



transport planning

fuel-efficient

green vehicles

car sharing

## Bulgaria: Transport

Recommendations for strategy, measures and projects in OP Transport 2014-2020

### Problem analyses and proposals on national level

We would like to assert the importance of four of “Ten goals for competitive and resource efficient transport system” listed in the European Commission White Paper on transport (COM(2011) 144 final), stressing that these are very relevant and executable on national level in case of Bulgaria:

- Halve the use of ‘conventionally-fuelled’ cars in urban transport by 2030; phase them out in cities by 2050; achieve essentially carbon-free city logistics in major urban centres by 2030.
- 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by efficient and green freight corridors. To meet this goal will also require appropriate infrastructure to be developed.
- By 2050, connect all core network airports to the rail network, preferably high-speed; ensure that all core seaports are sufficiently connected to the rail freight and, where possible, inland waterway system.
- Move towards full application of “user pays” and “polluter pays” principles.

These strategic requirements are supported by the Environmental Assessment of the General Transport Master Plan 2030 (GTMP) – the most recent strategic transport document, specifically with Position No. 1-1/2010 of the Minister of Environment and Water. The major environmental objective of the Plan is the development of sustainable transport: “Balanced development of various modes of transportation and rise of the share of railway transport in order to reduce emissions.”

Monitoring of the goals is to be carried out using the following indicators for determining the project impacts and results:

- Shifts in GHG quantities (CO<sub>2</sub>, N<sub>2</sub>O, CH<sub>4</sub>) in tonnes.
- Shifts in the ratio between transported freight and passengers with automobile and railroad transport in percentage.

The following issues need to be priorities in the Operational Programme Transport 2014-2020, as they are in the Europe 2020 and Bulgaria 2020 strategies, in order to achieve the main goal of a sustainable transport system while increasing mobility.

### Reduction of oil dependence and harmful emissions

According to the GTMP the systematic underfunding of railways has not solely impeded their strategic development, but also prevented effective maintenance and led to the collapse in services we are currently witnessing.

Together with the Government's priority support of the road sector, this has led to the following situation in the country's transport system: “Statistical data from recent years show that transportation of approximately 2/3 of the total volume of freight - 64% (or over 60 million tonnes annually) and 2/3 of the total passenger flows in the public transport sector - 66% (or over 640 million annually) is carried out by road transport.”<sup>22</sup> Road freight transport prevails and covers 89 % of the goods transported<sup>23</sup>. The one-sided deep dependence of our country on road freight and passenger transport has resulted in numerous negative consequences:

22 Ministry of Regional Development and Public Works: Priorities for the development of road infrastructure of the Republic of Bulgaria by 2020, 2010

23 GTMP, p.42



- traffic accidents are a major factor in mortality among the economically active population (deaths from road traffic accidents alone cost the budget € 600 million a year<sup>24</sup>);
- main roads and access routes to major cities are congested on a daily basis, resulting in significant economic losses,
- social pressure due to fuel prices is increasing,
- and last but not least - systematic contamination of the environment by exhaust emissions and other harmful physical factors.

Despite years of public funding of roads and highways, including within the current OP where financial resources for carbon intensive projects are nearly as twice as high as for rail in terms of their indicative value, none of the fundamental transport problems has been solved.<sup>25</sup>

The current OPT budget certainly does not meet the priorities set by the environmental assessment of the GTMP for "balanced development of different modes of transportation and rise of the share of railway transport to in order to reduce emissions." Problems with unbalanced investment priorities and project implementation were also confirmed in the mid-term evaluation of the Operational Programme Transport 2007-2013.

Up to now the proposed indicative levels of road and railway projects and of the major TEN-T network are worth EUR 2.4 bil. and EUR 3 bil. respectively. Those financial parameters are insufficient to meet the needs of a transition to a balanced low carbon transport system. The situation is worse when examining the financial parameters of the extended TEN-T network, which has EUR 1.8 bil. for roads and one railway infrastructure project worth EUR 376 mil.<sup>26</sup>

On the other hand, there is a large potential for the development of low carbon transport projects and network extension, namely because of the need for better connection of underdeveloped regions such as the Rhodope mountain range, the northwest and the northeast of Bulgaria, as well as many of the rural areas with their respective regional hubs. In such a way the required alternative to private cars would be provided. The low quality of public transport services, or their complete lack in some areas, would also be compensated.

We propose to shift more funds towards rail. A portion of the road allocation can also be focused on the acquisition of low carbon vehicles. Through appropriate planning this can encourage research and innovation in the sector and will also contribute to the development of a modern market with progressive transport related technologies. An element that has to be developed in the next programming period is the introduction of alternative fuel systems and installations (e.g. electricity, hybrid, methane, LPG, HHO hydrogen systems) conjunct to existing transport vehicles in all sectors. In this way modest investments will lead to a rapid reduction of both emissions and general fuel expenditure.

In terms of the specific recommendations of the White Paper, a clear objective needs to be set for reducing emissions of greenhouse gases from transport by 2030 and 2050.

