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Upgrading Pan-European Transport Corridor IV

Index

PREFACE

Two years have passed since our last study "Upgrading Pan-European Transport Corridor IV" was published in December 2005. Since then, pleasing progress has been made with construction work both on the Pan-European Rail and on the Road Corridor.

Reason enough to document improvements made to date in the following study.

In terms of individual Corridor countries, however, conditions continue to be very disparate. While improvement measures in the individual countries have been completed in the northern section of the Corridor, construction progress in individual countries in the southern part of the Corridor leaves much to be desired. Here, regular improvement measures have to be carried out over a period of several years and this will involve considerable structural and financial effort. For this reason, we cannot yet speak of a continuous, effective thoroughfare which meets the needs of European trade and Pan-European freight transport.

Another statement can also be made: notably, that still too little importance is being attached to the necessity of creating a corridor which is geared towards transport requirements. In spite of increases in traffic volumes that have already occurred or are likely to occur in future, in many cases only short-term, ineffective and qualitatively questionable improvement measures have been introduced, and it is foreseeable that these measures will no longer benefit traffic requirements in the near future. In this respect, a more future-oriented approach would also be appropriate for economical reasons.

The Steering Committee and Steering Committee

for Railways of the Pan-European Transport Corridor IV Vienna and Düsseldorf

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SUMMARY

What are the conclusions of this study? If we compare its results with those of the preceding study carried out in December 2005, the length of corridor sections urgently in need of improvement on the Rail Corridor has been reduced by around 400 km, i.e. 9.1% of the entire corridor, and sections of the Road Corridor urgently in need of improvement have been reduced by 100 km, i.e. around 2.6% of the entire Road Corridor.

The length of Corridor sections in need of improvement in the medium term, both in the Rail Corridor and in the Road Corridor, has been reduced by around 100 km, i.e. 2.3% of the Rail Corridor and 2.6% of the entire Road Corridor.

We refrain here from comparing sections that need improving in the long term.

1. PRACTICE RELATED ASSESSMENT OF THE CORRIDOR SECTIONS

The following assessment takes current infrastructural conditions and the negative impact of traffic on the respective section of Corridor IV as the starting point for its practice-related assessment. This starting point is based on the data and therefore the subjective appraisals of the individual corridor countries. It has been chosen because improvement – rather than new development – is the principal focus of investments by the European Union and therefore the countries themselves in the field of infrastructure. "Corridor improvement" refers to all measures aimed at improving the Corridor's current infrastructure, in other words, improvement of existing rail and road links and only, by way of exception, new development measures in specific sections. As already mentioned in the preface, it should be noted that the improvement of existing rail or road links in some cases already fails to meet traffic requirements and cannot therefore fulfil future needs. Nevertheless, European investment policies are initially limited to improvement measures, primarily for financial reasons.

In terms of structure and assessment method, this study follows on from preceding studies so that the results of the studies are comparable. It therefore uses the following categories:

1 = sections to be upgraded in the short term
2 = sections to be upgraded in the medium term
3 = sections to be upgraded in the long term

Short-term upgrading refers to measures which have to be initialised immediately. Medium-term upgrading refers to upgrading measures which have to be commenced within 5 to 7 years (approx. 2010). Long-term upgrading measures should be carried out beyond this period.

The assessment excludes Corridor sections which do not require assessment because that section

a = has already been upgraded or

b = is in the process of being upgraded

c = upgrading is being prepared and funding is secured.

The results of the practice-oriented assessment of the rail and road Corridor are presented in the following tables and compared with the results of the Decision 884/2004.

2. ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR RAIL

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Germany	Dresden - Pirna	17	a	22	
Germany	Pirna - Schöna border	31	1	22	
Germany / Czech Republic	Schöna (border) - Decin (border)	14	1	22	
Germany	Nürnberg - Pegnitz	67	3	22	
Germany	Pegnitz - Marktredwitz	58	3	22	
Germany	Marktredwitz - Schirnding	14	3	22	
Germany/ Czech Republic	Schirnding - Cheb (border)	13	3	22	
Czech Republic	Decin - Usti nad Labem	23	a	22	
Czech Republic	Usti nad Labem - Kralupy	79	a	22	Nürnberg
Czech Republic	Kralupy - Praha	21	a	22	- Prag
Czech Republic	Cheb - Plzen	106	1	22	- Breclav
Czech Republic	Plzen - Zdice	62	1	22	
Czech Republic	Zdice - Beroun	11	1	22	
Czech Republic	Beroun - Praha	43	1	22	
Czech Republic	Praha - Kolin	62	a	22	
Czech Republic	Kolin - Ceska Trebova	102	a	22	
Czech Republic	Ceska Trebova - Brno	91	a	22	
Czech Republic	Brno - Breclav	59	a	22, 23	also 23

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR RAIL

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Czech Republic/ Slovakia	Breclav - Kuty	18	1	22	
Slovakia	Kuty - Devinska Nova Ves	64	3	22	
Slovakia	Marchegg - Devinska Nova Ves - Bratislava	5	1	17, 22	17 Wien:
Slovakia	Bratislava - Petrzalka	17	1	17	Bratislava
Slovakia/ Hungary	Petrzalka - Rusovce - Rajka (border)	19	3		
Slovakia	Bratislava - Palarikovo	81	3		
Slovakia	Palarikovo - Sturovo	54	3		
Hungary/ Slovakia	Sturovo - Szob (border)	16	3		
Austria	Breclav - Hohenau border - Wien	91	2	22, 23	
Austria	Wien - Hegyeshalom	73	a	22	
Austria	Wien - Marchegg	47	1 (3)	17	Wien - Bratislava
Austria	Parndorf - Kittsee	69	3 (1)	17	
Hungary	Szob - Budapest	64	b		
Hungary	Rajka - Hegyeshalom	13	3		
Hungary	Hegyeshalom - Györ	47	b	22	Budapest
Hungary	Györ - Budapest	131	b	22	- Wien

