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**MONITORING OF DEVELOPMENTS RELEVANT FOR THE PAN-EUROPEAN
TRANSPORT CORRIDORS AND AREAS**

Infrastructure bottlenecks and missing links

Transmitted by the Government of Sweden

1. Current capacity problems

1.1 Identification of bottlenecks

The map of the Banverket railway lines is shown on page 4. The UNECE definition of bottlenecks for a single track is 60 – 80 trains and for double track 100 – 200 trains. According to that definition, the bottlenecks are described in table 1. The bottlenecks are also shown on pages 5-6.

Table 1: Bottlenecks according to the definition of UNECE

Region	Line		nr tracks	nr trains
South	Öresundsbanan	Peberholm - Fosieby	2	103/direction
South	Godsstråket genom Skåne	Fosieby – Malmö gbg	2	141/direction
South	Södra stambanan	Malmö- Lund	2	173/direction
South	Södra stambanan	Lund – Höör	2	106/direction
South	Västkustbanan	Helsingborg – Ängelholm	1	84
West	Norge/Vänernbanan	Göteborg – Öxnered	1	60
West	Värmlandsbanan	Karlstad – Kil	1	66
West	Västra stambanan	Göteborg – Alingsås	2	105/direction
East	Västra stambanan	Flemmingsberg – Älvsjö i	2	96/direction
East	Västra stambanan	Flemmingsberg – Älvsjö y	2	80/direction
East	Västra stambanan	Älvsjö - Sthlm C	2	262/direction
East	Västra stambanan	Södertälje S – Flemmingsb	2	96/direction
East		Södertälje C – Södert. H	1	183
East	Ostkustbanan	Karlberg – Skavstaby i	2	82/direction
East	Ostkustbanan	Karlberg – Skavstaby y	2	155/direction
East	Ostkustbanan	Skavstaby – Märsta	2	103/direction
East	Ostkustbanan	Uppsala – Samnan		100
Central	Ostkustbanan	Skutskär – Bomansberget	1	60
East	Mäljarbanan	Karlberg – Kungsängen	2	115/direction
Central	Norra stambanan	Ockelbo – Mogrindar	1	66
Central	Norra stambanan	Holmsveden – Kilafors	1	66
Central	Norra stambanan	Bollnäs – Ljusdal	1	67
Central	Bergslagsbanan	Gävle – Storvik	1	64
Central	Bergslagsbanan	Falun – Borlänge	1	81

In the Banverket annual report, line capacity has been calculated for 2001, 2002 and 2003. The results for the 24-hour period are presented in table 2. The model is according to UIC 406-R, (the document is available from the International Union of Railways (UIC) in English, French or German). The leaflet has been used in the Banverket annual report for the years 2001, 2002 and 2003. Information about application of the leaflet is available in English (from the secretariat).

Table 2: Capacity consumption for the 24 hour period

Number of line sections capacity consumption	2003	2002	2001
(81% - 100%)	18	16	14
(61% - 80%)	40	40	37
(< 60%)	158	161	165
Total	216	217	216

1.2 Identification of important periods

In the larger cities, the 2-hour period of peak traffic is more relevant than the 24-hour period. There are some lines with different types of capacity problems depending on the time of the day.

1.3 Causes of bottlenecks

A mixture of freight traffic, regional passenger traffic and long distance passenger traffic.

