- control fugitive emissions in air traffic (this type of measures could be a part of Environmental management plan for airports).
- promote the use of electric vehicles or vehicles that use less harmful fuels, particularly in the case of services that are pre-determined and/or have short routes (such as vehicles for public service, vehicles for delivery/ distribution of goods, rented vehicles for use in the cities);

- inform the public (U.19 to promote public transport;
- give privilege to public transport,
- promote the joint use of a car in the public awareness campaigns; on the city level assess the air pollution from all sources and identify the ‘hot spots’.

Measures to mitigate the impact on climate change

Measures to mitigate the impact on climate change for all types of construction works (for all sectors) include the following:

- if possible, procure materials locally and/or recycle – reuse
- implement „best practice in construction“ at construction sites;
- reduce ‘idle time’
- maintain all construction equipment in good working condition in accordance with the specifications of the manufacturer (equipment should be inspected by a certified mechanic and it should be stated that it is in a working condition prior to use);
- use equipment with new technologies (for example, electric trains).
- for generators at construction sites using alternative fuels (for example, propane), solar or electric energy;
- reduce the use of electricity in the offices at the construction site by using compact fluorescent light bulbs, turning off computers everyday and replacing heating and cooling systems with more efficient ones.
- ensure that new infrastructure projects include operative strategies to manage extreme weather conditions and changes of climate such as rainfalls and temperatures
- prepare sustainable projects and use construction techniques that include techniques adjusted to climate changes and sustainable urban drainage systems
- make plans of more direct routes in air traffic;
- optimize fuel consumption (use of optimal fuel loading plans and routes) in air traffic;
- use airplanes with more efficient fuel;
- avoid waiting times and keeping the aircraft with running engines (in the air and on the ground);
- use the speed levels that save fuel, when it is possible.
- promote the use of alternative fuels and fleet modernization.

Measures to reduce the impact on energy

- additionally promote the use of alternative fuels (as foreseen in chapters 7.1 and 7.2),
- use renewable energy types (for example, photovoltaic) for public lighting, or lighting of stations, airports and ports.

Measures to reduce the impact on waters

- properly planned traffic routs outside protected areas of special water protection;
- implement appropriate construction measures;
- build protective systems to control the collection and treatment of waste water from roads.
- properly plan waterways in the inland waterway sector on the appropriate surface water bodies for which the deviation from achieving the objectives of water protection is allowed;
- prevent pollution from vessels;
- increase the standard of vessels equipment.
- build submerged or partially submerged dams or use other structures in front of the dam to absorb the force of the waves and thus reduce erosion;
- use alternative ‘green’ techniques to protect coastlines, including geotextile or other methods/systems which enable the growth of coastal vegetation
- modify vessels, for example, the hull and/or the drive system to reduce the need to wash the vessel.

- improve the drainage system at the infrastructure of all sectors

Measures to mitigate the impact on the sea

- use adequate dredging techniques;
- take appropriate measures to prevent spills of hazardous liquids and accidents;
- prevent the creation of illegal landfills;
- prevent eutrophication in ports and marines through appropriate construction that allows reconstruction and circulation of water and prevents leakage of untreated waste water

Measures to mitigate the impact on biodiversity, flora and fauna and the ecological network

- organize adequate crossing for animals;
- avoid excessive lighting to reduce disturbing birds;
- avoid disturbing the birds' migratory paths by air traffic;
- at the project level, carefully assess the impact and suggest measures of mitigating the impact, taking into account characteristics of each area;
- ensure that new and better infrastructure models include planting plans of autochthonic plants resistant to draught and cold.
- remove or renew outdated infrastructure in order to improve the environmental acceptability of the rivers;
- remove or restore water structures along the river banks and use natural techniques of dam building;
- use systems of stagnant water renewal;
- build and/or restore typical river habitats such as alluvial islands, or create favorable side channels to increase the range of natural habitats available for local flora and fauna;
- use types of dams that lead to greater dynamics along the riverbanks;
- reconnect the side tributaries of flood plains and backwater areas to restore river habitats;
- build drains to enhance the structural diversity of river ecosystems and ensure the passage for fish;
- use environmentally oriented techniques of dredging and sediment managing;
- renew the typical river (alluvial islands) or create channels with a soft riverbed in order to increase the areas of natural habitats intended for wildlife;
- implement measures to avoid spills of hazardous liquids and accidents;
- develop plans to reduce noise and manage the environment;
- develop and implement measures to prevent illegal dumping of waste and waste water (control, fines, etc.) that act in synergy with the waste management plans.
- prevent spills of hazardous liquids and accidents in the maritime sector;
- prevent illegal dumping of waste ;
- prevent eutrophication in ports and marines through appropriate construction that allows reconstruction and circulation of water and prevents leakage of untreated waste water;
- use ecologically oriented techniques if maintenance, dredging and managing sediments

Measures foreseen for mitigation of the negative impact on water, sea, biological diversity, flora and fauna will also minimize possible negative effects on aquaculture.

Measures to mitigate the negative impact of noise

- use low noise construction equipment;
- use only machines in working condition, the correct function of which will be checked regularly;
- works near residential buildings shall be carried out only during daytime and evening hours (not at night);
- build temporary barriers /hedge noisy equipment;
- limit speed in sensitive areas (especially at night);

- install noise barriers along the roads and railway lines;
- plant vegetation along roads and railway lines as well as infrastructure of sea and river ports;
- use carriageways of low noise;
- maintain roads and railways;
- modernize the fleet;
- install noise barriers near railway facilities and infrastructure of sea and river ports
- reduce the speed of traffic vehicles (especially at night), if there is no alternative
- adopt measures of establishment of rules and procedures to introduce operating noise restrictions in airports
- develop plans to manage noise in ports (on land and sea)
- cover sound intensive components with isolation
- use electric mobile machinery instead of diesel or diesel/electric drive
- avoid working of open terminals at night (allow certain activities near seashores or riverbanks with no construction works using machinery)
- develop urban, suburban and regional transport to reduce the number of cars which will lead to reduction of noise.
- plan and organize pedestrian zones
- complete the plans for strategic noise mapping and noise management (on the national level), to solve the problem in an integrated way.

