



***Prefeasibility Study for the  
High Speed Line HU-RO Border –  
Bucharest - Constanta***  
**Description and Objectives**

**Timisoara - 13<sup>th</sup> of September 2012**

# The European Vision for Railway Transport

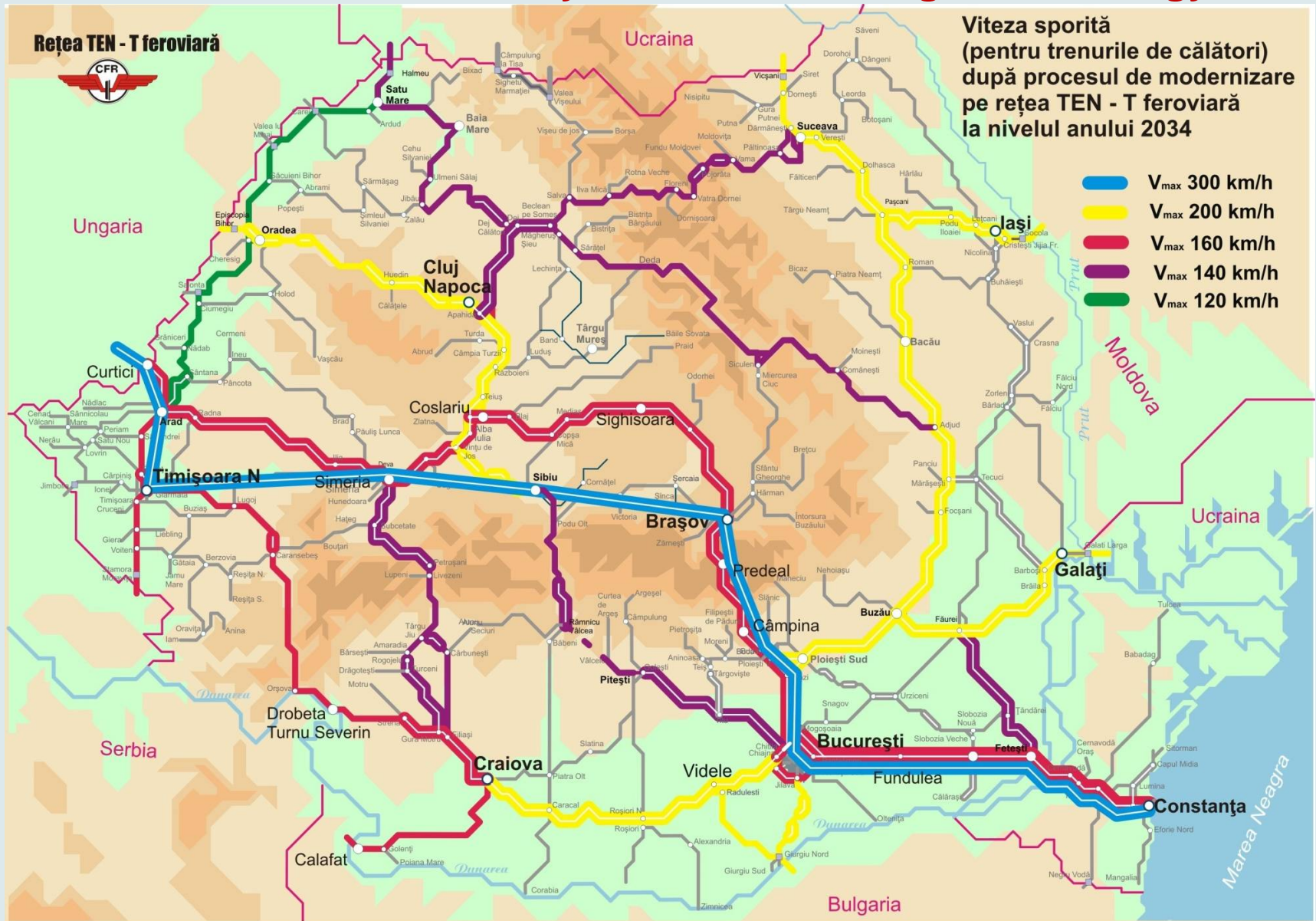
The European Commission's White Paper on Transport (*A roadmap for a single European space transport - Towards a competitive and efficient transportation system in terms of resources*, published by the European Commission in March 2011) identified new medium and long term strategies, for the years 2020-2030 and the time horizon 2050:

- multi-modal transport systems,
- promotion of freight railway transport on medium and long distances,
- creation of dedicated freight corridors,
- triple the length of the high speed railway lines,
- implementation of a TEN-T multi-modal and fully operational "primary network" until 2030.