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR RAIL

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Hungary	Budapest - Cegled - Szolnok	100	b	22	
Hungary	Budapest - Ujszász - Szolnok	100	b	22	
Hungary	Szolnok - Szajol	10	1	22	
Hungary	Szajol - Lökösházа border	115	2	22	
Hungary	Lökösházа - Curtici (border)	11	2	22	
Romania	Curtici - Arad	17	2	22	
Romania	Arad - Ilia	125	2	22	
Romania	Ilia - Simeria - Vintu de Jos	77	2	22	Curtici
Romania	Vintu de Jos - Coslariu	25	2	22	- Brasov
Romania	Coslariu - Sighisoara	98	2	22	
Romania	Sighisoara - Brasov	128	2	22	
Romania	Brasov - Predeal	27	2	22	
Romania	Predeal - Campina	48	1	22	
Romania	Campina - Ploesti	32	a	22	
Romania	Ploiesti - Bucuresti	59	a	22	
Romania	Bucuresti - Fetesti	146	1	22	
Romania	Fetesti - Constanta	79	1	22	
Romania	Arad - Timisoara	57	2	22	
Romania	Timisoara - Caransebes	98	2	22	
Romania	Caransebes - Orsova - Drobeta - Strehaia	166	2	22	
Romania	Strehaia - Filiasi	24	2	22	

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR RAIL

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Romania	Filiasi - Craiova	36	2	22	
Romania	Craiova - Calafat	107	1	22	
Romania	Calafat - Vidin	5	b	22	
Bulgaria	Vidin - Brusartsi	87	1	22	Vidin /
Bulgaria	Brusartsi - Vratsa	76	1	22	Calafat
Bulgaria	Vratsa - Mezdra	18	2	22	- Sofia
Bulgaria	Mezdra - Sofia	86	2	22	- Koulata
Bulgaria	Sofia - Plovdiv	156	2		
Bulgaria	Plovdiv - Krumovo	12	b		
Bulgaria	Krumovo - Dimitrovgrad	70	c		
Bulgaria	Dimitrovgrad - Svilengrad	65	c		
Bulgaria	Sofia - Pernik	33	2	22	Vidin /
Bulgaria	Pernik - Dupnitza	58	3	22	Calafat -
Bulgaria	Dupnitza - Koulata	119	3	22	Sofia -
Bulgaria/ Greece	Koulata - Promachonas (border) - Strimonas	15	3	22	Koulata
Greece	Strimonas - Thessaloniki	130	2	22	
Bulgaria/ Turkey	Svilengrad - Kapikule (border)	19	a		
Turkey	Kapikule - Halkali	280	1		
Turkey	Halkali - Istanbul Sirkeci	27	c		

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR ROAD

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Germany	Abschnitt 1.1: BAB 4 - B 173	3,6	a		
Germany	Abschnitt 1.2: B 173 - B 170	9,0	a		
Germany	Abschnitt 2 - B 170 bis Pirna	12,7	a		
Germany	Abschnitt 3 - Pirna bis Bundesgrenze CZ	19,6	a		
Germany	AK Nürnberg Ost - AK Altdorf	7,3	a		
Germany	AK Altdorf - AS Amberg Ost	53	a		
Germany	AS Amberg Ost - Pfreimd	14,7	b		
Germany	AK Pfreimd - Woppenhof	8,4	b		
Germany	Woppenhof - Kaltenbaum	6,2	a		
Germany	Kaltenbaum - Lohma	6	a		
Germany	AS Pleystein - Waid-haus (border D / CZ)	4	a		
Austria	Mikulov - Drasenhofen - Wien (A 5)	65	1	25	Brno - Wien
Austria	Parndorf - Kittsee (A 6)	22	a		
Austria	Wien Bypass A 5 - A 4	27	1/2		
Austria	A 4 Junction S 1 - Airport	4	a		

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR ROAD

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Czech Republic	Border CZ/D - Plzen (Utusice)	71	a		
Czech Republic	Plzen (Utusice) - Plzen (Cernice)	3,5	a		
Czech Republic	Plzen (Cernice) - Bavoryne (Zdice)	48	a		
Czech Republic	Bavoryne (Zdice) - Praha Ring Road (Trebonice, D 5)	28,5	a		
Czech Republic	Border CZ/D - Trmice	21	a		
Czech Republic	Trmice - Rehlovice	4,5	a		
Czech Republic	Rehlovice - Lovosice	16,5	c		
Czech Republic	Lovosice - Nová Ves	30	a		
Czech Republic	Nová Ves - Praha Ring Road (Brezineves, D 8)	22	a		
Czech Republic	Praha Ring Road (Brezineves, D 8) - Praha Ring Road (Ruzyne, R 7)	14	1		
Czech Republic	Praha Ring Road (Ruzyne, R 7) - Praha Ring Road (Trebonice, D 5)	6	a		
Czech Republic	Praha Ring Road (Trebonice, D 5) - Praha Ring Road (Slivenec)	10	a		
Czech Republic	Praha Ring Road (Slivenec) - Praha Ring Road (Jesenice, D 3)	15	b		

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR ROAD

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Czech Republic	Praha Ring Road (Jesenice, D 3) - Praha Ring Road (Ricany, D 1)	8	1		
Czech Republic	Praha Ring Road (Ricany, D 1) - Mirosovice	11	a		
Czech Republic	Mirosovice - Humpolec	70	a		
Czech Republic	Humpolec - Brno centrum	93	a		
Czech Republic	Brno centrum - Brno jih	2,5	a		
Czech Republic	Brno jih - Border CZ / SK	60,5	a		
Czech Republic	Brno centrum - Pohordice	20	a	25	Brno - Bratislava - Wien
Czech Republic	Pohordice - Mikulov	19	2	25	
Slovakia D2 KIV-1	Kuty (Border CZs / SK) - Kuty	5	a		
Slovakia D2 KIV-2	Kuty - Malacky	24	a		
Slovakia D2 KIV-3	Malacky - Bratislava-Lamac	29	a		
Slovakia 1/2 KIV-4	Bratislava-Lamac - Bratislava-Staré Grunty	3	a		
Slovakia D2 KIV-5	Bratislava-Staré Grunty - Bratislava Videnská Cesta	3	a		
Slovakia D2 KIV-6	Bratislava-Viedensica Cesta - (Bratislava) Rusovce (Border SK/H)	15	a		