Measures to mitigate the impact on soil

- properly maintain all vehicles and equipment to prevent accidental contamination of soil by harmful substances (spills);
- maintain transport networks and improve drainage systems.
- avoid excessive use of salt to de-ice the roads;
- develop plans of erosion and sediment control for construction work in inland and coastal ports.

Measures to mitigate the impact on cultural heritage

- this issue should be carefully reviewed during the process of obtaining environmental permits for the planned infrastructure;
- during the planning of new infrastructure projects avoid sensitive areas;
- if necessary, carry out archeological investigations;
- immediately contact responsible authorities in case of appearance of unknown archeological sites during construction works.

Certain measures of impact mitigation should be determined on the level of project assessment.

Measures to mitigate the impact on land use

- the issues of changes in land use due to improving accessibility, should be considered in space plans;
- limit the conversion, especially of valuable arable (P1) and valuably arable (P2) agricultural lands through new projects of transport infrastructure.

Measures to mitigate the impact on material assets

- use recycled or secondary aggregates, if possible;
- use locally available sustainable materials in construction;
- develop plans for the renewal of quarries.

Measures to mitigate the impact on waste production

- reuse the excavated material in construction;
- separate and properly dispose communal and dangerous waste;
- develop and implement a waste management plan at construction sites for all projects of infrastructure construction;
- use waste from digging after analysis of chemical and physical suitability for coastal protection, for example, recharge of beaches, alluvial areas, agriculture, horticulture, forestry, development and improvement of habitats, for example, water habitats, habitats for birds, gulfs, wetlands, development or improvement of comfort, for example, landscaping, etc.
- dispose of end-of life vehicles (ELV)

Measures to mitigate the impact on population and human health

Measures to mitigate harmful impact on human health caused by air pollution are the same as those related to air quality

VI. MONITORING PROGRAM

The Strategy and its impacts on the environment should be monitored in a monitoring program, that uses the benefit of state existing procedures in the framework of other policies and legal acts, makes the most of the implementation of the planned measures for data collection in accordance with the provisions of the legislation of the Republic of Croatia and the European Union.

Description of specified monitoring measures:

Air quality:

- monitor air quality in accordance with current practice in each state/county/local network. After the construction of major business zones/objects with potentially larger impact on air quality complement the existing state/county/local monitoring with monitoring of air quality in the vicinity of such facilities, in order to monitor the impact on air quality.

Climate changes:

- develop national inventories of greenhouse gas emissions,
- develop a national strategy

Energy:

- maintain the energy balance of the country

Water:

- continue to monitor the condition of recipient water quality and emissions into water

Sea:

- continue to monitor the condition of seawater for bathing in accordance with Directive 2006/7/EK

Biodiversity and habitats, flora and fauna and ecologic network:

- continue to develop space plans,

- monitoring of EU legislation requirements on environmental protection (Directive on habitats, Directive on birds) and EU Strategy on biological diversity,
- continue to develop forestry economic plans, hunting economic plans, false color photographs for the areas of flooded forests,
- continue to develop satellite photographs of the area and create relative archives

Noise:

- develop a map of noise in accordance with the provisions

Soil:

- keeping a register of pollution,
- monitoring of soil condition

Cultural heritage:

- the implementation of relatively minimum requirements in environmental permissions for each project

Land use:

- implementation of the Agricultural Land Act (OG, 39/13),
- development of space plans of areas
- creation of orthophotos of the area as well as archives

This report is published on the website of the Ministry in accordance with Article 1, paragraph 5 of the Regulation on information and participation of public in the issues of environmental protection (Official Gazette, issue 64/08).

MINISTER

Ph. Dr. Siniša Hajdaš Dončić

Attachment:

Annex 1. Overview of comments, suggestions and opinions received during public discussion and related answers

Annex 1. Overview of comments, suggestions and opinions received during public discussion, and related answers

The public review and public discussion lasted from June 26th to July 26th, 2014. The public presentation was held on July, 1st in the premises of the Ministry of Maritime Affairs, Transport and Infrastructure. The table below shows the opinions, comments and suggestions which were received during public discussion and were taken into consideration when developing the Strategic study.

Comments/suggestions/opinions	The way they were considered in the Strategic study
Ministry of Tourism	
Please give expert evidence for all the statements on tourism and repurposing of land (analysis) as well as other activities, otherwise delete from the study.	All controversial issues related to tourism have been deleted from the Strategic study.
Ministry of Agriculture, Fishing Administration	
Chapter 2.2., Table 8: M.3 Environmental Protection. It is necessary to explain or rephrase the text so that it is clear that the implementation of the proposed measures will not result in further restrictions of economic growth in the fishing industry (aquaculture and sea fishing).	Comments related to the Chapter 2.2. refer to the Transport Development Strategy in the Republic of Croatia, the text conforms to the maritime strategy.
Chapter 7. 6. Measures to mitigate the impact on biodiversity, flora and fauna. The words: „Measures foreseen for the protection of flora and fauna will also mitigate potential impact on aquaculture“, should be replaced by: „Measures foreseen for the mitigation of negative impact on water, sea, biological diversity, flora and fauna will also mitigate potential negative impact on aquaculture activities“.	Chapter 7. 6. „Measures to mitigate the impact on biodiversity, flora and fauna.“ was paraphrased according to the comment.
Ministry of Agriculture, Administration of Forestry, Hunting and Woodworking Industry	
Chapter 3.2.4 Biodiversity of habitats, Forests: In the opening sentence the text „44% of land area“ should be replaced with: „47,5 % of the total land area of the Republic of Croatia“. The above mentioned is the data of Forest management statement for the Republic of Croatia in 2006-2015.	The data were corrected according to the comments.
We also emphasize that the Strategic Assessment of the impact on environment should include the impact of planned activities on forest ecosystems.	The study was amended by the required data.
Furthermore, the text of the study should be corrected in terms of orthography.	Correction in terms of orthography have been made
Croatian Railways Infrastructure	
Strategic study should be adjusted to the final draft of the Strategy in all parts relevant to the railway system. The regional division should be the same as in the Strategy for appropriate review of transport connections in certain regions.	The data were changed and amended in accordance with the comment.
Port Administration of Osijek	