# Romanian 2020 Railway Platform - Objectives

- The new 2011 White Paper on Transport highlights the importance of the rail transport. The main direction of the Romanian 2020 Railway Platform is to correlate the objectives of this document where the railways are seen as playing a crucial role in developing a competitive and sustainable transport system:
  - ❑ About 30% of the road freight transport on distances over 300 km should be shifted to other means of transport by 2030, such as railway or inland waterways and this percentage should exceed 50% by 2050 with the help of efficient and environmentally friendly freight transport corridors.
  - ❑ A European railway high-speed network should be finalized by 2050. The length of the existing railway high-speed network should triple by 2030, while a dense railway network has to be maintained in all member states. By 2050, most of the passenger transport on medium-distances should take place on railways.
  - ❑ Another objective is to implement a multimodal and completely functional TEN-T “primary network” across the EU by 2030 and of a high-quality and capacity network by 2050, as well as of an appropriate set of information services.

# Romanian 2020 Railway Platform and long term strategy



# The Romanian Action Plans for the Railway Transport

- The Transport Policy pursued by the *Ministry of Transport and Infrastructure* from *Romania* in the period January 2010 – September 2011 took into consideration priority areas for action from EU level and has integrated them into concrete actions at national level.
- Thus, the ministry has finalized the draft strategy of intermodal transport in Romania to introduce a new approach and an integration of all modes of transportation in an efficient logistics chain to be able to meet the growing demand for freight carriers and to create organizational structures dedicated to intermodal transport.
- Currently, both the ministry and the railway infrastructure manager CFR, prepare actions to establish the competitive freight Corridor 7 Orient, a corridor that includes the rail section *Dresden - Prague - Vienna - Bratislava - Budapest - Bucharest – Constanta*, created under the European Commission Regulation no. 913/2010.

# The South East Europe High Speed Railway Line Project

- The National Law no. 203 from 16<sup>th</sup> of May 2003 concerning the construction, development and modernization of national and European transport, republished in 2005, states that high speed rail network will be realized after 2015, depending on arrangements with neighbouring countries. In this regard, the Ministry of Transport has initiated and developed multiple initiatives at international level to start and conduct discussions about the high-speed line Budapest - Bucharest – Constanta as an extension of the high-speed axis Paris - Strasbourg - Stuttgart - Vienna - Bratislava - Budapest.
- In November 2007 the Governments of Romania and Hungary adopted in Sibiu, in joint session, two joint statements of the Ministry of Transport from Romania and the Ministry of Economy and Transport from Hungary.
- The first trilateral meeting of the Romanian-Hungarian-Austrian Experts Working Group on the pre-feasibility study took place in Bucharest from September 30<sup>th</sup> to October 1<sup>st</sup>, 2008. The parties agreed that the pre-feasibility study will consist of three parts, one for each of the three countries involved.
- The specialists sought of some alternative financing solutions for the realization of studies and technical projects (SEE Programme, TEN-T Programme and the SOP-T Programme – for 2007-2013 period) .

# The South East Europe High Speed Railway Line Project

- Between 24<sup>th</sup> and 25<sup>th</sup> of February 2010 in Budapest, a Romanian delegation participated in two meetings on international cooperation about areas traversed by the Danube river, where the delegates discussed the possibility that a high-speed railway line can be one of the major projects of the EU Strategy for the Danube Region.
- On 8<sup>th</sup> of November 2010 took place in Bucharest at the Parliament Palace the Danube Summit - a major event discussion on major issues guidelines to be taken into account in structuring the EU Strategy for the Danube Region. On this occasion, it was announced that the Danube Strategy will include a high speed railway project on the route Vienna - Budapest - Bucharest - Constanta.
- On 13<sup>th</sup> of April 2011, ministers from 27 EU member states approved, in Luxembourg, the EU strategy for the Danube Region, adopted by the European Commission in December 2010.