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR ROAD

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Slovakia D61 KIV-7	Bratislava-Jarovce (Border SK/A) - Bratislava-Jarovce	2,7	a		
Hungary	Rajka (SK / H) - Mosonmagyaróvár (M15 - M1 Junction)	17,5	a		
Hungary	Hegyeshalom (A/H) - Budapest (M1 - M0 Junction)	5	a		
Hungary	Budapest (M1 - M0 Junction) - Budapest (M5 - M0 Junction)	29	a (c)	7	
Hungary	Budapest (M5 - M0 Junction) - Kiskunfélegyháza	99	a	7	
Hungary	Kiskunfélegyháza - Szeged	57	a	7	
Hungary	Szeged - Mako	25	1	7	
Hungary	Mako - Nagylak (Border H / RO)	31	2	7	
Romania	Nadlac (Border H / RO) - Arad (E 671 Junction)	38	c (1)	7	
Romania	Arad (E 671 Junction - Timisoara (E 70 J unction)	44	a	7	Nadlac
Romania	Timisoara (E 70 Junction) - Lugoj (E 673 Junction)	43	c (1)	7	- Sibiu
Romania	Lugoj (E 673 Junction) - Deva (E 79 Junction)	91	c (1)	7	

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR ROAD

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Romania	Deva (E 79 Junction) - Sibiu (NR 14 Junction)	110,6	a = 35 km c (1) = 75,6 km	7	Nadlac - Sibiu
Romania	Sibiu (NR 14 Junction) - Cornelu				
Romania	Cornelu - Ramnicu Valcea North	140	3	7	
Romania	Ramnicu Valcea North - Pitesti South				
Romania	Pitesti South - Bucuresti West	96	a	7	
Romania	Bucuresti West - Bucuresti South	15	c (2)	7	
Romania	Bucuresti South - Bucuresti East	23	c (1)	7	
Romania	Bucuresti - Drajna	97,3	a	7	
Romania	Drajna - Fetesti	36,8	a	7	
Romania	Fetesti - Cernavoda	17	b/a	7	
Romania	Cernavoda - Constanta	56	b (1)		
Romania	Sibiu - Brasov	123	c (1)		
Romania	Brasov - Predeal	21,7	c (1)		
Romania	Predeal - Comarnic	36	c (1)		
Romania	Comarnic - Ploiesti	49,6	c (1)		
Romania	Ploiesti - Bucuresti	62,5	a		
Romania	Constanta - Agigea- Constanta South Port	12	b (1)	7	
Romania	Lugoj - Caransebes	51	3	7	
Romania	Caransebes - Orsova	91	b	7	

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR ROAD

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Romania	Orsova - Drobeta Turnu Severin	37	b	7	
Romania	Drobeta Turnu Severin - Craiova	115	a, b	7	
Romania	Craiova - Calafat (Border RO / BG)	85	b (1)	7	
Romania	Bucharest North - Bucuresti East	19	b (1)		
Romania	Ploiesti North - Ploiesti South	14	b (1)		
Bulgaria	Vidin - Dimovo	38	a		
Bulgaria	Dimovo - Rujinci	20,5	2		
Bulgaria	Rujinci - Vraca	87,7	a		
Bulgaria	Vraca - Mezdra	10,7	a		
Bulgaria	Mezdra - Interchange Botevgrad	38,4	2		
Bulgaria	Interchange Botevgrad - Gorni Bogrov	39	a		
Bulgaria	Gorni Bogrov - Interchange Sofia Ring Road/Hemus motorway	8	2	7	Sofia - Koulata - Thessa-loniki

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR ROAD

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Bulgaria	Interchange Sofia Ring Road/Hemus motorway - Interchange Sofia Ring Road/Kremikovzci	2	2	7	
Bulgaria	Interchange Sofia Ring Road/Kremikovzci - Interchange Sofia Ring Road/Gornobansky pat	37	2	7	
Bulgaria	Interchange Sofia Ring Road/Gornobansky pat – Interchange Raiko Daskalovo	15,8	2	7	
Bulgaria	Interchange Daskalovo - Dupnica	40	a	7	Sofia - Koulata
Bulgaria	Dupnica - Jeleznica	40	2	7	
Bulgaria	Jeleznica - Kresna	26,5	2	7	- Thes-saloniki
Bulgaria	Kresna - Kulata	45	2	7	
Bulgaria	Interchange Sofia Ring Road - Interchange Sofia Ring Road/ Trakia motorway	8,7	2		
Bulgaria	Interchange SofiaRing Road/Trakia - Interchange Orizuvo	171	a		
Bulgaria	Interchange Orizuvo - Liubimec	97	2		
Bulgaria	Liubimec - Svilengrad	20	2		
Bulgaria	Svilengrad - Kapitan Andreevo	12	3		

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR ROAD

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Greece	Promachonas - Petritsio I/C	12	b	7	
Greece	Petritsio I/C - Kato Ambelia	9,5	1	7	
Greece	Kato Ambelia - Lefkonas	15	a	7	
Greece	Lefkonas (Section 2) - Riziana	16	2	7	Sofia - Koulata
Greece	Lefkonas (Section 1) - Riziana	7	2	7	- Thes-
Greece	Riziana - Dorkada	19	1	7	saloniki
Greece	Dorkada - Langadas I/C	16	1	7	
Greece	Langadas I/C - K4 I/C	7,5	a	7	
Greece	I/C K4 - I/C K1	8,4	a	7	
Greece	I/C K1 - Thessaloniki Port	8	1	7	
Turkey	Kapikule - Edirne	10	a		
Turkey	Edirne (BK 1) - Lalapasa (K 2)	11,5	a		
Turkey	Lalapasa (K 2) - Edirne (DK 3)	4,3	a		
Turkey	Edirne (DK 3) - Havsa (K 4)	19,9	a		
Turkey	Havsa (K 4) - Babaeski (K 5)	27,2	a		
Turkey	Babaeski (K 5) - Lüleburgaz (K 6)	24,4	a		

