Infrastructure Annex 2015

Strategic Infrastructure Programme of the Minister for Infrastructure and Transport

L.443 / 2001, article 1, para. 1

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CONTENTS

SUMMARY

The Infrastructure Annex gives significance to the strategic link between Government and Parliament investment decisions and EU guidelines, based on integration of port, airport, intermodal and urban nodes and the four TEN-T multimodal corridors crossing Italy.

It would seem useful to start with the opportunities and risks of the system and therefore a careful analysis of the national transport context – in terms of endowment and also potential demand – and the European and national regulatory programming framework that highlights three priority issues regarding intelligent and sustainable mobility, safety and transparency in policies for innovation. In this context, Italy is an active partner in building a single European space in transport.

As a result of the above analysis, we can consistently identify strategic national lines in the sphere of infrastructure and mobility policies, which will be a reference for medium and long term sectoral planning choices in full awareness of the contribution that investment in transport infrastructure can make to growth, employment and cohesion throughout Europe. In particular, the national transport system, integrated and strongly oriented towards intermodality and sustainable mobility, will hinge on the development of the national rail network, both for passengers and above all for freight, with a high degree of connection with more competitive ports and more efficient and functional domestic airports and on a large-scale road maintenance project, for the rebalancing of the rich national road network and for its increased safety.

The identification of design solutions will focus on the use of innovative technologies and systems (Intelligent Transportation Systems - ITS) to quickly and cost-effectively obtain capacity increases, acceleration of existing connections and greater safety on transport networks.

Finally, a series of integrated projects for sustainable urban mobility will be implemented. Starting with the metropolitan cities, they will work on infrastructure and mass rapid and intermodal transport systems, control and information systems, promotion of cycle-pedestrian mobility, promotion of sharing mobility and the orientation of demand for individual car use towards the single vision of the Sustainable Urban Mobility Plans, attainable gradually over time.

The Infrastructure Annex confirms the choice of the Ministry of Infrastructure and Transport to identify, in a single Multiyear Planning Document (MPD), introduced by Legislative Decree No. 228 of 29 December 2011, the unitary instrument for short and medium term programming, which will include and make consistent all public works investment plans and programmes within its competence, in compliance with the provisions of this Infrastructure Annex.

Finally, on the basis of these strategic lines and the progress and possibility of securing private capital for the bulk of the financing, the Strategic Infrastructure Programme (SIP) identified 25 priority projects, for a total cost of 70.9 billion euro and financial coverage of 48 billion euro, satisfying, on the one hand, a widespread need for rationalisation and, on the other, a healthy adoption of financial realism aimed at selecting a limited number of works for allocation of available public and private resources.

With reference to other works contained in the SIP and referred to in Infrastucture Annex 11, there will be, downstream of in-depth comparison with the regions, scheduled progress updates.

PART ONE:
GENERAL FRAMEWORK FOR PROGRAMMING TRANSPORT INFRASTRUCTURE

CHAPTER I
THE CONTEXT ANALYSIS IN RELATION TO THE STRATEGY

I.1 SUMMARY OF ANALYSIS CURRENT ON DEMAND AND POTENTIAL

Passenger transport in Italy

Although 2012 was a difficult year for all passenger mobility sectors in Italy, 2013 in most cases witnessed an easing of the negative trend, confirmed by ISTAT data relative to 2014. The car remains the main mode of transportation (59.8%), a long way ahead of aircraft (17.7%) – used mainly for long holidays (22.9%) and business travel (29.4%) – and the train (10.7%), the mode of transport chosen for a fifth of business trips (20.9%), due also to the growing supply of high-speed lines.

TABLE 1 PERCENTAGE BREAKDOWN BY JOURNEY TYPE AND BY PRINCIPAL MODE USED: YEARS 2013 AND 2014

	2013			2014		
	holiday	work	total	holiday	work	Total
Air	13.5	27.8	15.1	16.0	29.4	17.7
Rail	10.1	23.1	11.6	9.1	20.9	10.7
Ship, boat, motorlaunch	2.5	-	2.2	3.2	1.6	3.0
Own car, etc.	66.1	34.4	62.6	63.7	34.7	59.8
Tourist and scheduled coach	5.6	3.5	5.4	4.4	3.0	4.3
Camper/motorhome	1.5	0.8	1.4	2.5	-	2.2
Other	0.7	10.4	1.7	1.1	10.4	2.3
Total	100	100	100	100	100	100

source ISTAT, 2015

The comparison of total domestic passenger traffic by mode of transport for the years 2005-2014 confirms the reversal of the negative trends in various sectors, in particular collective urban and extra-urban transport, which saw an increase of 2,548 million passenger-km in 2014 compared to 2005.