# TEN-T Network in Romania

- The subject of building a high-speed line in Romania was also on the agenda of international talks on the occasion of the revision of TEN-T in 2010 and 2011. From September 2010 until February 2011 bilateral talks were held between representatives of The European Commission and representatives of each Member State about the configuration of the future TEN-T Global Network (existing and planned network – as defined in Decision 61/2010/UE ).
- The Romanian delegation submitted the proposals and arguments raised by the National Railway Company CFR SA for the extension of the current TEN-T network with 7 sections of the conventional railway network in Romania and a new high speed line on route Border HU-RO - Bucharest - Constanta as part of international route Budapest - Bucharest - Constanta.

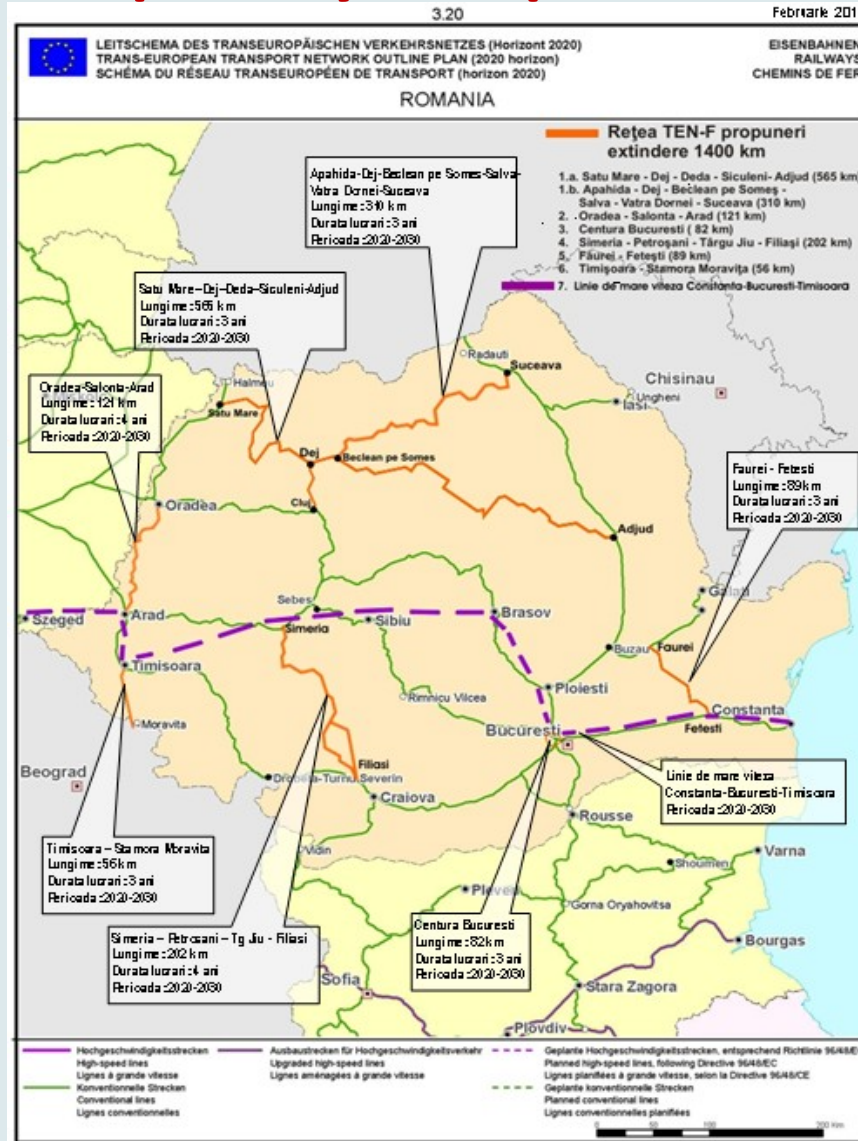


# TEN-T Network in Romania

- On April 28<sup>th</sup> 2011, a delegation of the Ministry of Transport and Infrastructure from Romania went to Brussels to attend the high-level bilateral consultations on the issue of revision of TEN-T network with The Directorate General for Mobility and Transport of the European Commission.
- Regarding the high-speed line, COM TEN-T has agreed on the Romanian proposals, having regard to the European Commission's policy of promoting rail and objectives in the White Paper on Transport, that is completion by 2050 of the European high speed rail network and tripling the length of existing high-speed rail network by 2030.
- The COM TEN-T noted that in the foreseeable future the European Commission will finance feasibility studies for the high-speed projects in Romania and Hungary.

