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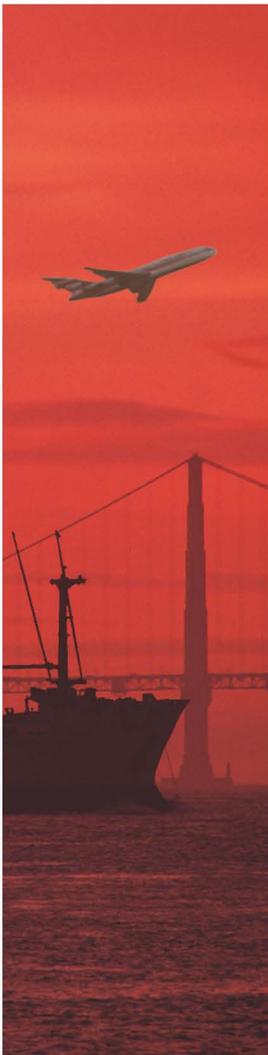
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**ROMANIA'S GENERAL
TRANSPORT MASTER
PLAN AND RAIL SYSTEM**

IN-DEPTH ANALYSIS



DIRECTORATE-GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT B: STRUCTURAL AND COHESION POLICIES

TRANSPORT AND TOURISM

ROMANIA'S GENERAL TRANSPORT MASTER PLAN AND RAIL SYSTEM

IN-DEPTH ANALYSIS

This document was requested by the European Parliament's Committee on Transport and Tourism.

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Abstract

Romania's General Transport Master Plan is currently under preparation. This note summarizes its content with regard to rail transport. It also briefly describes the Romanian rail system and sheds light on the advanced state of disrepair of the infrastructure and the subsequent traffic volume collapse.

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1. ROMANIA'S GENERAL TRANSPORT MASTER PLAN

Member States receiving EU structural and cohesion funds for transport infrastructure must work out a '**General Transport Master Plan**' (GTMP), i.e. a high level roadmap setting the major objectives of their national transport system in the long term (the current planning horizon is the year 2030). **GTMPs are a prerequisite for EU funding.**

Master Plans are drawn up according to a methodology and guidelines developed by the European Commission. This is to facilitate the assessment of the national objectives which must comply with those defined at EU level, notably with regard to economic sustainability and the development of the trans-European transport network. Master Plans, however, are not drafted by the European Commission: **the strategic objectives that they set out are those of the governments concerned.**

In the case of Romania, these objectives were adopted in February 2015¹ following preliminary work which began in 2012. The GTMP and the related studies/analysis are being developed by the US consultancy AECOM². [It is important to note that Romania's GTMP is still a draft document, full of errors and inconsistencies and is in the process of being revised. It is, however, the most advanced of all the Master Plans currently being prepared.]

As regards rail infrastructure, **Romania's GTMP takes stock of the (unquestionable) advanced state of disrepair and concludes that maintaining the whole existing rail network to EU standards would be unaffordable** - and unnecessary on portions of the network which accommodate very low volumes of traffic. **The Master Plan therefore suggests channelling the available resources towards the main lines.** 'As for secondary routes which serve a local function they could be retained and managed by a local authority albeit with no state funding, or closed'³.

It should be noted that:

- **The GTMP does not map the secondary network to be closed.** It settles on the basic principle of a network 40% shorter than the existing one and accounting for 90% of the demand. The lines to be closed would be identified at a later stage through in-depth cost-benefit analysis.
- **What the Master Plan proposes is not new.** A similar reduction in length was suggested in the 1990's by the European Bank for Reconstruction and Development (EBRD) and the World Bank⁴ as part of the pre-accession rehabilitation program. In 2004 the Romanian government identified 30% of the network representing 2% of freight traffic and 8 % of passenger traffic to be operated under lease agreements or closed. This was not put into effect.

¹ The Master Plan is still to be adopted by the Romanian Parliament before submission to the European Commission. It is to be reviewed every five years. See: <http://gov.ro/en/government/cabinet-meeting/general-transport-master-plan-approved-by-the-government>

² <http://www.aecom.com/>

³ Draft Romanian General Transport Master Plan (Version of May 2015).