ASSESSMENT FOLLOWING TO THE LOCATION ON CORRIDOR ROAD

Country	Section	Length km	Practical	Decision 884/2004	
				Priority Project	Priority Section
Turkey	Lüleburgaz (K 6) - Saray (K 7)	28,8	a		
Turkey	Saray (K 7) - Corlu (K 8)	20,2	a		
Turkey	Silivri (K 11 - Selimpasa (K 12)	12,1	a		
Turkey	Selimpasa (K 12) - Kumburgaz (K 13)	7,5	a		
Turkey	Kumburgaz (K 13) - Catalca (K 14)	7,2	a		
Turkey	Catalca (K 14) - Hadimköy (K 15)	12,1	a		
Turkey	Hadimköy (K 15) - Avcilar (K 16)	6	a		
Turkey	Avcilar (K 16) - Mahmutbey (K 17)	11,4	a		
Turkey	Mahmutbey (K 17) - Mahmutbey (K 18)	2,7	a		
Turkey	Mahmutbey (K 18) - Metris (K 1)	3,5	a		
Turkey	Metris (K 1) - Kemerburgaz (K 2)	7,7	a		
Turkey	Kemerburgaz (K 2) - Hasdal (K 3)	0,9	a		
Turkey	Hasdal (K 3) - Harp Akademileri (K 4)	3,9	a		
Turkey	Harp Akademileri (K 4) - Harp Aka Leventl (K 5)	1,5	a		

3. THE RAIL CORRIDOR

3.1 The Rail Corridor in Decision 884/2004

Much of the Rail Corridor's length and sections are the subject of Decision 884/2004, annex III. Of its total length of 4,413 km, 3,747 km, in other words, 85%, are declared priority projects by the Decision. Of the 74 sections in the upgrading strategy, 61 sections are considered priority projects according to the Decision. This is 82.5% of all sections.

Insofar as the Corridor is the subject of Decision 884/2004, it is assigned mainly to priority project 22, and to a lesser extent priority projects 23 and 17.

Within the priority projects, priority sections are defined by the said Decision. The priority sections are 1,851 km long. This means that 42% of the length of the Corridor is therefore classified by Decision 884/2004 as priority sections. Of the 61 sections that are priority projects on the Rail Corridor, 31 are priority sections according to the meaning of the said Decision. That is 51%.

Unfortunately, the sections referred to as priority sections do not run together in a continuous line but are disconnected along the entire length of the Corridor. Between the priority sections, there are sections of the Corridor which do not have a priority status.

3.2 The practice-based Assessment of the Rail Corridor

In the upgrading strategy at issue, of the 74 sections into which the Rail Corridor is divided, 52 sections are included in the assessment.

22 sections were not included in the assessment either because they have already been upgraded (15 sections from Category a) or they are in the process of being upgraded (6 sections from Category b, 1 from Category c). These 22 sections are altogether 1,253 km long. They account for 30% of all sections or 28.5% of Corridor IV as a whole. The 15 completed sections from Category a are 618 km long and account for 20% of all sections of the Corridor or 14% of the Corridor in its entirety.

The 52 assessed sections are 3,160 km long and account for 70 % of all Corridor sections or 72% of the Corridor as a whole. Of these, 18 sections from Category 1 have been classified as being in need of short-term upgrading. These 18 sections are 1,287 km long. They make up 24% of all Corridor sections or 29 % of the Corridor as a whole. Medium-term upgrading was considered necessary for 20 sections. These sections are together 1,518 km long and constitute 27% of all Corridor sections or 34.5% of Corridor IV as a whole. In Category 3, a "long-term need for upgrading" was determined for 14 sections of the Corridor (660 km long), i.e. 19% of all Corridor sections or 15 % of the entire Corridor.

The following table presents an overview for rail traffic:

	Number of sections	**Length (km)**	**% Total number of sections**	**% Corridor length**
Upgraded sections - upgraded - being upgraded - financed	22 15 6 1	1,253 618 447 27	30 20 8 1,3	28.5 14 10 0.6
Assessed sections of Corridor - Category 1 - Category 2 - Category 3	52 18 20 14	3,160 1,287 1,518 660	70 24 27 19	72 29 34.5 15

3.3 Examination of Rail Corridor according to Countries

The longest section of Corridor IV is located in Romania. With 1,354 km, 31% of the Corridor is situated in this country, followed by Bulgaria with 814 km (15% of the entire Corridor), Hungary with 676 km (15% of the entire Corridor) and the Czech Republic with 677 km (15% of the entire Corridor).

3.3.1 The Rail Corridor in Germany

Section	**Length (km)**	**Practical assessment**
Dresden - Prina	17	a
Pirna - Decin (border)	45	1
Nürnberg - Cheb (border)	152	3

A 17 km section of the Corridor in Germany has been upgraded, which means that 8% of the 214 km long section of Corridor has been upgraded, is in the process of being upgraded or upgrading is being prepared. 197 km, or 92% of the Corridor in Germany, still await upgrading. The whole length of the Corridor in Germany is priority project of the Decision 884/2004. Of this 152 km is priority section in the sense of the named Decision (71 % of the Corridor in Germany).

3.3.2 The Rail Corridor in the Czech Republic

Section	Length (km)	Practical assessment
Decin - Praha	123	a
Cheb - Praha	222	1
Praha - Ceska Trebova	164	a
Ceska Trebova - Breclav	150	a
Breclav - Kuty	18	1

In the Czech Republic, the Corridor is 677 km long; 437 have been upgraded, are in the process of being upgraded or upgrading is being prepared. This constitutes 64.5% of the Corridor in the Czech Republic; 240 km are still awaiting upgrading as priority Level 1 (35.5 % of the Corridor in the Czech Republic).

The whole corridor in the Czech Republic is priority project of the decision 884/2008; 659 km are priority sections (97% of the corridor in the Czech Republic).

3.3.3 The Rail Corridor in Slovakia

Section	Length (km)	Practical assessment
Kuty - Devinska Nova Ves	64	3
Marchegg - Petrzalka	22	1
Petrzalka - Szob (border)	170	3

In **Slovakia,** the country's 256-km-long section of the Corridor needs to be upgraded in its entirety, although only 22 km or 9% of the Slovakian Corridor is registered as Priority Level 1.