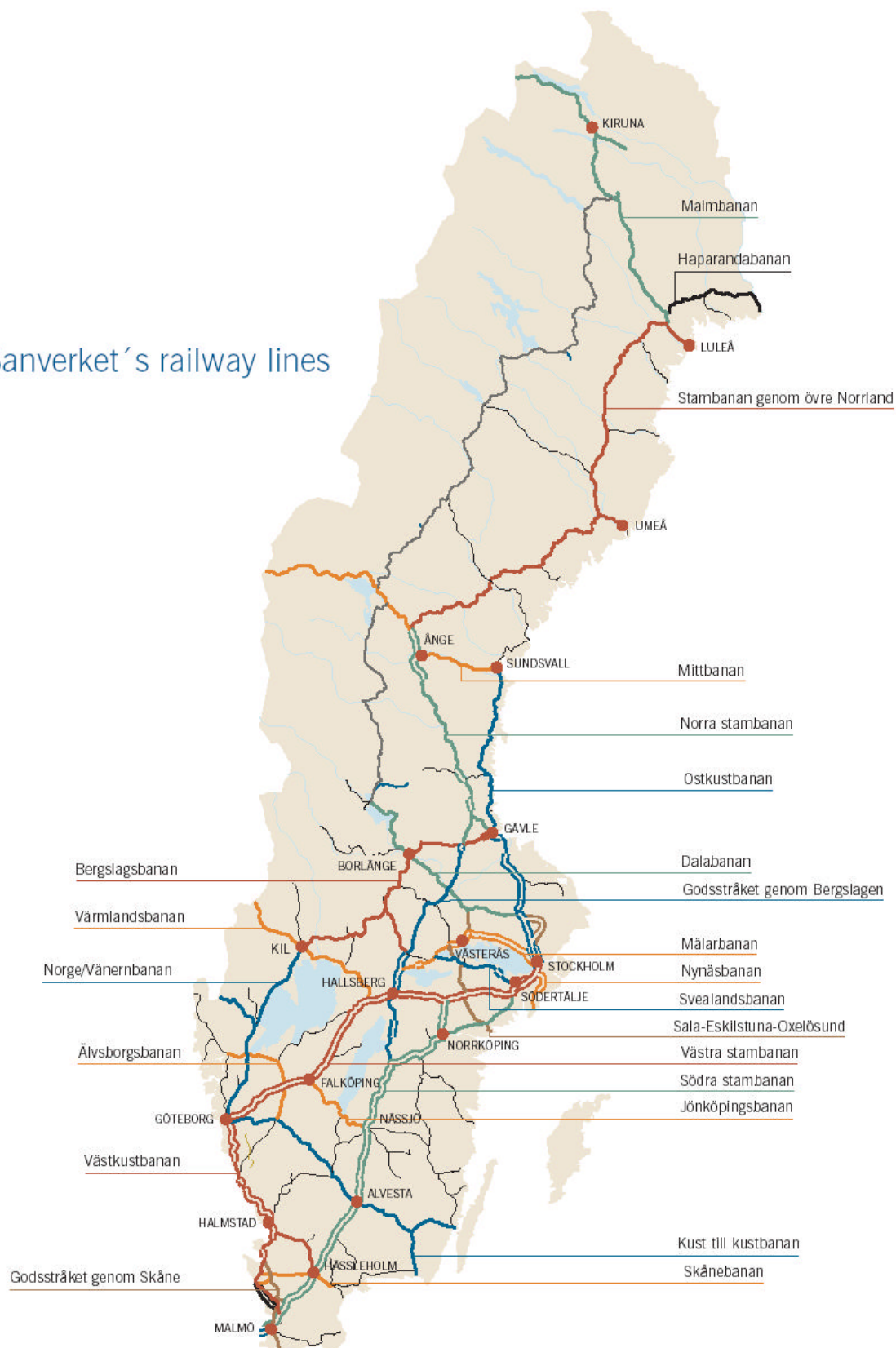
2. Regulatory measures to alleviate bottlenecks

For regulatory measures to alleviate bottlenecks, please look at the Banverket Network Statement T05.1 at www.banverket.se.

3. Infrastructure measures to alleviate bottlenecks




For infrastructure measures to alleviate bottlenecks, please look at the Framtidsplan 2004-2015 at www.banverket.se. Capacity problems and traffic in the years 2003 and 2015 are shown in the maps.