Comments/suggestions/opinions	The way they were considered in the Strategic study
On page A-50 paragraph 1.4 in the column "Natural area that may be affected by the measures" "POVS:HR20003 72 Danube-Vukovar" should be deleted in our opinion, because the port of Osijek is approximately 14 km. away from the mouth of Drava and Danube rivers and the construction of Osijek port will not affect this area.	The comment was considered and the mentioned data was deleted from the table.
Ploput d.o.o.	
-Chapter 2.2. Objectives and Components of the Strategy, Table: 8 Measures - Maritime Transport, Code M.5, Measure Floation: after the text "... and one of the most developed coastal regions in Europe" add text "with maintained and marked maritime waterways."	The study was amended by the required data.
- Chapter 2.2. Objectives and Components of the Strategy, Table: 8 Measures - Maritime Transport, Code M.31, Measure The development of the concept of maintenance: amend the first sentence to read "The concept of the maintenance of maritime sector can be divided into: maintenance of maritime waterways and aids to navigation safety, maintenance of ports and port infrastructure and maintenance of the shipping fleet."	The study was amended by the required data.
Comments to the Main Assessment:- page A-66, Chapter 3.2. Assessment of the impact, Table 3, Code M.5:- after the text "... and one of the most developed coastal regions in Europe" add text "with maintained and marked maritime waterways."	The study was amended by the required data.
City of Rijeka	
SEA for the Strategy should be amended with: - assessment of vulnerability to adverse impacts of climate changes and - adaptation measures to prevent or reduce potential damage expected climate change can cause to transport and transport infrastructure. If it is not possible for justifiable reasons, SEA should be amended by a measure determining: - the obligation to assess the vulnerability to adverse impacts of climate changes and determine adaptation measures to prevent or reduce potential damage expected climate change can cause to transport and transport infrastructure, legal framework and procedures for implementation, authorities responsible for activities and the deadline by which the process should be carried out	The study was amended in accordance with the comment.
Koprivničko-križevačka County	
In the Study of the Main Assessment for ecologic network, in Table 3 on page. A-12, Code R6 (Railway route Križevci – state border with Hungary to Budapest) in the column Natural area that may be affected by the measures not included are POP:HR1000014 Upper stream of Drava (from Donja Dubrava to Terezino polje) and POVS HR5000014 Upper stream of Drava (from Donja Dubrava to Terezino polje). The mentioned above should be included.	The study was amended in accordance with the comment.
Traffic line code DC 10 – Vrbovec-Križevci- Koprivnica – State border with Hungary which territorially, in the area of the	The study was amended in accordance with the

Comments/suggestions/opinions	The way they were considered in the Strategic study
Drava river, is in the vicinity of the above mentioned railway track, in Table 3 under Ro.6 not recorded are Measures to reduce the impact and The impact after the implementation of the measures to reduce the impact, which should be mentioned in the Study of the Main Assessment.	comment.
Ministry of Health	
It is necessary to take into account the prescribed noise level in accordance with the Law on Noise Protection („Official Gazette", issue 30/09, 55/13, 153/13) and the Regulations on the maximum permissible noise level in the areas where people live and work („Official Gazette", issue 145/04), in order to protect and preserve human health.	The study was amended in accordance with the comments.
Primorsko-goranska County	
- in Chapter 3.2.1 Air quality and climate change the assessment of air quality should be based on the new data on emissions of air pollutants,	The Strategic study has been developed on the basis of the latest available data.
- in Chapter General state of water, rivers and lakes it is stated that the threats to the Adriatic are numerous, especially in the form of uncontrolled development, including backfilling of the coast, solid waste disposal, especially in the form of discharge of untreated municipal and industrial wastewaters, and in Chapter 4.1. Critical environmental issues in Croatia where it is stated that the greatest pressures on the Adriatic come from solid waste disposal, we believe that such statements are not entirely accurate, and that they should be supported by certain numbers	The study was amended in accordance with the comments.
- in Chapter 3.2.4. Biodiversity the listed categories of protected areas in Croatia are not in accordance with the applicable Environmental Protection Act („Official Gazette“ issue 80/13),	The comment is rejected considering that the data for the categories of protected areas in Croatia are given in Chapter 3.2.4, according to the latest data from the Register of Protected Areas of the Ministry of the Environment and Nature Protection provided by the Administration of nature protection, MZOIP
- in Chapter 3.2.5. Noise it is stated that for the four cities with the population over 100.000 (Zagreb, Osijek, Split and Rijeka) strategic noise maps are being „developed“, and in Chapter 3.2.9. Data failures it is stated that noise maps are being made; the above mentioned should be corrected as follows: for the City of Rijeka Strategic and conflict noise map for road traffic in the City of Rijeka and Strategic and conflict noise map for railway traffic in the City of Rijeka have been made	The study was amended in accordance with the comments.
- Chapter 3.2.6. Soil: We emphasize that the areas polluted due to a ruptured pipeline or due to traffic accidents should be	The study was amended in accordance with the