A part of 86 km is priority project and a part of 22 km is priority section of the Decision 884/2004. These are 33.6%/8.6% of the Corridor in Slovakia.

3.3.4 The Rail Corridor in Austria

Section	Length (km)	Practical assessment
Breclav - Hohenau border - Wien	91	2
Wien - Hegyeshalom	73	a
Wien - Marchegg	47	1 (3)
Parndorf - Kittsee	69	3 (1)

In **Austria,** the Corridor is 280 km long; 73 km or 26% of the Corridor in Austria has to be upgraded; 47 km (17% of the Corridor in Austria) classify as Priority Level 1.

A part of 116 km or 41.4% of the Corridor in Austria is priority project and priority section of the Decision 884/2004.

3.3.5 The Rail Corridor in Hungary

Section	Length (km)	Practical assessment
Szob - Budapest	64	b
Rajka - Hegyeshalom	13	3
Hegyeshalom - Budapest - Ujszász - Szolnok	378	b
Szolnok - Szajol	10	1
Szajol - Lökösházа (border)	115	2
Lökösházа - Curtici (border)	11	2

In **Hungary,** 442 km of the Corridor have been upgraded, are in the process of being upgraded or upgrading is being prepared, i.e. 65.4% of the Corridor as a whole in Hungary. Of the 136 km still awaiting upgrading, 10 km are considered Priority Level 1 (30.8%/4.1% of the Corridor in Hungary as a whole).

A part of 178 km of the Corridor in Hungary is priority project and priority section of the Decision 884/2004 (26% of the Corridor in Hungary).

3.3.6 The Rail Corridor in Romania

Section	Length (km)	Practical assessment
Curtici - Predeal	497	2
Predeal - Campina	48	1
Campina - Bucuresti	91	a
Bucuresti - Constanta	225	1
Arad - Timisoara - Craiova	381	2
Craiova - Calafat	107	1
Calafat - Vidin	5	b

Only 96 km of the Corridor in Romania have undergone upgrading, are in the process of being upgraded or upgrading is being prepared, which means 7% of the Corridor as a whole in this country. Of the remaining 1,258 km, 332 km, in other words 24.5% of the entire Corridor in Romania, has to be upgraded as Priority Level 1.

Only a part of 102 km length is priority project and priority section of the Decision 884/2004; these are 7.5 % of the length of the Corridor in the country.

3.3.7 The Rail Corridor in Bulgaria

Section	Length (km)	Practical assessment
Vidin - Sofia	267	1
Sofia - Plovdiv	156	2
Plovdiv - Svilengrad	147	a
Sofia - Strimonas	225	2
Svilengrad - Kapikule (border)	19	a

For **Bulgaria,** 79.6% of the Corridor in the country, or 648 km have not yet been upgraded; of these 267 km (33% of the Corridor in Bulgaria) has to be upgraded as Priority Level 1. Only 166 km of the Bulgarian Corridor or 20.4% of the Corridor in the country have been upgraded, are in process of being upgraded or upgrading is being prepared.

In Bulgaria 492 km of the Corridor are priority project (60.4% of the length of the Corridor in the country) and 477 km priority section of the Decision 884/2004 (58.6% of the length of the Corridor in Bulgaria).

3.3.8 The Rail Corridor in Greece

Section	Length (km)	Practical assessment
Strimonas - Thessaloniki	130	2

130 km of the Corridor are located in **Greece,** none of which have undergone upgrading. The upgrading measures necessary in this country, however, are considered Priority Level 2.

3.3.9 The Rail Corridor in Turkey

Section	Length (km)	Practical assessment
Kapikule – Halkali	280	1
Halkali - Istanbul Sirkeci	27	c

Turkey has 307 km of Corridor. Only 27 km has been upgraded. Upgrading measures have been assessed for 280 km as priority level 1 (91% of the length of the Corridor in Turkey).

Here is a tabular overview of the countries:

Country	Length (km)	Categories a, b, c		Categories 1, 2, 3		Category 1		Priority Project		Priority Section	
		(km)	(%)	(km)	(%)	(km)	(%)	(km)	(%)	(km)	(%)
Germany	214	17	8	197	92	45	21	214	100	152	71
Czech Republic	677	437	64.5	240	35.5	240	35.5	677	100	659	97
Slovakia	256	-	-	256	100	22	9	86	33.6	22	8.6
Austria	280	73	26	207	74	47	17	116	41.4	116	41.4
Hungary	676	442	65.4	136	20	10	1.5	178	26	178	26
Romania	1,354	96	7	1,258	93	332	24.5	102	7.5	102	7.5
Bulgaria	814	166	20.4	648	79.6	267	33	492	60.4	477	58.6
Greece	130	-	-	130	100	-	-	-	-	-	-
Turkey	307	27	8.8	280	91.2	280	91.2	-	-	-	-

3.4 Comparison of Rail Corridor Assessment

The above-mentioned Decision 884/2004 only partially endorses the results of the upgrading strategy in terms of defining Priority Sections. In some cases, sections are referred to as Priority Sections even though they have already been upgraded or are in the process of being upgraded. On the other hand, Decision 884/2004 classifies sections as Priority Sections which are not recognised by the upgrading strategy as Priority Projects. Conversely, the said Decision denies certain sections priority status while the upgrading strategy recommends upgrading.

4. THE ROAD CORRIDOR

4.1 The Road Corridor in Decision 884/2004

Similar to the Rail Corridor, only parts of the Road Corridor are the subject of Decision 884/2004, annex III. Of the 3,804.7 km long Road Corridor, the said Decision declares 1,857.4 km, i.e. 49% of the entire Corridor length, to be particularly in need of upgrading. 51% of the Corridor does not have a priority status. The Decision refers to 44 of the 126 sections of the upgrading strategy as **priority projects** (35% of sections).