# TEN-T Romanian Network

## Map adopted by European Commission



# Action Plans for the HSRL in Romania

- **Activities of CFR in 2011:**
  - CFR sent in April 2011 an official letter to the Managing Authority for SOP-T 2007-2013 in order to analyse with DG REGIO and JASPERS the proposal to include a high-speed project in SOP-T 2007-2013.
  - The SOP-T Monitoring Committee and DG REGIO approved in May 2011 the new list of railway projects, including the high-speed line project.

# Action Plans for the HSRL in Romania

- **Actions and initiatives of CFR in 2012:**
  - To create within CFR a department with qualified staff who will promote the HS project in accordance with European legislation;
  - To participate in the UIC Project “Handbook for the development of high speed projects”;
  - To prepare the Terms of Reference for a public tender to procure the service for a pre-feasibility study for the analysis of some route variants on the territory of Romania;
  - To prepare the funding application from the SOP-T 2007 – 2013 Programme;
  - To organize a Working Group for technical debates in regard of the HS project in Romania (including representatives from Ministry of Transport and Infrastructure, Romanian Railway Authority, CFR, technical universities and railway industry in Romania).

# Estimated Implementation Plan for the HSRL in Romania

<b>Period</b>	2012-2013	2014 – 2016	2016 - 2017	2017 – 2023/2025
<b>Stage</b>	Pre-feasibility study	Feasibility study	Technical Project	Works

# Prefeasibility Study of the High Speed Line in Romania

## General Purpose of Having a HSRL

- There are many reasons why a country may wish to construct high speed rail lines, from relieving congestion in existing transport modes to reducing dependency on fossil fuels to name two, but fundamentally the purpose of a high speed rail system is to move people, and, therefore, must be accessible to those who wish to use it.
- A High Speed Rail system will ideally connect population and economic centers, providing an additional mode to, and competition with, airlines and private automobiles.
- This will also add additional transport capacity to existing modes/routes. The land-take for the new High Speed Rail corridor can be compared favorably to that of a freeway. Additionally, the energy consumption and carbon production during operation (per passenger) is favorable when compared to other modes.

# Prefeasibility Study of the High Speed Line in Romania

## High Speed System Objectives

**The High Speed Railway System objectives are aimed to:**

- Support population and economic growth.
- Enable social and economic development in regional and urban areas.
- Relieve transport congestion in existing and future systems.
- Achieve sustainable ecological and environmental outcomes, given the continued urbanization, higher density living and the growth of regional centers.

# Prefeasibility Study of the High Speed Line in Romania

## High Speed System Objectives

### LESSONS LEARNED ON HIGH SPEED SYSTEMS FROM INTERNATIONAL EXPERIENCE

#### Integration

- Lesson learned : HSRL must support complementary transport services.

#### Capital costs

- Lesson learned: capital costs are unlikely to be recovered.

#### De-congestion of existing transport systems

- Lesson learned: HSRL can optimize infrastructure performance.

#### Support for regional land use goals

- Lesson learned : HSR stimulates regional development.



# Prefeasibility Study of the High Speed Line in Romania

## Objectives to be included in ToR

- The pre-feasibility study will include:
  - 1.1. Ridership forecasting and transport service delivery study
  - 1.2. Planning and Master Plan study. The main objective of the study is to identify the corridors .
- During the development of the pre-feasibility study the following elements will be included:
  - General geography of the region (maps 1:50.000)
  - Climate (temperature, wind, rain, evaporation)
  - General socio-economic level of the population
  - Market analysis (study of current and future supply and demand)
  - Technological Proposal and alternatives based on current and near-future systems
  - Introduction to the basic social and business infrastructure of the country
  - Social, political and economic risk
  - Planning and regulatory regime
  - Availability of land to construct the High Speed network
  - Potential limits of the project (physical limits and design horizon in time)
  - Identify potential corridors and first cost estimates
  - Identify any missing information that will be necessary for the Feasibility Study