Comments/suggestions/opinions	The way they were considered in the Strategic study
distinguished from the so-called high risk points, „black spots“ from Chapter 2.6.2. „Black spots“ (old burdens) of Waste Management Strategy in the Republic of Croatia („Official Gazette“ issue 130/05) of which (only major) there are ten, and the statement in the Strategic study that there are 38 potentially contaminated places should be adjusted with the mentioned Waste Management Strategy in the Republic of Croatia.	comments.
One should comment on the continued reduction of valuable arable farmland partly due to the expansion of construction areas, as well as due to the construction of roads,	The study was amended in accordance with the comments.
- in Chapter Critical environmental issues in Croatia in naming the network of measuring stations for air quality monitoring one should state that the quality of air is also monitored in local networks,	The study was amended in accordance with the comments.
- in Table 20 in relation to the Objectives and indicators of environmental protection and Chapter 4.2. Determination of environmental protection objectives, we believe that all objectives must correspond with the existing applicable Croatian regulations, not only with the Directives of the European Union and space plans	The study was amended in accordance with the comments.
- in Chapter 6.2.4. Impacts on water there are no impacts on ground waters and drinking water sources in accidents, especially in karst areas,	The study was amended in accordance with the comments.
- in Chapter 6.2.5. Impacts on sea the issue of ballast water is left out completely,	The study was amended in accordance with the comments.
- in Chapters 6.2.13. and 6.2.14. in the Impact on population and human health one should emphasize the problem of traffic noise,	The study was amended in accordance with the comments.
- we consider it to be necessary to mention in Chapter 7, except for more detailed measures which should be carried out for each procedure, the impact of which on the environment will be assessed, in accordance with the Regulation on assessment of environmental impact („Official Gazette“ issue 61/14), and the process of obtaining environmental permissions in accordance with the Regulation on environmental permissions („Official Gazette“ issue 8/14), the measures after the procedure of acceptability assessment for ecologic network, which are implemented for the procedure or parts of it, which alone or in combination with other procedures can have significant impact on the objectives of the maintenance and integrity of the ecologic network area pursuant to Article 24. paragraph 2. of the Environmental Protection Act („Official Gazette“ issue 80/13),	The assessment of environmental projects is carried out at the project level and is not the subject of this Strategy study
- in Chapter 7.1. Measures to mitigate the impact on air quality, speaking of road traffic, we consider it important to add measures to improve the flow of city roads,	The study was amended in accordance with the comments.

Comments/suggestions/opinions	The way they were considered in the Strategic study
- in Chapter 7.12. Measures to mitigate the impact of waste should be adjusted to the measures from the existing Sustainable Waste Management Act.	The study was amended in accordance with the comments.
- The Main Assessment stated that the detailed impacts on EM and protection measures will be reviewed in the context of implementation of each procedure, but we believe that at the strategic level one could better define the mitigation measures of planned activities' impact as well as the impact of the activities itself	The study was amended in terms of determining protection measures, but the details should be reviewed in the context of implementation of each procedure.
- R.2 The description of the measure relates to Zagreb - Rijeka, and the measure is Osijek - Pečuh. In accordance with the above mentioned one should adjust the column with Natural areas	The study was amended in accordance with the comments.
- R.3 In the column with the natural areas POVS HR2001353 Lokve-Sunger-Fužine and POP HR1000019 Gorski kotar and Northern Lika are not listed	The study was amended in accordance with the comments.
- Ro.4 In the column with the natural areas HR2000200 Zagorska peć near Novi Vinodolski should be added	The study was amended in accordance with the comments.
- Ro.10 In the column with the natural areas POP HR1000033 Kvarner islands and POVS HR200643 Obruč, HR200658 Rječina should be mentioned	The study was amended in accordance with the comments.
- A.6 In the column with the natural areas POP HR1000033 Kvarner islands should be added	The study was amended in accordance with the comments.
- M.8 We believe that in the column with the natural areas one should not mention POP HR1000018 Učka and Čičarija as well as POVS HR2000601 PP Učka because of the distance and basic goals of protection.	The study was amended in accordance with the comments.
Željko Tufekčić, Advice from the interested public	
In Chapter 5 (Main Assessment) on page 72, 5. Measures to mitigate adverse impacts of the implementation of the Strategy on protection goals and integrity of the ecologic network area. The following measures are mentioned: Measures to mitigate the impact of inland navigation on river habitats include 1: - elimination or renewal of old infrastructure in order to improve the river ecology; -renewal or removal of armature along the river banks and the use of more natural embankment techniques... This is a bad translation from English, armatures are presumably water structures or aids to navigation safety; „embankment techniques“ we are not sure what this means, the problem is likely in the type and dimensions of the material used)	Translation of the text has been revised.
-Additional measure which can ban the ship navigation in some parts of ecologic network calls into question whether Croatia should strategically determine the inland waterway navigation at all.	The Measure to mitigate the bans of ship navigation in Chapter 7 was paraphrased.

Comments/suggestions/opinions	The way they were considered in the Strategic study
Ministry of the Environment and Nature Protection	
<p>Given that some measures of the Draft proposal of the Strategy omitted certain areas of the ecologic network they have impact on, we suggest the development of cartographic representation of all measures of the Strategy that have a defined space element (roads, railways, ports, inland waterways) in relation to ecologic network areas. Using this basic space GIS analysis it will be easier to identify the impacts.</p>	<p>Such cartographic representation can not be developed at this stage of the Strategy development, given that the Strategy does not include accurate data on routes for each single measure. The representation can be developed only in the revised version after making the Transport model. However, to determine the elements of ecologic network that can be affected, and considering that the majority of the measures of the Strategy refer to expansion/improvement of the existing infrastructure, the GIS database was used http://natura2000.dzzp.hr/natura/</p>
<p>Regarding the improvement of roads and railway lines it is necessary to consider the impacts of work on ecologic network and changes in relation to meeting the additional technical criteria (corrections of the route, the extension of the corridor of existing roads, construction works) as well as the ways of crossing the watercourses which are part of the ecologic network.</p>	<p>This analytical approach is the subject of an environmental impact assessment of projects. At this stage, the details such as geometrical and operative characteristics of the infrastructure, alternative solutions, the necessary accompanying measures will be clear.</p>
<p>For measures of the Strategy that are being implemented in the karst part of Croatia the impact has not been considered taking into account the karst ecologic systems or aims of preservation such as habitat type „8310 Caves and pits closed to the public“ which are one of the aims of preserving the area of ecologic network such as „HR5000022 Velebit Nature Park“ through which, for example, passes „Ro.4 A7 Križišće - Žuta Lokva“, or „POVS : HR2001010 Paleombla – Ombla“ which is mentioned as an area of the impact of the measure „Ro.11 Dubrovnik – State border with Montenegro“ and measures „Ro.16 Preparation for the accessibility of Dubrovnik after the accession of Croatia to Schengen“. This observation should also be taken into account for other measures in the mountain</p>	<p>The observations have been considered.</p>