Banverket's railway lines

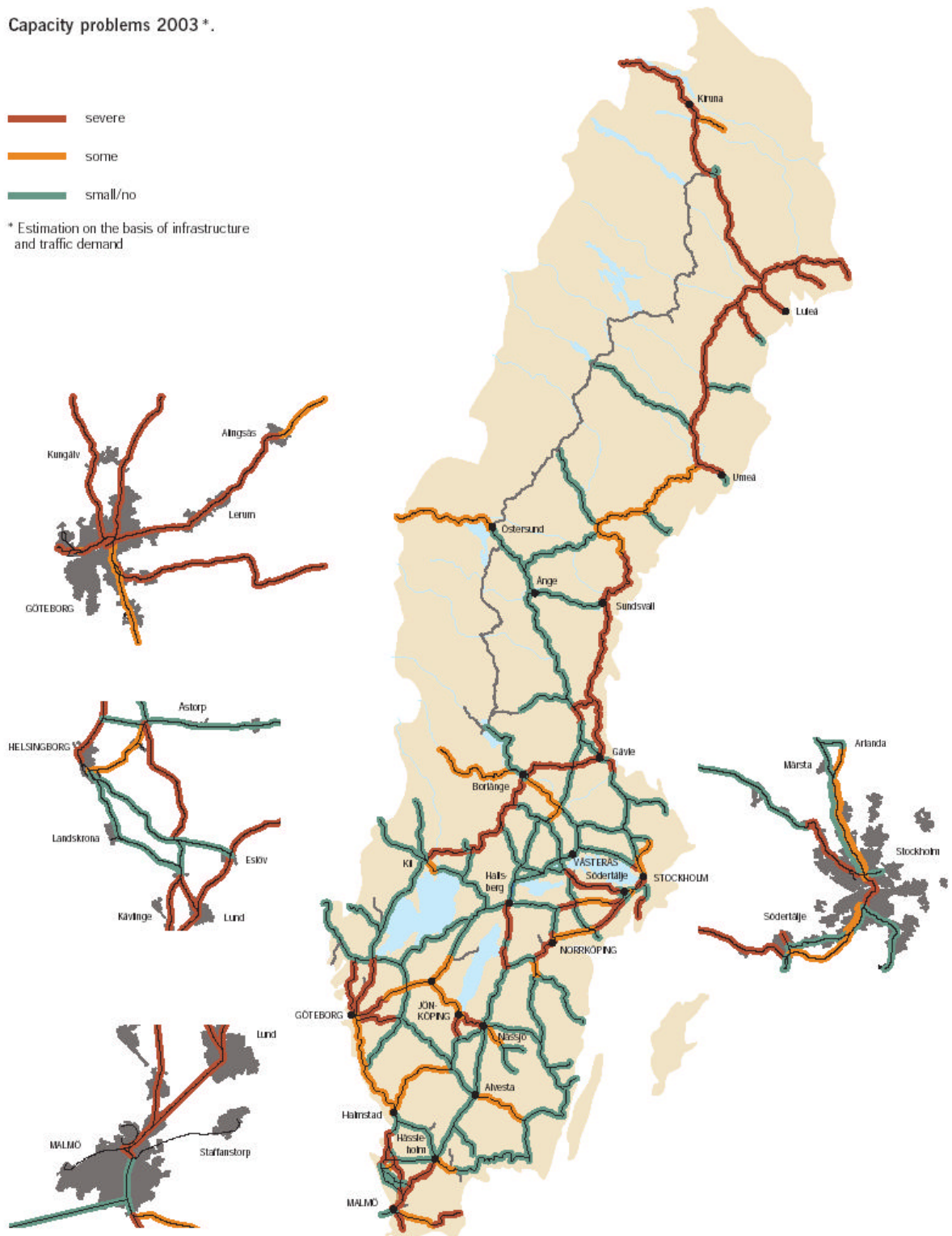




Capacity problems 2003 *

-  severe
-  some
-  small/no

* Estimation on the basis of infrastructure and traffic demand





Capacity problems 2015*.

-  severe
-  some
-  small/no

* Estimation on the basis of infrastructure and traffic demand