# Prefeasibility Study of the High Speed Line in Romania

## Stage 1.1: Ridership forecasting and transport services delivery

OBJECTIVES	KEY POINTS	INPUTS	OUTPUTS	STAKEHOLDERS INVOLVED
<ul style="list-style-type: none"> <li>•Characterize the current supply and demand of transport in the corridor</li> <li>•Model of the current mobility of the corridor</li> <li>•Forecast uptake of High Speed Railway</li> </ul>	<ul style="list-style-type: none"> <li>•Scope of study definition</li> <li>•Socio-economic characterization</li> <li>•Transport demand and supply description</li> <li>•Base-Year Model calibration</li> <li>•Demand projections, future scenarios and assignments</li> </ul>	<ul style="list-style-type: none"> <li>•Socioeconomic data (population, employment, motoring , GDP)</li> <li>•Transport Supply Data (networks, frequencies, capacities, speeds etc)</li> <li>•Transport Demand Data (passengers and freight)</li> <li>•Forecasts of Socioeconomic Variables (population, employment, motoring , GDP)</li> <li>•Expected infrastructure</li> </ul>	<ul style="list-style-type: none"> <li>•The Four-Stage Model.               <ul style="list-style-type: none"> <li>○Trip generation (and Attraction).</li> <li>○Trip distribution.</li> <li>○Modal Split.</li> <li>○Assignment</li> </ul> </li> <li>•The Four-Stage Model. Future Demand and network scenarios. Trip assignment to network scenarios</li> <li>•Future demand with and without project</li> </ul>	<ul style="list-style-type: none"> <li>•Statistical Institutes</li> <li>•Public and private transport management organizations (Transport Authorities, City Councils, Regional Governments, Concessionaries)</li> <li>•Infrastructure Planning Agencies</li> </ul>

# Prefeasibility Study of the High Speed Line in Romania

## Stage 1.2: Planning and Master Plan

OBJECTIVES	KEY POINTS	INPUTS	OUTPUTS	STAKEHOLDERS INVOLVED
<ul style="list-style-type: none"> <li>•To develop the first approach of the corridors for the new High Speed System and a first cost estimation</li> </ul>	<ul style="list-style-type: none"> <li>•Station location</li> <li>•Scheduling fundamentals</li> <li>•Identification existing conditions                             <ul style="list-style-type: none"> <li>–Existing railway lines</li> <li>–Existing roadways</li> <li>–Mobility problem definition</li> <li>–Previous studies</li> <li>–Definition complementation information required</li> </ul> </li> <li>•Type of traffic (passengers or mixed)</li> <li>•Main constraints: environmental, topographic, technical, economical &amp; social</li> </ul>	<ul style="list-style-type: none"> <li>•Stakeholders consultations</li> <li>•Previous data:                             <ul style="list-style-type: none"> <li>–State &amp; territory planning policies</li> <li>–Major roads, rail &amp; air envisaged projects</li> <li>–Existing rail networks</li> <li>–Travel demand data (road, rail, air etc...)</li> <li>–Regional and metropolitan population</li> </ul> </li> <li>•Regulations/ specifications</li> </ul>	<ul style="list-style-type: none"> <li>•First approach of corridors                             <ul style="list-style-type: none"> <li>–Infrastructure</li> <li>–Station</li> <li>–Definition of railway systems performance</li> </ul> </li> <li>•First cost estimates</li> </ul>	<ul style="list-style-type: none"> <li>•Passengers</li> <li>•Environmental stakeholders</li> <li>•Engineering companies</li> <li>•State government</li> <li>•Regional governments</li> <li>•Railway Authority</li> </ul>

# Prefeasibility Study of the High Speed Line in Romania

## Objectives of the Stage 1.2: Planning and Master Plan

- Long-term planning for the evaluation of a potential High Speed network in Romania, in general and for Budapest – Bucharest – Constanta HSRL, in particular (with Szeged as connection point).
- Potential HSR network/lines in Romania will usually connect at least two large population centers.
- Where more than one rail line exists, a analysis shall be made as to which route or combination of route segments will make up the HSR network/lines in Romania .
- A preliminary assessment of the options in order to reduce the possibilities to one or perhaps two viable priority routes that meet basic requirements for speed, multiple tracks, intermodal station sites, ridership potential, estimated cost of improvements, and the like.