Comments/suggestions/opinions	The way they were considered in the Strategic study
and coastal part of Croatia (the hinterland of Split, Rijeka, Ploče, Dubrovnik, Krk island, etc.).	
<p>In Chapter 3.1. Methodology, in Table 1 numerical designations are given in accordance with the usual range from -2 to +2. The explanations have to adjusted to the scale for the assessment of the impact degree of Regulations for the assessment of the acceptability of procedures for the ecologic network within the COAST project, Oikon 2011, page 31, Table 2.</p> <p>The recommended scale for assessing the impact degree (http://www.dzpz.hr/dokumenti_upload/20130607/dzpz201306071051390.pdf).</p>	The Table has been changed in accordance with the required data.
<p>In Chapter 3, Table 3 for clarity it is necessary to provide numerical designation of the impact for each single measure of the strategy in accordance with the given standard scale. It is necessary to mention the key impacts related to the aims of preservation in the areas of ecologic network and suggest the measures to mitigate the determined impacts. Apart from the measures of mitigation specified for the elements of plan the assessment of the impact of which contains the label of uncertainty "questionnaire", it should be stated that (considering the recognized uncertainty of the assessment) on the basis of available data it is not possible to predict whether the suggested measures will mitigate the significant negative impacts on the aims of preserving the integrity of the ecologic network.</p>	The Table has been changed in accordance with the required data, numerical designations have been added.
- for measure R.2 the description for measure R.3 has been used.	The description has been corrected.
- for measure R.9 apart from the mentioned areas it is necessary to consider the impacts for the area „HR2001311 Sava downstream from Hrušćice“ concerning the crossing of Sava if something changes.	Changed in accordance with the comment.
- for measure „Ro.10: Existing part D102 on the island of Krk passes through the areas of ecologic network „POP HR 1000033 Kvarner islands and POVS HR20001357 Krk island“ as well as near the area „POVS HR2000891 Lake Njivice“ and it is necessary to consider the impact on these two areas of ecologic network as well.	Changed in accordance with the comment.
- for measure „Ro.11 (Dubrovnik – State border with Montenegro, The corridor of Dubrovnik – State border)“ mentioned are the areas „POVS HR2001010 Paleombla – Ombla, HR2000946 Snježnica and Konavosko polje“, „HR2001248 Spring Duboka Ljuta and HR3000170 The waters along the Konavle rocks“, but it is not explained why the impact on these two areas of ecologic network is not expected, or if it is discovered that there are significant impacts it is necessary to suggest the measures of mitigation	Changed in accordance with the comment, the impacts have been added.
- for measure „Ro.16 Preparation for the accessibility of Dubrovnik after the accession of Croatia to Schengen“ the content of which is only roughly defined in the strategy, it is necessary to consider	The requested activities will be considered at the project

Comments/suggestions/opinions	The way they were considered in the Strategic study
the impacts on the areas of ecologic network on the basis of the known elements and possible alternative solutions	level.
- for measure „R.1 Zagreb - State border with Slovenia to Ljubljana“ it is necessary to consider the impacts related to the works necessary for the fulfillment of technical criteria in the areas where the railway passes near the areas of ecologic network „POVS HR20001070 Sutla“ (crossing through Sutle near Kačkovec, several places where the route is approaching the watercourse	Changed in accordance with the comment, the impacts have been added.
In terms of the Nature Protection Act („Official Gazette“, issue 80/13) the areas Natura 2000 are considered to be an ecologic network. Thus in the Main Assessment the words „Natura 2000“ should be replaces with the words „ecologic network“ when speaking of the areas Natura 2000 in Croatia.	Changed in accordance with the comment.
In relation to the marine areas of the ecologic network it is explained that the Natura 2000 at sea is not defined, although the Regulation on the ecological network („Official Gazette“, issue 124/13) mentions the areas of ecologic network on land and at sea.	In the text it is not stated that the area NATURA 2000 is not defined, only that the areas of intervention are not clearly defined for some of maritime measures (such as M14, M.1, M.2, etc.) the mentioned areas can not be defined at the moment.
Regarding the measures relating to the development of inland waterways „I1 Improving the waterway of the Danube and Drava Rivers to Osijek“, „I2 Improving the waterway of the Sava River“ and „I.7 Construction of the multi-purpose channel Danube-Sava“ we believe that it is necessary to describe the possible impacts with more details, give adequate evaluation and consider alternative solutions, and only then include these procedures in the strategy. In this sense, we believe that the score -1 (moderate negative impact) for these procedures is not reasoned enough. Especially for measures „I2 Improving the waterway of the Sava River“ and „I.7 Construction of the multi-purpose channel Danube-Sava“ considering the size of the project and its location within the area of ecologic network we believe that the score is not adequate. If the contractor considers there is not enough information to determine the impact with certainty, it is possible to put the score „minus two with a question mark“ (-2?). That score means that the significant adverse impacts of the procedure have been recognized, but due to the fact they were not sufficiently defined, they should be assessed on the lower levels of planning or on the level of the assessment of the procedure. Also based on the available documents it is necessary to consider in detail the impacts of the measure „I2 Improving the waterway of the Sava River“ regarding the default/planned navigation class, or the impacts of the measure „I1 Improving	The assessment of the impact has been changed with a note about the need of further analysis at the project level.