An analysis of oil dependency for the national transport system and a clear strategy and objectives for its reduction need to be developed, including changes of passenger and freight transport patterns through the financing of a massive information campaign on the harm caused by car use and the positives of public and environment friendly modes of transport.

## People's access to public transport and mobility

From the perspective of public needs, the Eurostat analysis EUROPOP 2008 and the EC's 2009 report concerning the ageing of the population<sup>27</sup>, it is expected that senior citizens in the EU aged over 65 will make up 24% of the EU population in 2020 and 29% in 2050 compared with 17% nowadays. One in six EU citizens also has some degree of disability and about 20% of people aged over 75 suffer drastic restrictions in their daily lives. With increasing life expectancy in the elderly, the number of those who have severe movement constraints is expected to increase as the group becomes increasingly large relative to the economically active population.

Other vulnerable groups should also be taken into account - children, people with special needs, minorities or cultural restrictions such as gender, who for social, health or demographic reasons, have limited or lack of access to individual vehicles.

Page 8 of the Bulgarian Strategic Investment Plan 2020 (SIP) is quoted in the GTMP's conclusion, stating that "increased general prosperity and the higher number of personal cars will continue to be a major cause for the lack of competitiveness

24 GTMP, p.92

25 More detailed analysis has been written by the Coalition in 2011 and can be accessed (in Bulgarian) at <http://www.fesbg.org/node/263/> as well as a position paper on the 2012 Strategic Investment Plan at <http://www.fesbg.org/node/282>

26 Presentation at the new OP working group, 18.09.2012

27 European Commission, DG Economic and Financial Affairs: 2009 Ageing Report: Economic and budgetary projections for the EU-27 Member States (2008-2060)



of bus and especially of railroad travel as opposed to car transportation, unless significant improvements are made.” Such “significant improvements”, needed to shift the transport system’s focus from individual carbon-intensive vehicles to a fully operational and efficient public transport system which meets both the demographic realities and environmental standards, are among the key priorities for the achievement of a sustainable transport system as recommended by the EC and required by the environmental assessment of the GTMP.

However, such a transformation cannot be accomplished by investing in new infrastructural projects alone. As it is pointed out in the GTMP in the analysis of the faults of the national transport system, “current capacity of the transport infrastructure is to be considered to be one of the least problematic elements”. The major problem is the “lack of continuous and consistent transport networks, providing rapid and safe movement over longer distances, both within Bulgaria and also in terms of transit”. Current investments are targeted mainly in large urban centres. Overconcentration on strengthening links between larger urban hubs stimulates and aggravates peripheral depopulation.

Our proposal is that these problems can be overcome only by careful planning of the interaction between transport networks at both local and regional level with major road and rail routes.

In regards to regional and local railroad projects, possibilities can vary according to specific needs - standard railroad, light rails or even trams. Bicycle transport should not be underestimated in either (sub)urban or rural areas. For example, a strategic solution might lie in the improvement of the infrastructure of cultural and tourist sites not only via the most carbon intensive means, e.g. construction of roads, but by building rail connections and bike lanes instead. Practice shows that such “small” projects, in terms of scale and cost, are easy to implement in the given timeframes. They also prove to be, in cost-benefit analyses, much more economically profitable for the affected population.

Defining needs at a local level and regional planning may be achieved within the currently drafted Integrated Plans for Development, and thus meet the requirements of Article 87.2 of the Common Provisions Regulation.

Concrete activities of the investment plan should be set up for adequate planning and development of a “door to door” transport system that satisfies the needs of all groups of society, without discrimination, especially towards the vulnerable. It is necessary to plan and carry out local and regional public transport schemes (or secondary connectivity) through the implementation of Integrated Territorial Investments (ITI) according to Art. 99 of the Common Provisions Regulation.

In general, we believe that for the achievement of the goal “sustainable national transport system”, the OP Transport 2014-2020 must adopt a shift from only infrastructure construction towards improvement of mobility through the financing and realization of a set of measures which will lead by 2020 to “...uninterrupted, successive and permanent transport networks to ensure fast and safe movement for longer transport distances within, to, from and through Bulgaria” including the purchase of low-carbon vehicles.

## Project assessment

After the strategic choice of priorities, project selection is the most important field. During recent years we have identified the following problems.

The Strategic Investment Plan 2014-2020, which is based on the Transport Master Plan, contains a significant defect, namely: on p. 5 (p. 32 TMP) in the table summarizing the data about the forecasting models, the fuel price is given as EUR 1.13 per litre in 2015 and EUR 1.23 per litre in 2030, as estimated by the consultant. The petrol prices in October 2012 (A95) in Bulgaria are EUR 1.37 per litre which shows that the projections above are very far from the reality. This projection also contradicts the conclusions of the White Paper below.

The Impact Assessment<sup>28</sup> of the White Paper makes “latest projections similar to those of the International Energy Agency”, with oil prices of USD 59/barrel in 2005, increasing to USD 106/barrel in 2030 and USD 127/barrel in 2050 (at the USD exchange rate in 2008). The above projections mean that the fuel price for the transport sector will be EUR 600 billion more in 2050 compared to 2010 or a more than 70% increase over the period under consideration.