Of the 44 sections which are priority projects on the Road Corridor, only 26 are considered **priority sections** by the said Decision. This is only 59% of the sections in the upgrading strategy. The priority sections have a total length of 708.5 km. If we compare the length of priority sections to the length of the Road Corridor as a whole, we can see that only 18.6% of the Corridor length has to be upgraded as a priority task. For 3,096.2 km, or 81.4% of the corridor length, this is not the case.

In the case of the Road Corridor, too, the priority sections do not form a continuous line but are distributed disjointedly along the entire length of the Corridor. Consequently, they do not guarantee the continual and smooth flow of traffic on the Corridor.

4.2 The praxis-based Assessment of the Road Corridor

This upgrading strategy divides the 3,804.7 km long Corridor into 126 sections.

Of these sections, 98 do not need to be considered in the assessment because upgrading measures have either been completed - the case with 75 sections a -, or upgrading work is currently being carried out - 12 sections b - or upgrading is being prepared and financing has been secured (11 sections with Priority Level c). The total length of the sections not assessed is 2,978.3 km which represents 78% of the Corridor as a whole and 62% of all Corridor sections. This shows that upgrading measures carried out on the Road Corridor are more advanced than those on the Rail Corridor. The 1,725 km difference, however, is considered significant.

The completed section a is 2.064,8 km long. This means that 54.3% of the Road Corridor has been completed (77.7% of all Corridor sections). By comparison, only 28.5% of the Rail Corridor has been completed. The 12 sections b which are 381.1 km long and account for 9.5% of all sections of the Corridor and 10% of the Corridor as a whole are in the process of being upgraded. Upgrading is being prepared and financing has been secured (Priority level c) for 11 sections measuring 532.4 km, in other words 14% of the Corridor as a whole (8.7% of all sections).

Consequently, 28 sections measuring 826.4 km have been assessed; this means that 21.7% of the Corridor has been included in the assessment (22 % of all Corridor sections). Of these sections, 9 measuring a total of 191.5 km are classified as being in need of upgrading in the short-term; this means 7% of all road sections on Corridor IV or 5% of the Corridor as a whole. Sixteen sections measuring 431.9 km are considered in need of upgrading in the medium term. 11.4% of the Road Corridor as a whole or 13% of all Corridor sections therefore have to be upgraded in the medium term. (For the Rail Corridor, medium-term upgrading applies to 27 % of the entire Corridor.) In the category "in need of long-term upgrading", 3 sections of the Corridor measuring 203 km were registered. This means 2.4% of all road sections or 5.3 % of the Corridor as a whole.

An overview in tabular form:

	Number of sections	**Length (km)**	**% Total number of sections**	**% Corridor length**
Upgraded sections	98	2,978.3	62	78
- upgraded	75	2,064.8	77.7	54.3
- being upgraded	12	381	9	10
- financed	11	532.4	8.7	14
Assessed sections of the Corridor	28	826.4	22	21.7
- Category 1	9	191.5	7	5
- Category 2	16	431.9	13	11.4
- Category 3	3	203	2.4	5.3

4.3 Examination of the Road Corridor according to Countries

The longest stretch of the Road Corridor (1,524.5 km) is located in Romania, followed by Bulgaria with 757.3 km and Hungary with 263.5 km. These countries therefore represent shares of 40%, 20% or 7% of the entire Corridor.

4.3.1 The Road Corridor in Germany

Section	Length (km)	Practical assessment
A 17, BAB 4 - Pirna (border)	44.9	a
A 6, Nürnberg Ost - Amberg Ost	105.2	a
A 6, Amberg Ost - Woppenhof	23.1	b
A 6, Woppenhof - Waidhaus (border D / CZ)	16.2	a

Corridor upgrading measures in **Germany** on 144.5 km, which means 100%, have been completed, are under way or have financing.

4.3.2 The Road Corridor in the Czech Republic

Section	Length (km)	Practical assessment
Border CZ / D - Rehlovice	176.5	a
Rehlovice - Lovosice	16,5	c
Lovosice - Praha ring Road (Brezineves, D 8)	52	a
Praha Ring Road (Brezineves, D 8) - Praha Ring Road (Ruzyne, R 7)	14	1
Praha Ring Road (Ruzyne, R 7) - Praha Ring Road (Slivenec)	16	a

Section	Length (km)	Practical assessment
Praha Ring Road (Slivenec) - Praha Ring Road (Jesenice, D 3)	15	b
Praha Ring Road (Jesenice, D 3) - Praha Ring Road (Ricany, D 1)	8	1
Praha Ring Road (Ricany, D 1) - Pohorelice	257	a
Pohorelice - Mikulov	19	2

In the **Czech Republic**, 533 km of the 574 km long Corridor have been completed, are under construction or are being financed. Only a 41km long part has to be upgraded in a short resp. medium term.

The part Brno - Mikulov is priority project and priority section of the decision 884/2004 (39 km long and 7% of the Corridor in the country).

4.3.3 The Road Corridor in Slovakia

Section	Length (km)	Practical assessment
Kuty (Border CZ / SK) - Bratislava-Jarovce	81.7	a

In **Slovakia**, too, 100% of the 81.7 km long Corridor has been completed, or is in the process of being upgraded or has financing.

4.3.4 The Road Corridor in Austria

Section	Length (km)	Practical assessment
Mikulov - Drasenhofen - Wien	65	1
Parndorf - Kittsee (A 6)	22	a
Wien Bypass A 5 - A 4	27	1/2
A 4 Junction S 1 - Airport	4	a

The situation is different in **Austria** where 92 km of the entire length of the Corridor amounting to 118 km is still in need of upgrading; 78% of the length of the Corridor in Austria.

The part Mikulov-Drasenhofen-Wien is a priority project and priority section of the decision 884/2004 (65 km long and 55% of the Corridor in Austria).

4.3.5 The Road Corridor in Hungary

Section	Length (km)	Practical assessment
Rajka (SK / H) - Szeged	207.5	a
Szeged - Mako	25	1
Mako - Nagylak (Border H / RO)	31	2

In **Hungary**, 207.5 km, or 79% of the Corridor has been upgraded, is being upgraded or has financing. 56 km still require upgrading (21% of the entire Corridor in Hungary), 25 km are Priority Level 1.