Comments/suggestions/opinions	The way they were considered in the Strategic study
<p>the waterway of the Danube and Drava Rivers to Osijek“.</p> <p>Regarding the projects on the Sava it is necessary to consider on the level of strategic assessment the increase of impact intensity related to different variants of implementation (local minor intervention, increase to the IV class of navigation or even to the V class of navigation in accordance with the available data.</p>	
<p>Measure „I.7 Construction of the multi-purpose channel Danube-Sava“ represents the largest and the most complex procedure foreseen in the Draft proposal of the Strategy related to the internal navigation, which can significantly affect the area of the ecologic network, and thus it is crucial to describe significant impacts of this project on the ecologic network in detail and consider alternative solutions.</p>	<p>The assessment should be made at the project level.</p>
<p>In Chapter 3, Table 3 for measures I1 and I3, I4, I5, I6, I7 there are different types of projects (waterway, port), but no clear criteria are listed, only some impacts of these measures even though their impacts were systematically processed in the same chapter on page A70, and the mitigating measures are listed in Chapter 5. Therefore the table should be amended and adjusted to the description on page A70 or measures in Chapter 5.</p>	<p>The Table has been changed in accordance with the comment.</p>
<p>In Chapter 3, Table 3 for measures I1 and I3, I4, I5, I6, I7 there are different types of projects (waterway, port), but no clear criteria are listed, only some impacts of these measures even though their impacts were systematically processed in the same chapter on page A70, and the mitigating measures are listed in Chapter 5. Therefore the table should be amended and adjusted to the description on page A70 or measures in Chapter 5.</p>	<p>The Table has been changed in accordance with the comment.</p>
<p>Regarding the development of ports on inland waterways and sea ports and terminals it is particularly important to consider the impacts of projects together with other plans, projects and programs, given that the development of ports only by the expansion of the port area includes the development of various access infrastructure, risks associated with the pollution and the spread of invasive species, etc. Besides in the similar way the impact of the development of inland waterways and different development types of sea transport should be considered</p>	<p>The required data have been included in the Strategic study.</p>
<p>In Chapter 4. Review of other suitable alternatives (alternative solutions) and impacts of alternative solutions on the aims of preservation and integrity of the area of ecologic network, when comparing different types of transport it is necessary to take into account the impact on the ecologic network. This is especially important when comparing railway transport with the inland waterway transport and given that in the Main Assessment and Strategic study significant negative impacts of inland navigation on biodiversity and water are indicated several times. Finding alternative solutions for planned projects with significant negative impact is one of the most important</p>	<p>The requested data have been added to the documents.</p>

Comments/suggestions/opinions	The way they were considered in the Strategic study
contributions to the Strategic study.	
<p>In this Chapter we believe that it is necessary to add detailed measures to mitigate the impact for each segment of traffic. When defining the measures it is necessary to use the existing practice, guidelines and handbooks of the European commission for Natura 2000 areas (for example, for sea ports, waterways) and other handbooks for the maintenance of biodiversity in the European Union (for example: Wildlife and Traffic: A European Handbook for Identifying Conflicts and Designing Solutions).</p>	<p>The existing practice has been taken into account for determining the impact and measures of mitigation. SEA provides broad guidelines regarding these issues. A more detailed analysis should be made at the level of projects.</p>
<p>In Chapter 5. where the measures to mitigate adverse consequences of the implementation of the Strategy on the aims of preservation and integrity of the ecologic areas are given, it is necessary to explain certain terms: -what is meant by „drains“ – connection of old riverbeds and dead river arms or something else; - It should be clarified, whether the term „pouring“ and previously mentioned „spill“ refer to accidents (pollution by motor fuels, lubricants, release of cargo, waste water, etc.) and use one term if possible; -Explain the measures to prevent illegal disposal of waste and waste water related to waterways;-Not adequate is limiting the measures to a nature reservation given that the Main Assessment refers to the areas of ecologic network and the measure related to recreational traffic should be related to the impacts on the aims of preservation and integrity of the area;-Please clarify what is meant and how the measures related to rest areas for „migrating birds“ will be implemented</p>	<p>The comment relates to the problem of translating from English into Croatian. The text of the Study and Main Assessment has been corrected in accordance with professional terms.</p>
<p>In Chapter 6. "Conclusion" it is stated that all compensatory measures should be determined and implemented to ensure the protection of the coherence of Natura 2000 (in accordance with the provisions of Article 6 (4). of the Directive on habitats. It is not clear what this measure means in the Main Assessment. According to the provisions of Article 6 (4) of the Directive on habitats, compensatory measures are determined if a significant adverse impact is stated for certain project, that can not be removed by mitigation measures, has no alternative and the prevailing public interest is determined. Main Assessment first of all needs to determine that some projects have a significant negative impact, and it has been determined for no projects here.</p>	<p>The part of the text regarding compensatory measures has been deleted from Main Assessment.</p>
<p>The Strategy should give a connection with the development of infrastructure for alternative fuels in the sense of energy strategy and develop it as special measures in the Strategy, matrix structure Chapter 4. Measures to achieve multimodal objectives with the level of compliance. Proposal of EP and the Council's Directive on the development of infrastructure for alternative fuels considers the following: electrical energy,</p>	<p>The comment refers to the Transport Development Strategy in Croatia. The issues of use of alternative fuels and development of infrastructure for alternative fuels will be considered in</p>