TABLE 2 TOTAL DOMESTIC PASSENGER TRAFFIC: YEARS 2005, 2008, 2010-2014
Millions of passenger-km

Modes of transport	**2005**	**2008**	**2010**	**2011**	**2012**	**2013**	**2014**
Fixed installations	**50,463**	**49,892**	**47,574**	**47,247**	**47,159**	**49,128**	**50,338**
Railways	50,088	49,524	47,172	46,845	46,759	48,738	49,848
-of which large enterprises	46,144	45,767	43,349	45,944	45,753	47,707	48,794
-of which small and medium enterprises	3,944	3,757	3,823	901	1,006	1,031	1,054
Other (extra-urban tramways and cable cars)	375	368	401	402	400	390	490
- of which extra-urban tramways	50	52	72	76	76	77	80
- of which funicular	*325*	*316*	*329*	*327*	*323*	*313*	*410*

Extra-urban collective transport	**89,329**	**90,693**	**90,134**	**90,903**	**90,546**	**90,746**	**91,309**
Bus and trolleybus	17,865	17,028	16,825	17,389	16,993	17,125	17,613
State, hire and private bus	71,464	73,665	73,309	73,514	73,553	73,621	73,696
Urban collective transport	**17,678**	**18,651**	**19,188**	**18,652**	**17,527**	**17,612**	**18,246**
Trolleybus and bus	11,625	11,745	12,085	11,537	10,970	11,022	11,468
Other modes	6,053	6,905	7,103	7,114	6,557	6,590	6,778
- of which urban tramways	1,053	1,107	1,135	1,246	1,243	1,228	1,206
- of which metro	4,982	5,777	5,948	5,849	5,295	5,343	5,553
- of which funicular	19	21	20	19	20	19	19
Maritime cabotage navigation	***3,237***	***3,734***	***3,561***	***3,364***	***3,202***	***3,080***	***3,104***
Inland navigation	***488***	***452***	***527***	***540***	***529***	***548***	***537***
Air navigation	***12,813***	***15,064***	***15,726***	***16,765***	***16,545***	***16,260***	***16,985***
Road haulage	*726,534*	*721,830*	*739,870*	*708,251*	*620,683*	*661,097*	*684,581*
- of which cars	*677,014*	*676,359*	*698,390*	*665,328*	*578,668*	*620,368*	*642,920*
- of which motorcycles and mopeds	*49,521*	*45,471*	*41,480*	*42,923*	*42,015*	*40,729*	*41,661*
Total	**900,541**	**900,315**	**916,581**	**885,722**	**796,191**	**838,471**	**865,100**

Italicised estimated data - the sums may not coincide with the totals due to rounding
Source: CNIT – Years: 2013-2014

With regard to changes in demand, a recent study[1] suggests that the amount of travel will increase from current levels to more than 1000 billion passengers per km in 2030. The increased mobility will be exclusively attributable to work travel with a persistent, albeit slightly decreased, modal share of around 75% for private vehicles.

Rail transport

In rail transport, medium and long distance traffic volumes achieved in 2013 by the Italian FS Group showed signs of recovery: traveller-km were about 19 billion, a slight increase over the previous year. The sector's performance has been characterised by a decrease in unprofitable services and growth in market services, especially high speed.

TABLE 3 - RAIL TRAFFIC PASSENGERS MEDIUM AND LONG DISTANCE - YEARS 2001, 2007-2013

		2001	2007	2008	2009	2010	2011	2012	2013
Passenger-km	Mln	27,279	24,166	23,587	22,237	20,637	20,170	18,445	18,862
- of which market service (*)	*Mln*	-	-	-	-	-	*14,093*	*13,987*	*14,550*
- of which contributed universal service	*Mln*	-	-	-	-	-	*6,077*	*4,457*	*4,312*
Train-km	Thou	82,473	83,276	80,957	80,056	78,097	76,634	71,058	77,531
- of which market	*Thou*	-	-	-	-	-	*48,721*	*48,098*	*53,888*