⁴ The World Bank, *Report n° 32668: Romania, railway rehabilitation project*, Point 1.7, 2005. ECORYS, *Study on strategic evaluation on transport investment priorities under structural and cohesion funds for the programming period 2007-2013, Country Report Romania*, p.15, 2006.

2. OVERVIEW OF ROMANIA'S RAIL SYSTEM

The Romanian network of rail lines open to commercial traffic is about 11 000 km long (the eighth largest in the EU). It comprises more than 1 000 stations, almost 200 tunnels and around 6 800 bridges. **It is also in an advanced state of disrepair due to a chronic lack of maintenance:** most of the track-related assets are on their last legs⁵.

As a consequence, the rail system is very inefficient and it continues to deteriorate. The speed is limited to 50 km/h on almost a third of the network and to 80 km/h on another 40% (not to mention the numerous temporary speed restrictions⁶). Moreover, a lot of lines (72% of which are single track) are closed for maintenance during the morning. This results in low commercial speeds and poor frequencies.

According to the Romanian Ministry of Transport this deterioration is due to the lack of money⁷, which is partly true: the poor situation is also due to poor management and operating practices affecting the infrastructure manager as well as railways. Moreover, endemic corruption is undermining the development and modernisation of the rail sector as a whole⁸.

Consequently, even when significant funds have been invested to upgrade segments of the network, the journey times have had little or no impact. For instance travel times after rehabilitation work on the Bucharest-Constanta corridor (one of the parts of the network permanently affected by theft of cables and other equipment) are longer than before rehabilitation.

It follows that the traffic volume collapses. Despite a fully open market, the volume of passengers dropped by 85%⁹ between 1990 and 2012, the volume of freight by 71%¹⁰.

⁵ According to the draft General Transport Master Plan about 65% of the track, 80% of the turnouts, 85% of the overhead catenary, 66% of the embankments and 40% of the bridges would require renewal. According to the Ministry of Transport 70% of rolling stock is outdated.

⁶ There were 1 800 temporary speed restrictions in 2012.

⁷ About 60% of the State support to the railways would be used to compensate for passenger services. It is noteworthy that almost one-third of the passengers would travel without a ticket, which is understandable in view of the poor travelling conditions.

⁸ A 'few' recent cases of abuse of office, embezzlement, bribe-taking, bribery, money laundering (and others...) to the detriment of enterprises operating in the rail sector are reported in Annex C. See also COM(2014) 38 final of 3.2.2014, Annex 23 (Romania) to the EU Anti-corruption Report.

⁹ Expressed in passenger-kilometre (pkm). A passenger-kilometre is equivalent to the movement of one passenger over one kilometre.

¹⁰ Expressed in tonne-kilometre (tkm). A tonne-kilometre is equivalent to the movement of one tonne of goods over one kilometre.

3. INFRASTRUCTURE (a)(e)(f)

Length of the rail lines ¹¹						
	1990	2000	2012	Change 1990 / 2012 in % ^(d)		
				In Romania	In the EU 28	In the EU 12
Total length in km ^(b)	11 348	11 015	10 777	- 5%	- 8%	- 12%
Of which electrified ^(c)	3 680	3 950	4 032	+ 9.6%	+ 54%	(no data)

Sources: Ministry of Transport (*Sectoral Operational Programme Transport 2007-2013*); UIC (*Railway Handbook 2012*); Eurostat.

(a) The network is maintained by the state-owned infrastructure company CFR-SA (*Compania Națională de Căi Ferate*). Since 1998, the Railway Regulatory Authority (*Autoritatea Feroviară Română - AFER*) monitors the rail sector as a whole, including the infrastructure.

(b) A significant proportion (72%) of the rail network is single track.

(c) 37 % of the network is electrified (54 % in the EU-28 where 9 Member States score below Romania). The length of electrified lines increased by about 10% between 1990 and 2012; in the EU-28 it raised by more than 54 % over the same period.

(d) **Since 1990 the length of the Romanian network has been reduced by 5%.** This is comparable to Bulgaria (- 5.3%) but **lower than the EU-28 average (- 7.8%) or the EU-12 average (- 12%)**. This is also far below reductions in some Member States like France (- 10.2%), Germany (- 18.2%) or Poland (- 25%). Moreover, it can be pointed out that in western European countries the decline of rail transport started in the 1960s'. Thus, between 1970 and 1990 the length of the network in the EU-15 reduced by 6%¹² while it remained stable in Romania.