Comments/suggestions/opinions	The way they were considered in the Strategic study
hydrogen and natural gas (compressed natural gas - CNG and liquefied natural gas – LNG) which should be linked with the development of infrastructure as special measures for road traffic, inland waterways, maritime traffic, urban, suburban and regional traffic.	detail in the revised Transport Development Strategy in Croatia, the start of its development is planned for the second half of 2016. Use of alternative fuels has been suggested as a measure in Strategic study.
The Strategy as a strategic document didn't sufficiently deal with the development of infrastructure for alternative fuels. (...) Strategic study gives EU objectives for reducing greenhouse gas emissions, but does not elaborate alternative replacement environmental fuels, nor the bottling plants of alternative fuels and possible solutions.	The comment refers to the Transport Development Strategy in Croatia. The issues of use of alternative fuels and development of infrastructure for alternative fuels will be considered in detail in the revised Transport Development Strategy in Croatia, the start of its development is planned for the second half of 2016. Use of alternative fuels has been suggested as a measure in Strategic study.
Loss of land and farmland should be stated as weakness.	Loss of land and farmland has been stated as weakness.
Due to the use of electric railways (which are relatively few in Croatia at the moment, but the trend is an increase of these types of railways, as required by the White Paper), it is very important to take into account the IONIZING RADIATION, because there is a higher concentration of ionizing particles in the air, which has a negative impact on human health. Negative impact of ionizing radiation of electric railways should be stated as a weakness.	Consequences of ionizing radiation have been added to the documents.
For road and railway traffic that elaborate the noise, not specified are the measures of protection which should be implemented, such as NOISE BARRIERS along the roads and railways, which are highly important in the construction of roads and railways in „critical points“ (not only near settlements to protect the people, but also in places near natural reservations to protect the animals – flora and fauna).	Noise barriers as noise protection measures are listed in the documents.
For railway and ship transport, engines are mainly driven by diesel/fuel, and their use releases CO, CO ₂ , NO _x , SO _x , hydrocarbons and particulate matter, thus these types of pollution, that are not negligible, should be stated for these transport types, however emissions are lower than in road	The mentioned types of pollution have been added to the documents.

Comments/suggestions/opinions	The way they were considered in the Strategic study
transport.	
For ship transport, the COOLING OF THE SEA due to ships carrying liquefied gas should be mentioned - in transportation/loading and unloading of liquefied gas (LNG and LPG terminals and offshore terminals), which significantly affects the ecosystem of the sea.	The mentioned types of pollution have been added to the documents.
Further on, apart from mentioning the problem in the maritime traffic - entering of invasive species, the way they enter is not specified (bottom of ship, anchors, ballast water...), which is important to determine protection measures, which are not specified (in any of the two documents);.	Invasive types are mentioned in the documents
For railway transport, not specified is the possibility of soil and water pollution due to maintenance of railways, use of different chemicals to destroy weeds and vegetation near railways and water tightness of the embankment of the railways. Such contamination of ground waters is very important for areas near agricultural zones and drinking water.	The mentioned impacts have been added to the documents.
For road traffic, it comes to soil and water contamination due to leaching of oil and other particles (for example, particulate matter and heavy metal particles released due to brakeage and friction of tires on the roadway) which is not stated, and the negative impact of which on the environment can't be neglected	The mentioned impacts have been added to the documents.
For air transport, the emission of adverse gases is stated, which has the impact on the air quality, but not mentioned is the danger of adverse gases emission in air traffic. Emission of GHG (greenhouse gases) during air traffic is much lower, but has numerous and serious negative impacts on climate change	The mentioned impacts have been added to the documents.
For air traffic as well as road traffic not mentioned is the impact on cultural heritage, which can lead to its possible damaging as a result of: noise, vibrations and adverse gases emissions.	The mentioned impacts have been added to the documents.
Review of pipeline transportation/freight has not been given. Pipeline transport is not overly represented in Croatia, but in terms of environmental protection as one of the cheapest and most acceptable types it should be considered especially for the economic development of the Republic of Croatia. Its eventual negative impact on the landscape can not be neglected (both aesthetically and environmentally, i.e. in terms of environmental protection measures in case of accidents – soil and water contamination is possible, especially if the pipeline passes near water-protected and agricultural areas).	The comment refers to the Transport Development Strategy in Croatia. The issues of pipeline transportation will be considered in detail in the revised Transport Development Strategy in Croatia, the start of its development is planned for the second half of 2016. Impact on soil due to hazardous liquid spills is described in Strategic study/Main Assessment.
On page 37. referring to the Main priorities of the road sector, in paragraph 4. after the words „reduction of impact on the	The text has been changed in accordance with the

Comments/suggestions/opinions	The way they were considered in the Strategic study
environment“, it is necessary to add „reduction of greenhouse gas emissions“.	comment.
On Figure 12. on page 46., regarding the Pressures, instead of abbreviation „GHG“ put „greenhouse gases“ or give the explanation of abbreviations in the document, and in Impacts add: impacts on climate changes.	Abbreviation has been replaced by the text, climate changes have been added and additionally explained.
On page 47. the term „prognosis“ should be replaced by the term „projections“.	Changed in accordance with the comment.
On page 76. the term „pays foulant” should be replaced by „pays polluter”.	Changed in accordance with the comment
On page 76. it is not clear how the objective for traffic until 2020 has been determined - reduction of greenhouse gas emissions until about 20% under the level of 1990. We consider the specified objective to be unrealistic.	The objective has been paraphrased and additionally explained.
In Chapter 3.3. 1. there are no European Union provisions concerning determination of standard emission values for new light commercial vehicles as part of the integrated approach of the Union to reduce CO2 emissions from light vehicles as well as EU-strategy of the adjustment to climate changes, as well as the document Adapting infrastructure to climate change, which deals with the problem of adaptation of traffic infrastructure to the impacts related to climate changes.	The data have been amended in accordance with the comment.
In Chapter 3.3.2. there is no Air Protection Act („Official Gazette“, issues 130/11, 47/14) and Protection Plan of the Air, Ozone Layer and Mitigation of Climate Changes in the Republic of Croatia from 2013 to 2017 („Official Gazette“, issue 139/13), which determine protection measures of air quality and reduction of greenhouse gas emissions	The data have been amended in accordance with the comment.
In the part referring to the Operational program next to programs in 2007-2013, the Program for 2014-2020 should be mentioned	The information about OP for 2014.-2020. has been added
In Chapter 4.1. Crucial issues of environment in Croatia, climate changes should also be mentioned. Regarding objectives of environmental protection on page108, there are no objectives mentioned in the Air Protection Act - reduction and prevention of air pollution and mitigation and adjustment to climate changes.	Climate changes have been added to Chapter 4.1.
Although Chapter 4.2. Determination of environmental protection objectives mentions obligations under international agreements, for example, Kyoto Protocol, we believe it is necessary to mention the reduction of greenhouse gas emissions and adjustment to climate changes.	The data have been amended in accordance with the comment.
In Table 20. Objectives and indicators of environmental protection Of Strategic study of the impact on environment for Transport Development Strategy in Croatia, on page 90 in Table 64: Procedures for monitoring of environmental impacts of the Transport Development Strategy in Croatia, regarding emissions of greenhouse gas the term drainage is incorrectly	The text has been changed in accordance with the comment. The objective of 20% has been paraphrased.