Hungary

Population: 10 mln

Length of railway lines: 7,6 th. km

Hungarian

and Romanian HS joint project

Magyarország vasúti térképe





# Romania

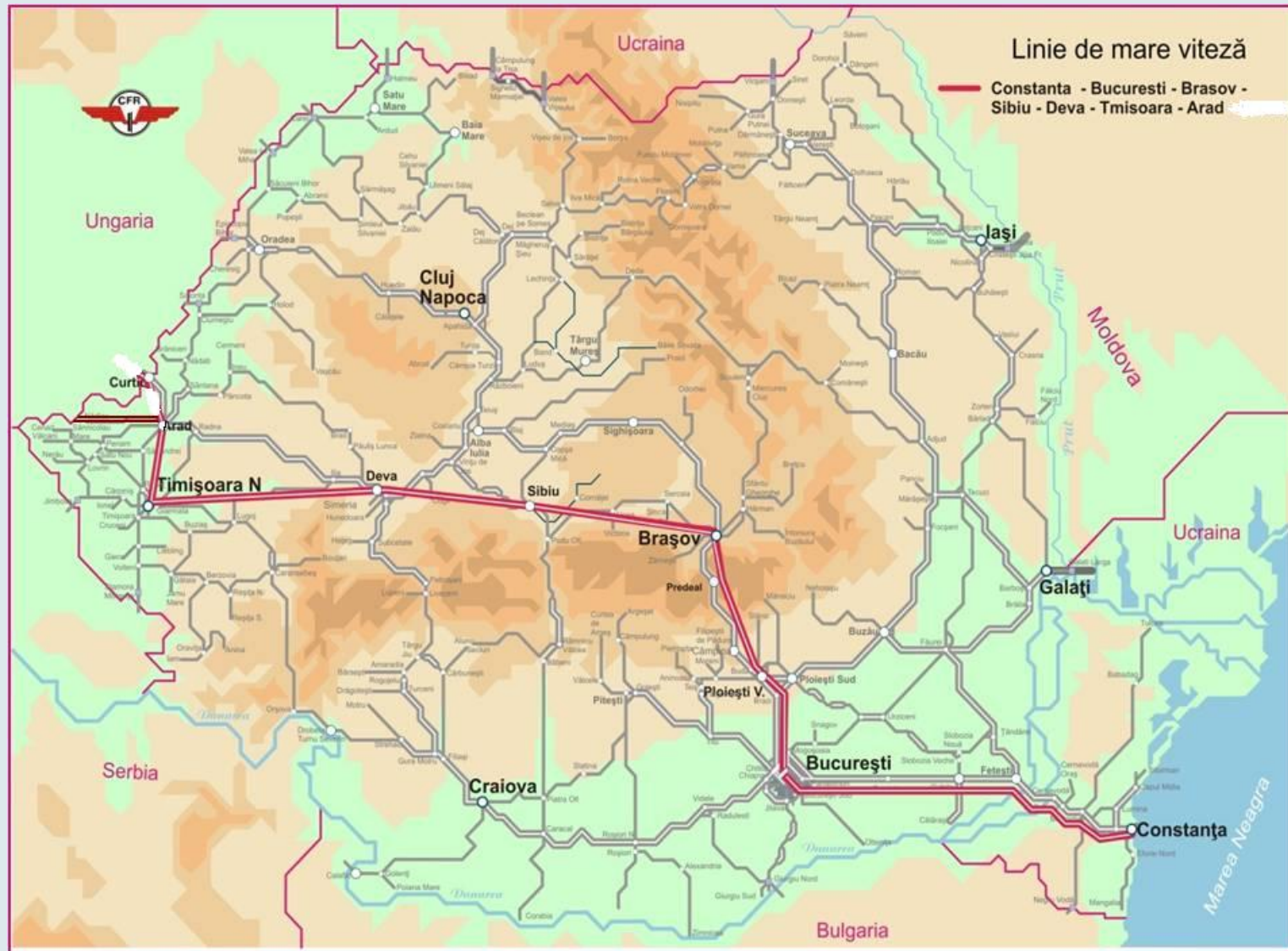
Population: 19 mln