We consider that this error in the forecast model is a substantial manipulation of the cost and benefit analysis (CBA) of the road projects in the GTMP and calls into question their economic viability.



The lack of alternative proposals is a further main gap in project assessment. For example, regarding roads the usual practice in the Environmental Impact Assessment is to propose two-three alternative routes similar to each other but an alternative mode of transport is never evaluated.

Also the project list for the next programming period contains a project for navigation on the Danube via deepening of the riverbed. Lack of quality strategic environmental assessment and cost-benefit analysis of such a project does not allow the appropriate management decisions to be taken. The project is conceived as an array of relevant technical requirements, mostly in accordance with the needs of big shipping companies, without taking into account the differences between heavily modified Western rivers and the Danube, especially its specific hydromorphological characteristics, environmental features and the particularities of the Lower Danube's river fleet. These problematic issues make it highly unlikely that the project will obtain environmental approval without substantial changes. In either case, the result will lead to a significant delay similar to the ones we have witnessed within the current OP.

If adequate assessments were to be carried out, it is very likely that alternative options would be preferred in this part of the river, such as reloading to shallow drafted ships (in use by the Bulgarian fleet) or the formation of an intermodal terminal at Vidin from where transport to both major endpoints (Varna and Odessa) would be done by train. In any case, it is better to consider options that are more environmentally sound and economically viable. The annual investment needed to maintain the required riverbed depth parameters is not to be underestimated, as it will be funded by the national budget.

The proper assessment of the projects and their alternatives is very necessary to ensure their contribution to the priorities of the OP. Our concrete proposals are:

- Adequately implement the Partnership Principle in the preparation of strategic documents, the selection of project solutions and the monitoring of their implementation.
- Fully apply the horizontal integration of environmental protection through the mechanisms of strategic environmental impact assessment at the level of programmes and projects, by examining and choosing alternatives that will have minimal impact, by constructing environmental infrastructure in order to avoid habitat fragmentation and reduce noise pollution.
- Set up within the OP a green procurement objective and describe its role in the general framework.

In June 2011 a Monitoring Committee (involving interested NGO parties) was created to ensure the proper design, development and implementation of the Kresna Gorge tunnel on the Struma highway. We believe that such Committees, if implemented early enough, can be a beneficial mechanism for all major infrastructure projects to avoid problems at an initial stage, thus preventing mistakes and delays in due time. Such a body is even more necessary with the Government's increasingly frequent practice of engaging a single contractor to carry out Design Development and Construction (DD&C).

## Indicators

For the approval of each project, as well as their subsequent assessments, we propose the following indicators, in line with the regulations of both the EU and the Ministry of Environment and Water of Bulgaria:

### Transport indicators

Amendments of the passenger transport ratio	Percentage ratio of each mode of transport expressed in km per passenger	Data can be found in Eurostat: <a href="http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&amp;plugin=1&amp;pcode=tsdtr210&amp;language=en">http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&amp;plugin=1&amp;pcode=tsdtr210&amp;language=en</a> and national statistics.
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Argumentation: Division by modes of transportation is a key result-oriented indicator. Desired results by the end of 2020 are to reduce the number of passengers using personal vehicles, and to achieve the preponderance of low carbon public transport. Data is available on both European and national levels.

Amendments of the freight ratio	Percentage ratio of each mode of transport expressed in tonnes per km	Data can be found in Eurostat: <a href="http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tran_hv_frmod&amp;lang=en">http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=tran_hv_frmod&amp;lang=en</a> and national statistics.
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Argumentation: Division by modes of transportation is a key result-oriented indicator. Desired results by the end of 2020 are to reduce automobile freight, and to achieve the preponderance of railroad freight. Data is available on both European and national levels.



Introducing new, rehabilitated and upgraded rail infrastructure so as to reduce greenhouse gas emissions	tonnes CO <sub>2</sub> equivalent
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Introducing new, rehabilitated and upgraded road infrastructure so as to reduce greenhouse gas emissions	tonnes CO <sub>2</sub> equivalent
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Argumentation: we propose to replace the current indicator, measuring the length of infrastructure, as it does not provide the necessary information about the effects of the implemented projects. It is necessary to introduce an indicator reflecting the emissions resulting from the project's implementation. Such an indicator could be used in the assessment of environmental impacts, and would thus serve as a factor in the project selection procedures, facilitating the successful achievement of European transport system objectives. Railway companies generally have the necessary information on tonnes per km, whereas identical information might be gathered by toll systems for traffic intensity monitoring. Currently further systems are being developed. For example, the European Investment Bank Carbon Footprint Methodology, the methodologies of EC's Directorate-General for Climate Action or the Climate Research methodology for estimation of climate impact assessment by CE Delft Institute.

Increase of passenger travel with public transport	Increase in passenger-kilometres
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Argumentation: Supporting public transportation should not only be limited to urban areas but also ought to include rural areas. In rural regions public transportation tends to be the only means to travel. This is both in terms of price, for vulnerable groups, and, on the other hand, from a purely physical perspective, benefiting people with disabilities or the elderly. We propose the extension of the indicator to all forms of public transport (excluding air transport).

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