(e) **The TEN-T (comprehensive + core) network covers some 20% of the total Romanian rail routes length** (and accommodates about 50% of the total rail traffic by volume). Two core network corridors cross the country: the Rhine-Danube Corridor and the Orient/East-Med Corridor. EU standards for minimum speeds on the Core TEN-T network will entail heavy upgrading work on those segments.

(f) It is worth mentioning that there is no comprehensive data on the rolling stock - while the replacement of the rolling stock was one of the top priorities of the ERDF-funded projects over the period 2007-2013. The available literature (including the General Transport Master Plan) takes into account only the incumbent public operators' (CFR Marfă and CFR Călători¹³) rolling stock despite the fact that private operators have now significant market shares.

¹¹ The length of rail lines is irrespective of the number of parallel tracks.

¹² *EU Transport in Figures*, January 2000, p.26.

¹³ Which rolling stock is still rather old: the average age of locomotives is around 35 years for CFR Marfă and 38 years for CFR Călători (see also footnote 4).

4. TRAFFIC (a)

Traffic volume							
	1990	2000	2010	2012	Change 1990/2012 in % ^(d)		
					In Romania	In the EU 28	In the EU 12
Passenger, in billion pkm ^(b)	31	12	5.4	4.6	- 85%	+ 3.5%	- 67%
Freight, in billion tkm ^(c)	49	16	12	14	- 71%	- 23%	-48%

Source: Eurostat.

(a) In 2004, the Ministry of Transport estimated that 30% of the network accommodated only 2% tkm and 8% pkm. That situation continues: **traffic is concentrated on the main routes while significant parts of the network carry very low volumes of passenger or freight.** 90% of traffic (both passengers and freight) would be transported on 54% of the routes (63% of track-km) whilst about 20% of the routes (14% of track-km) would accommodate only 1% of the traffic. Besides, 1 000 stations generate less than 50 trips per day and 533 stations have less than 10 passengers per day¹⁴

(b) The rail passenger market has been open to private undertakings since 2004. In 2012, the incumbent public operator (*CFR Călători*) had about 90% of the market; the remainder was taken by 6 private operators¹⁵.

(c) The rail freight market has been open to private undertakings since 2001. In 2012, the (then 19) private operators had a market share of 55 %¹⁶. The incumbent public operator (*CFR Marfă*) is to be privatised by 2016 at the request of the International Monetary Fund.

(d) Over this period a few Member States saw a decline in rail traffic higher than Romania's but the situations are not directly comparable: passenger traffic strongly decreased in Lithuania (- 89 % pkm) and Latvia (- 86 % pkm) as well as freight traffic in Ireland (- 85% tkm) for specific reasons (loss of the hinterland and/or economic downturn). In addition these markets are (very) limited in size. Only Bulgaria, where rail freight volume fell by 79%, has similar characteristics.

¹⁴ Ministry of Transport, *Sectoral Operational Programme Transport 2007-2013* (2013). Draft Romanian General Transport Master Plan (Version of May 2015). The World Bank, *Report n° 32668: Romania, railway rehabilitation project* (2005).

¹⁵ See: UNECE, Working Party on rail transport: Reforming Romanian Railways (November 2012), <http://www.unece.org/fileadmin/DAM/trans/doc/2012/sc2/SC2-2012-Pres04e.pdf>

¹⁶ See: OECD, *Recent developments in rail transportation services* (2013) and Romanian Railway Licensing Body (*Organismul de Licențe Feroviare Română*), *Licences for the performance of rail passengers and/or freight services*, http://www.afcr.ro/olfr/situatii-licente/situatii_licente_en.html

5. EU FUNDING FOR ROMANIA'S RAILWAY

Rehabilitation of the network started in 1996 under the auspices of/co-financing from the International Bank for Reconstruction and Development (IBRD), the European Bank for Reconstruction and Development (EBRD) and the Phare Programme. Before accession, EU direct subsidy to Romanian railway amounted to about EUR 250 million.