[1] "The evolution of the mobility of the Italians – from the current scenario to 2020-2030", research report ANIASA – CENSIS, 2015, http://www.aniasa.it/pubblicazioni_file/Rapporto_ANIASACENSISDEF.pdf

service(*)									
- of which contributed universal service	*Thou*	-	-	-	-	-	*27,913*	*22,960*	*23,642*

Source CNIT – Years 2013-2014

The high speed (AV) service has indeed seen the 2010 completion of the infrastructure network along the backbone from Salerno to Milan (via Naples, Rome, Florence and Bologna), continuing towards Turin. In addition, the entry into operation of new operator NTV has led to an increase of AV services to Venice and Padua, and also new stations in Rome (Tiburtina and Ostiense) and Milan (Rogoredo and Porta Garibaldi). The start-up of a private operator in competition with the incumbent (Trenitalia) – the world's first case of competition between high speed rail operators – ahead of European rail liberalisation policy, now pending approval by the European Parliament (4th railway package), has triggered virtuous competition in the overall arrangement of tariff structures, with subsequent reductions in average prices of journeys and a general improvement in the quality of services for passengers, both on the trains and at the stations.

This means that between 2009 and 2013, AV services in Italy have recorded a 120%-plus increase in train-km.

Beside this increase in AV services, the results in terms of passengers carried were very significant, even more so considering the overall market contraction caused by the economic crisis. A study by the temporary association of companies (ATI) consisting of the firms Net-Engineering, Gruppo CLAS and T.S.C., shows that AV passenger numbers grew steadily from about 17 million passengers per year in 2009 to 30.8 million in 2013, an increase of 81%. This passenger increase has been accompanied by an even more substantial 98% increase in passenger-km. This development is due to an increase traffic volumes.

It is interesting to note that Trenitalia also further increased its AV passenger traffic in 2012 and 2013, ending up carrying about 24.5 million passengers per year, despite the entry into operation of competitor NTV, which has taken a market share of about 6.2 million passengers per year.

Overall, in 2013 the AV segment covered over 12 billion passenger-km. Overall growth is due in part to deflection to other modes such as air and car, other rail services (Intercity), and to a significant extent (40%) to the significant amount of new passengers and new journeys generated by reductions in travel time and cost (induced demand). A study by the University of Naples "Federico II" and Rome "Tor Vergata" estimates that the number of journeys induced by AV is equal to 5.5 million passengers per year.

This development of AV services also has important consequences for the modal split. An analysis[2] carried out on the Rome-Milan route estimates an increase in the railway share from 6% to 65% between 2008 and 2014, compared with a decline in travel by air (from 50% to 24%) and road (from 14% to 11%).

As regards regional and metropolitan rail traffic (see also the paragraph on urban mobility and Local Public Transport), despite the context of limited resources to support universal service and the consequent revision of the regional offer, there has been a substantial rebalancing of figures after the significant decrease between 2010 and 2011.

[2] Transport Authority, first annual report to Parliament, June 2015

TABLE 4 - RAIL TRAFFIC PASSENGERS ON REGIONAL TRANSPORT- YEARS 2001, 2007-2013									
		2001	2007	2008	2009	2010	2011	2012	2013
Passenger-km	Mln	19,472	21,819	22,180	22,168	22,712	19,198	19,045	18,890
Train-km	Thou	169,823	185,838	187,485	187,140	189,246	157,746	154,785	154,531

Source CNIT – Years 2013-2014

Road Transport

Motorway transport showed signs of growth in 2014, in contrast with the negative trends of the last few years. The data collected from AISCAT – for the first time since 2010 – highlights a situation of increased traffic as regards both the light vehicle (+1.0%) and heavy (+0.7%) components.

Passenger services over long distances contribute significantly to this result. A study commissioned by ANAV and published in late 2013 by the Politecnico di Milano gives a snapshot of the bus sector, with an offer of over 88 million bus-km serving over 2.6 billion passenger-km. This service is configured for a widespread network in Southern Italy with links between locations poorly connected by railway and the major Centre-South cities (Rome and Naples) and the North, and especially for connections from the Adriatic coast to Rome.