A part of 241 km from Budapest (M 1 - M 0 junction) to Nadlac is a priority project of decision 884/2004 (91.5% of the Corridor in Hungary).

4.3.6 The Road Corridor in Romania

Section	Length (km)	Practical assessment
Nadlac (border) - Arad (E 671 Junction)	38	c
Arad (E 671 Junction) - Timisoara (E 70 Junction)	44	a
Timisoara (E 70 Junction) - Deva (E 79 Junction)	134	c
Deva (E 79 Junction) - Sibiu	110.6	a = 35 km;c (1) = 75.6 km
Sibiu - Pitesti South	140	3
Pitesti South - Bucuresti West	96	a
Bucuresti West - Bucuresti East	38	c
Bucuresti - Fetesti	134.1	a
Fetesti - Constanta	73	b
Sibiu - Ploitesti	230.5	c
Ploitesti - Bucuresti	62.5	a
Constanta - Agigea-Constanta South Port	12	b
Lugoj - Caransebes	51	3
Caransebes - Drobeta Turnu Severin	128	b
Drobeta Turnu Severin - Craiova	115	a, b
Craiova - Ploitesti South	118	b

1,384.5 km, i.e. 91% of the 1,524.5 km long Corridor in **Romania** has been upgraded, is in the process of being upgraded or has financing. 140 km still await upgrading, i.e. 9% of the Corridor

as a whole in Romania. These upgrading measures, however, are described without exception as a long-term requirement.

A part of 1,198.7 km of the Corridor in Romania is priority project of the decision 884/2004 (78.6% of the Corridor in the country) and 326.6 km (21.4% of the Romanian Corridor) are priority sections.

4.3.7 The Road Corridor in Bulgaria

Section	Length (km)	Practical assessment
Vidin - Dimovo	38	a
Dimovo - Rujinci	20.5	2
Rujinci - Mezdra	98.4	a
Mezdra - Interchange Botevgrad	38.4	2
Interchange Botevgrad-Gorni Bogrov	39	a
Gorni Bogrov-Interchange Raiko Daskolovo	62.8	2
Interchange Raiko Daskalovo-Dupnica	40	a
Dupnica-Interchange Sofia Ring Road/Trakia Motorway	120.2	2
Interchange Sofia Ring Road/Trakia Motorway-Interchange Orizuvo	171	a
Interchange Orizuvo - Svilengrad	117	2
Svilengrad - Kaptan Andreevo	12	3

In **Bulgaria**, 386.4 km of the Corridor has been upgraded, is being upgraded or has financing. This is 79 % of the Corridor in the country as a whole. 370.9 km of the Corridor or 49 % of the Corridor in Bulgaria still has to be upgraded. The need for upgrading is short-term and medium-term.

The decision 884/2004 names 214.3 km of the Corridor in Bulgaria as priority project and priority sections (28.5 % of the length of the Corridor in Bulgaria).

4.3.8 The Road Corridor in Greece

Section	Length (km)	Practical assessment
Promachonas - Petritsio I/C	12	b
Petritsio I/C - Kato Ambelia	9,5	1
Kato Ambelia - Lefkonas	15	a
Lefkonas (Section 2,1) - Riziana	23	2
Riziana - Langadas I/C	35	1
Langadas I/C - I/C K1	15,9	

On the Corridor in **Greece,** 43 km of 118.5 km, i.e. 36% of the Corridor in the country has been upgraded, is being upgraded or has financing. This means that 75.5 km (or 48.6% of the Corridor in the country as a whole) require short or medium-term upgrading.

The whole Corridor in Greece is a priority project and priority section of decision 884/2004.

4.3.9 The Road Corridor in Turkey

Section	Length (km)	Practical assessment
Kapikule - Harp Aka Leventl (K 5)	222.8	a

222.8 km of Corridor IV are located in **Turkey**; this entire section of the Corridor has been upgraded, is being upgraded or is financed.

The following table provides an overview of the countries:

Country	Length (km)	Categories a, b, c		Categories 1, 2, 3		Category 1		Priority Project		Priority Section	
		(km)	(%)	(km)	(%)	(km)	(%)	(km)	(%)	(km)	(%)
Germany	144.5	144.5	100	-	-	-	-	-	-	-	-
Czech Republic	574	533	93	41	7	-	-	39	7	39	7
Slovakia	82	82	100	-	-	-	-	-	-	-	-
Austria	118	26	22	92	78	92	78	65	55	65	55
Hungary	263.5	207.5	79	56	21	25	9.5	241	91.5	-	-
Romania	1,524.5	1,384.5	95	140	9	0	-	1,198.7	78.6	326.6	21.4
Bulgaria	757.3	386.4	79	370.9	49	0	-	214.3	28.5	214.3	28.5
Greece	118.4	43	36.3	75.5	48.6	52.5	44.3	118.4	100	118.4	100
Turkey	222.8	222.8	100	-	-	-	-	-	-	-	-

4.4 Comparison of Road Corridor Assessment

In the case of the Road Corridor, the priority sections according to Decision 884/2004 only partially concur with the upgrading requirements defined by practical assessment.

5. UPGRADING STRATEGY FOR CORRIDOR IV

The practice-oriented assessment method applied here makes it possible to submit an upgrading strategy to the Rail and Road corridor and to recommend ways of implementing the strategy. The upgrading strategy for rail and road are presented separately in the following tables. The individual priorities should be dealt with progressively, obviously beginning with Priority Level 1 measures. The results below show that during the Priority Level 1 period, the most urgent but not the largest number of upgrading measures have to be undertaken. There is no further prioritisation within the individual priority groups, for example priorities relating to specific countries. The projects within a priority group should be treated equally. Priorities on the rail and road corridor should also be equally weighted.