From 2007 to 2013, EU funding (ERDF + Cohesion Fund + TEN-T) for Romania's railway reached EUR 1.9 billion¹⁷. This financing was fully allocated to sections of a major rail route: the north branch (Constanta-Brasov-Curtici) of the former TEN-T Priority Project 22.

The amount to be granted over the 2014-2020 period is still under discussion, but expected to be unchanged at around EUR 2 billion.

The modernisation and development of the TEN-T (core network) routes will remain a priority. According to the Romanian Ministry of European Funds, the country has submitted three rail transport projects about EUR 892 million's worth to be financed under the "Connecting Europe Facility": 890 million for the modernisation of two railway sections¹⁸ and 2 million for two feasibility studies¹⁹.

Significantly, the Master Plan does not include any new major infrastructure projects. It focuses instead on maintenance and rehabilitation to the EU standard of existing mainlines (for a total amount of around EUR 14.4 billion over the period 2014-2030). Currently, the Romanian rail network is in such poor conditions that maintaining and upgrading it should absorb (almost) all available funds²⁰.

¹⁷ Out of a total EU funding for Romania transport sector of EUR 5.5 billion.

¹⁸ Braşov-Apata and Cata-Sighişoara.

¹⁹ Relating to the Craiova-Drobeta Turnu Severin-Caransebeş (230 km) line and the Craiova-Calafat (108 km) line.

²⁰ As per the Master Plan an estimated EUR 15.9 billion should be invested by 2030 to upgrade the (reduced in length) rail network to EU standards: EUR 14.4 billion for maintenance and rehabilitation and EUR 1.5 billion for investment in infrastructure to meet TEN-T standards. These amounts will imply important national funding. The Romanian Government has decided to increase public funding for transport infrastructure (all modes) from a yearly average of 1.15% of GDP between 2007 and 2013 to a yearly average of 2% between 2014 and 2020.

ANNEX A: CHANGES IN LENGTH OF THE RAIL NETWORKS IN THE MEMBER STATES BETWEEN 1990 AND 2012

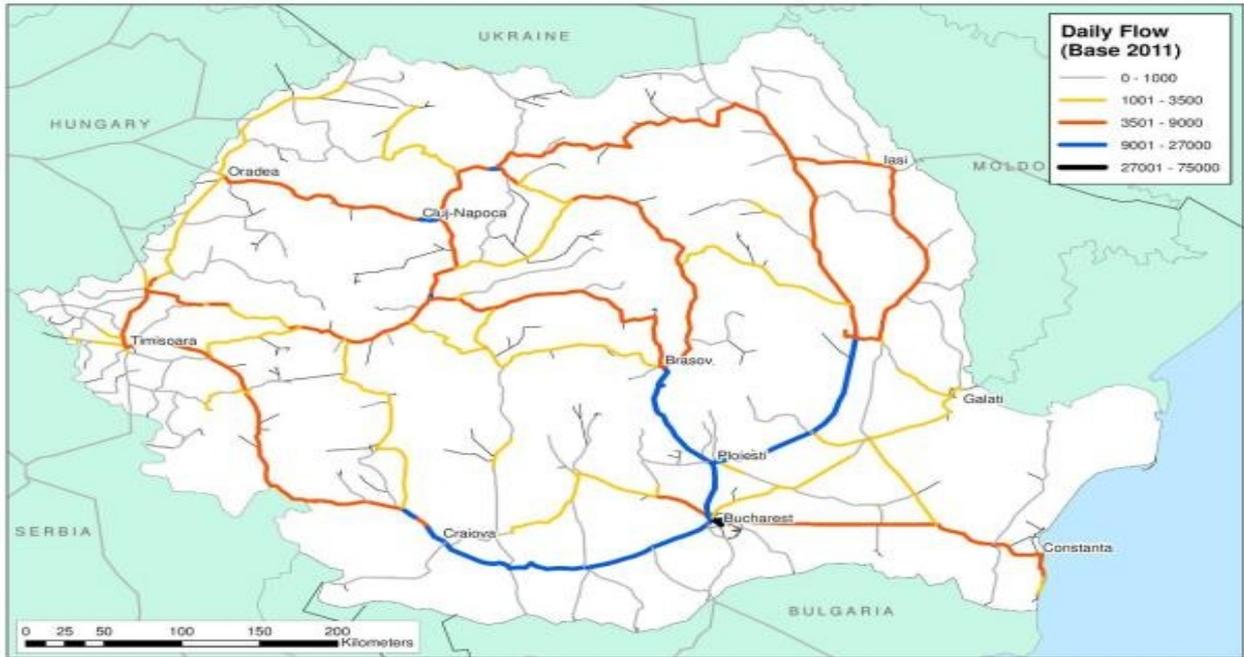
	Length in km		Change in %
	1990	2012	
Belgium	3 479	3 582	+ 3%
Bulgaria	4 299	4 070	- 5.3%
Czech Republic	9 451	9 469	+ 0.2%
Denmark	2 838	2 628	- 7.4%
Germany	40 981	33 509	- 18.2%
Estonia	1 026	792	- 22.8%
Ireland	1 944	1 919	- 1.3%
Greece	2 484	2 554	+ 2.8%
Spain	14 539	15 922	+ 9.5%
France	34 070	30 581	- 10.2%
Croatia	2 429	2 722	+ 12%
Italy	16 066	17 060	+ 6.2%
Cyprus	0	0	-
Latvia	2 397	1 860	- 22.4%
Lithuania	2 007	1 767	- 12%
Luxembourg	271	275	+ 1.5%
Hungary	7 838	7 877	+ 0.5%
Malta	0	0	-
The Netherlands	2 798	3 013	+ 7.7%
Austria	5 624	4 894	- 13%
Poland	26 228	19 617	- 25.2%
Portugal	3 064	2 541	- 17%
Romania	11 348	10 777	- 5%
Slovenia	1 196	1 209	+ 1%
Slovakia	3 660	3 593	- 1.8%
Finland	5 867	5 944	+ 1.3%
Sweden	11 193	11 136	- 0.5%
United Kingdom	16 914	16 423	- 2.9%
Total EU-12	69 450	61 031	- 12%
Total EU-15 ^(a)	162 132	151 981	- 6.3%
Total EU-28 ^(b)	234 011	215 734	- 7.8 %