Length of railway lines: 10.6 ths. km

## A Possible Route for the High Speed Railway Line in Romania

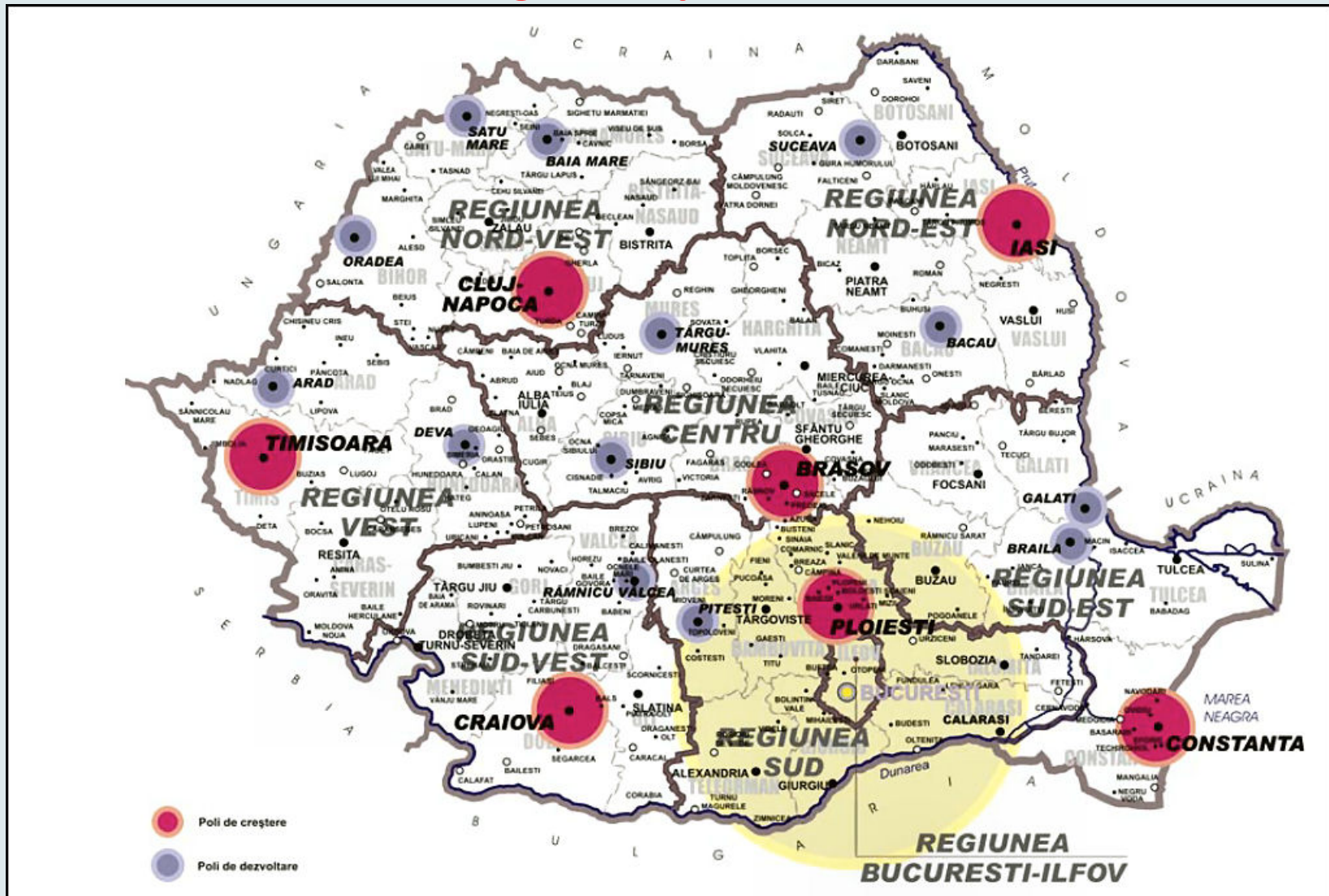


# Another Possible Route for the High Speed Railway Line in Romania



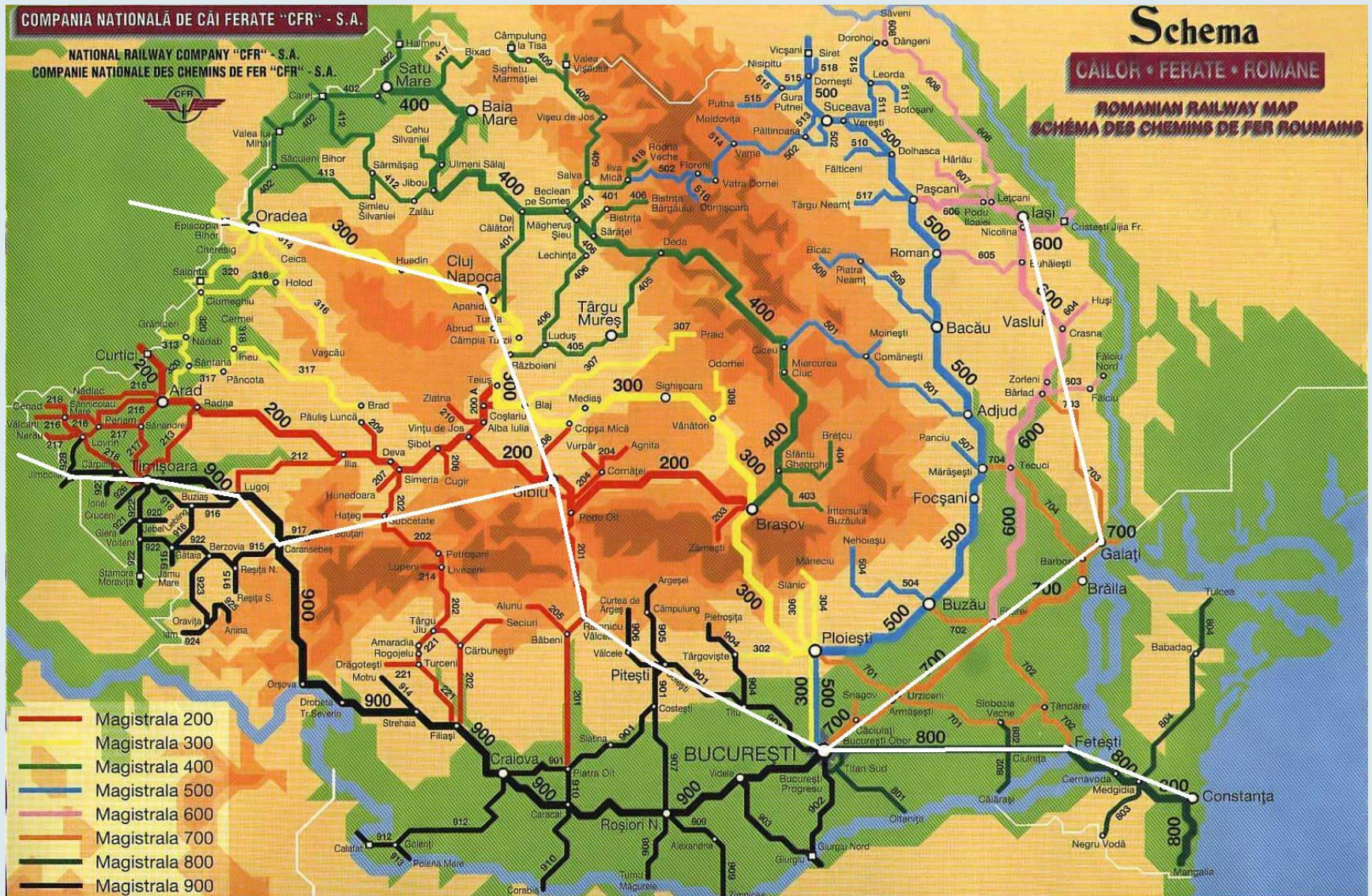
# Criteria for possible HSRL routes in Romania

## Urban and economic growth poles in Romania 2012 - 2020





# Scenario / routes for a High speed Network in Romania





**Thank you for your kind attention !**