Comments/suggestions/opinions	The way they were considered in the Strategic study
used instead of reduction of emissions. The indicator 20% of reduction of emissions refers to the entire European Union in 2020 and entire emission, not only traffic sector.	
Also in Table 63. The use of sustainable urban drainage system in new improved infrastructure projects can not be used as indicator of greenhouse gas reduction.	The use of drainage system is an adjustment measure (suggested by Jaspers).
It is necessary to make the terms equal in the entire document, air pollution and air quality.	The terms have been made equal according to the comment.

The results of the cross-border cooperation

The opinions of the Republic of Serbia, Hungary have been considered during the development of the Strategy as follows:

- The Republic of Serbia (Number: 350-01-010/14-16 dated 10.9.2014):
 - Recommendation from paragraph 1. was accepted and paragraph 6.3.“Cross-border impacts“ Chapter 6. „Assessment of the impact of the Transport Development Strategy on the environment“ was complemented with the requested allegation that according to the provisions of The Republic of Serbia in the field of environmental protection of the area near Danube and Sava a higher number of natural areas are protected, that is why these watercourses were identified as ecological corridors of international importance of the Ecologic network of The Republic of Serbia.
 - Recommendation from paragraph 2 was accepted that paragraph 9.1 should be complemented with a new preventive measure suggesting that during strategic planning of further development of inland waterways on cross-border rivers cooperation with neighboring countries is ensured in accordance with the UN-convention of Economic Commission for Europe (UNECE) on cooperation for protection and sustainable use of the Danube River, and the Strategy already ensures the compliance of the Transport Development Strategy in the Republic of Croatia with the Management plan of the Danube River Basin (developed by the international commission for the Danube River Basin) and Management plan of the Sava River Basin (developed by the international commission for the Sava River Basin)
 - Recommendation that paragraph 9.1. should be complemented with the allegation that there is an assessment of the negative cross-border impacts of the implementation of the Transport Development Strategy in the Republic of Croatia in part referring to river traffic was accepted noting that it was already mention in Chapter 9 in the description of the impact on water.
 - Upon request comments from paragraph 3. Strategy, Strategic study and Main Assessment of the acceptability for ecologic network were complemented noting that cartography presentations are informative in nature and are used only for the purpose of this document in order to avoid prejudging of borders.
- Hungary (Number: KMF/350/2014. dated 29.8.2014.):
 - The Republic of Croatia agrees that the interest of both countries is that the natural wealth of the rivers of Mura, Drava and Danube, as well as their surroundings is preserved in a natural state and that eventual future activities in this area implement

all possible measures for their protection. In this sense the Strategic study of the impact on the environment was refined in a way that the shared reservation of biosphere Mura-Drava-Danube was included in Chapter 6.3. A more detailed description of the impact on this area should be assessed at the project level. The Republic of Croatia will inform the Republic of Hungary in the context of cooperation which has already been achieved in this area, of its future activities in the sense of improvement of transport infrastructure.

- Italy (DVA-2014-0036693 dated 10.11.2014.):

The opinion of Italy was not considered in the development of the Strategy, given that Italy submitted its opinion in November, 2014, 3 months after the deadline agreed during cross-border consultations. Information that the Republic of Croatia develops the Transport Development Strategy for the period of 2014-2030 and that a strategic assessment of the impact on environment is being carried out for it, together with the call for expression of interest for participation in the process of cross-border consultations were submitted to Italy in March, 2014. Upon expressed interest in participating in the process of cross-border consultations, the Ministry of the Environment and Nature Protection submitted Draft proposal of the Strategy to Italy together with Strategic study of the impact on environment and Main Assessment for the ecologic network in July, 2014. The deadline for submission of answers was 30 from the receipt of documents. However Italy submitted its opinion only in November, 2014 (3 months after the deadline agreed during cross-border consultations), therefore the Ministry of Maritime Affairs, Transport and Infrastructure could not take this opinion into consideration during the development of the Strategy, but since the beginning of the development of the new Transport Development Strategy in the Republic of Croatia¹ is planned for the second half of 2015, it will consider the data of Transport model and take into consideration the opinion of Italy as well.

Italy in its opinion concluded that the Transport Development Strategy in the Republic of Croatia conforms to macro-regional strategies, particularly part 2 „Connecting the Region“ of The Strategy for the Adriatic and Ionian Region, and reminded that during the development of the Strategy special emphasis should be made on the aspects regarding the quality of seawater with special attention to biodiversity of sea stream, that will be the subject of strategic impact assessment on the environment for the new Strategy.

¹ The Strategy of 2014 was developed to meet the ex-ante conditions of the European Union in terms of granting funds from the European Union, however it is not complete because the Republic of Croatia didn't have a developed Transport model at the time of its creation, that would provide relevant input data about the transport sector in Croatia, that is why the second phase of its development was immediately planned, Traffic Development Strategy in the Republic of Croatia in 2016.-2030.