Source: Eurostat.

(a) It should be noted that between 1970 and 1990 the length of the rail network in the EU-15 decreased by 6.2%.

(b) EU-28 includes Croatia (whose network increased by 12% over the period, from 2 429 to 2 722 km) while this country is included neither in EU-12 nor in EU-15.

ANNEX B: DAILY RAIL PASSENGER FLOWS IN 2011



Source: Draft Romanian General Transport Master Plan, Version of May 2015. **Even if not fully accurate (since the GTMP is still in the process of being revised) this map does show the correct order of magnitude.**

ANNEX C: CORRUPTION IN ROMANIAN RAIL SYSTEM - SOME RECENT EXAMPLES

Balkan Insight, *Romania Jails Former Railway Chief for Fraud*, 04 June 2015
<http://www.balkaninsight.com/en/article/romania-jails-ex-manager-for-huge-fraud>

Nine O'Clock, *Corruption Suspicions on CFR and Regiotrans*, 19 February 2015
<http://www.nineoclock.ro/corruption-suspicions-on-cfr-and-regiotrans/>

Romania-Insider, *Another Romanian businessman targeted in corruption case*, 30 October 2014
<http://www.romania-insider.com/another-romanian-businessman-targeted-in-corruption-case/134736/>

The Romania Journal, *Mega-corruption case in Timisoara involving the County Council leader and the Romanian state passenger railway carrier*, 10 December 2014
<http://www.romaniajournal.ro/mega-corruption-case-in-timisoara-involving-the-county-council-leader-and-the-romanian-state-passenger-railway-carrier/>

The Romania Journal, *The fight against corruption still on: Searches at CFR Calatori and CFR Marfa*, 28 October 2014
<http://www.romaniajournal.ro/the-fight-against-corruption-still-on-searches-at-cfr-calatori-and-cfr-marfa/>

The Romania Journal, *Romanian Euro billionaire and six more detained for corruption in rail-related activities*, 29 October 2014
<http://www.romaniajournal.ro/romanian-euro-billionaire-and-six-more-retained-for-corruption-in-rail-related-activities/>

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