5.1 ... for the Rail Corridor

5.1.1 On the Rail Corridor, the following sections are Priority Level 1 and should be upgraded immediately.

Country	Section	Length km	Practical assessment
Germany	Pirna-Schöna (border)	31	1
Germany/Czech Republic	Schöna (border) - Decin (border)	14	1
Germany	Marktredwitz-Schirnding	14	1
Germany/Czech Republic	Schirnding-Cheb (border)	13	1
Czech Republic	Cheb-Plzen	106	1
Czech Republic	Plzen-Zdice	62	1
Czech Republic	Zdice-Beroun	11	1
Czech Republic	Beroun-Praha	43	1
Czech Republic/Slovakia	Breclav-Kuty	18	1
Slovakia	Marchegg-Devinska Nova Ves-Bratislava	5	1
Slovakia	Bratislava-Petrzalka	18	1
Austria	Wien-Wampersdorf	35	1
Austria/Hungary	Wampersdorf-Sopron	41	1
Austria	Wien-Marchegg	47	1
Hungary	Szolnok-Szajol	10	1
Hungary	Györ-Sopron	85	1
Romania	Curtici-Arad	17	1
Romania	Arad-Ilia	125	1
Romania	Sighisoara-Brasov	128	1
Romania	Brasov-Ploiesti	107	1 (a)
Romania	Bucuresti-Fetesti	164	1
Romania	Fetesti-Constanta	79	1

Country	Section	Length km	Practical assessment
Romania	Craiova-Calafat	107	1
Bulgaria	Vidin-Brusartsi	87	1
Bulgaria	Brusartsi-Vratsa	76	1
Bulgaria	Vratsa-Mezdra	18	1
Bulgaria	Mezdra-Sofia	86	1
Turkey	Halkali-Istanbul Sirkeci	27	1

The length of the rail corridor to be upgraded in the short term is 1,187 km.

5.1.2 The following sections are Priority Level 2 and need to be upgraded in the medium-term:

Country	Section	Length km	Practical assessment
Germany	Pegnitz-Marktredwitz	58	2
Slovakia	Kuty-Devinska Nova Ves-Bratislava	64	2
Austria	Breclav-Hohenau border - Wien	91	2
Hungary	Szajol-Lökösháza border	115	2
Hungary	Lökösháza-Curtici (border)	11	2
Romania	Ilia-Simeria-Vintu de Jos	77	2
Romania	Vintu de Jos - Coslariu	25	2
Romania	Coslariu-Sighisoara	98	2
Romania	Arad-Timisoara	51	2
Romania	Timisoara-Caransebes	96	2
Romania	Caransebes-Orsova - Drobeta-Strehaia	166	2
Romania	Strehaia-Filiasi	24	2

Country	Section	Length km	Practical assessment
Romania	Filiasi–Craiova	36	2
Bulgaria	Sofia–Plovdiv	156	2
Bulgaria	Sofia–Pernik	33	2
Bulgaria	Pernik–Dupnitza	58	2
Bulgaria	Dupnitza-Koulata	119	2
Bulgaria/Greece	Koulata-Promachonas (border)-Strimonas	15	2
Greece	Strimonas-Thessaloniki	130	2
Turkey	Kapikule-Halkali	280	2

1,518 km are in need of medium-term upgrading within the period of five to seven years; this means 233 km (1,629:7 = 233 km/year) should be upgraded per year.

5.1.3 The following sections were assessed as Priority Level 3:

Country	Section	Length km	Practical assessment
Germany	Nürnberg-Pegnitz	67	3
Austria	Wien-Kittsee	69	3
Slovakia/Hungary	Petrzalka-Rusovce-Rajka (border)	17	3
Slovakia	Bratislava-Palarikovo	81	3
Slovakia	Palarikovo-Sturovo	54	3
Hungary/Slovakia	Sturovo-Szob (border)	16	3
Hungary	Rajka-Hegyeshalom	13	3

The remaining 660 km in need of long-term upgrading should be handled in the near future.

5.2 ... for the Road Corridor

5.2.1 On the Road Corridor, the following sections need to be upgraded as Priority Level 1 projects:

Country	Section	Length km	Practical assessment
Austria	Mikulov-Drasenhofen-Wien (A 5)	65	1
Austria	Parndorf-Kittsee (A 6)	22	1
Czech Republic	Praha Ring Road (Brezineves, D 8) - Praha Ring Road (Ruzyne, R 7)	14	1
Hungary	Budapest (M1 - M0 Junction) - Budapest (M5 - M0 Junction)	29	1
Hungary	Kiskunfélegyháza-Szeged	57	1
Hungary	Szeged–Mako	31	1
Bulgaria	Dimovo-Rujinci	25	1
Bulgaria	Interchange Sofia Ring Road/ Hemus motorway - Interchange Sofia Ring Road/Kremikovzci	2	1
Greece	Petritsio I/C - Kato Ambelia	9,5	1
Greece	Riziana-Dorkada	19	1
Greece	Dorkada-Langadas I/C	16	1
Greece	I/C K1 - Thessaloniki Port	8	1

Altogether 191.5 km of road corridor require short-term upgrading.

5.2.2 The following sections are of Priority Level 2, i.e. upgrading measures have to be carried out in the medium-term:

Country	**Section**	**Length km**	**Practical assessment**
Austria	Wien Bypass A 5 - A 4	27	2
Austria	A 4 Junction S 1 - Airport	4	2
Czech Republic	Praha Ring Road (Jesenice, D 3) - Praha Ring Road (Ricany, D 1)	8	2
Hungary	Rajka (SK/H) - Mosonmagyaróvár (M15 - M1 Junction)	17,5	2
Hungary	Mako - Nagylak (Border H / RO)	25	2
Bulgaria	Interchange Sofia Ring Road/ Kremikovzci - Interchange Sofia Ring Road/Gornobansky pat	37	2
Greece	Lefkonas (Section 2) - Riziana	16	2
Greece	Lefkonas (Section 1) - Riziana	7	2

In the medium term, 431.9 km have to be upgraded within a five to seven-year period.

5.2.3 The long-term upgrading requirements of Priority Level 3 projects apply to the following sections:

Country	Section	Length km	Practical assessment
Romania	Cernavoda-Constanta	56	3
Romania	Sibiu-Brasov	123	3
Romania	Lugoj-Caransebes	51	3
Romania	Ploiesti North-Ploiesti South	14	3

This Priority level covers the need for upgrading of 203 km.