TABLE 5 LIGHT VEHICLE TRAFFIC ON THE MOTORWAY NETWORK: YEARS 2012-14 (MILLIONS OF VEHICLE-KM)					
Company	2014	% var. 2013	2013	2012	Var. 2013-12 (%)
Autostrade per l'Italia	34,337.2	1.1	33,970.3	34,465.3	-1.4
Traforo Monte Bianco	7.17	1.1	7.09	6.80	4.1
Traforo S. Bernardo	7.79	4.4	7.46	7.19	3.8
R.A.V.	74.2	-2.2	76.2	79.3	-3.9
SITAF	213.3	-1.3	216.1	219.1	-1.6
SAV	257.4	-4.1	268.4	279.7	-4.0
ATIVA	391.5	-0.5	393.5	412.9	-4.2
Asti-Cuneo	99.5	3.3	96.3	86.0	12.0
SATAP A4	1,591.1	-2.3	1,628.3	1,663.1	-2.1
SATAP A21	1,291.3	1.6	1,270.7	1,308.5	-2.9
Torino-Savona	725.2	1.9	711.8	734.5	-3.1
Milano Serravalle-MI Tangenziali	1,208.5	2.1	1,183.9	1,206.1	-1.9
Centro Padane	639.8	1.7	629.4	640.2	-1.9
Brescia-Padova	3,644.7	2.1	3,568.1	3,596.6	-0.9
CAV	715.0	-10.0	794.3	806.8	-1.4
Brenner	3,230.7	1.1	3,194.9	3,200.6	-0.2
Autovie Venete	1,746.8	2.5	1,703.4	1,758.7	-3.1
Autostrada dei Fiori	956.9	2.5	933.3	954.8	-2.2
Aut.le della Cisa	596.5	2.1	584.3	602.4	-3.1
SALT	1,445.0	1.9	1,418.4	1,460.8	-3.0
SAT	215.5	2.4	210.5	200.9	4.8
Strada dei Parchi	1,785.3	-0.1	1,768.8	1,846.9	-3.3
Tangenziale di Napoli	835.4	-1.7	849.7	864.7	-1.7
Autostrade Meridionali	1,371.9	4.3	1,314.8	1,285.3	2.3
Consorzio Autostrade Siciliane	1,346.6	-0.7	1,356.2	1,390.7	-2.5
Total	**58,734.6**	**1.0**	**58,175.1**	**59,077.9**	**-1.5**

source AISCAT, January 2015

Maritime transport and inland navigation

Maritime passenger transport – concentrated mainly in the Tyrrhenian Sea due to the importance of exchanges with the main islands and territorial continuity services – constitutes a small proportion of the overall passenger travel on all modes. It is estimated to make up only about 4% of total passenger movements, but it is important for certain ports and in particular for the cruise industry.

TABLE 7 ITALIAN MARITIME TRAFFIC PASSENGERS (UNITS, 2013)

PORTS	Passenger Traffic	Cruise embarkations-disembarkations	Transit Cruises	Total Cruises	Total
Savona-Vado	1,286,371	670,031	269,007	939,038	2,225,409
Genoa	2,899,193	649,282	400,803	1,050,085	3,949,278
La Spezia	213,858	1,507	204,133	205,640	419,498
Marina di Carrara	1,237	-	-	-	1,237
Livorno	2,557,826	4,991	731,525	736,516	3,294,342
Piombino	3,079,480	-	-	-	3,079,480
Civitavecchia	4,033,783	989,999	1,548,259	2,538,258	6,572,041
Naples	6,931,856	110,689	1,064,329	1,175,018	8,106,874
Salerno	601,175	12,997	108,922	121,919	723,094
Gioia Tauro	-	-	-	-	-
Taranto	-	-	-	-	-
Brindisi	474,600	-	-	-	474,600
Bari	1,700,591	165,031	439,750	604,781	2,305,372
Ancona	1,174,054	42,128	67,364	109,492	1,283,546
Ravenna	101,819	16,827	80,214	97,041	198,860
Venice	2,072,642	1,512,596	303,227	1,815,823	3,888,465
Monfalcone	-	-	-	-	-
Trieste	147,414	52,297	17,947	70,244	217,658
Messina-Milazzo	8,175,725	36,190	465,126	501,316	8,677,041
Catania	390,457	35,313	196,452	231,765	622,222
Augusta	20,232	-	-	-	20,232
Palermo	1,632,320	42,869	368,130	410,999	2,043,319
Cagliari-Sarroch	343,418	5,731	140,272	146,003	489,421
Olbia-Golfo Aranci	3,660,136	-	189,702	189,702	3,849,838
TOTAL	41,498,187	4,348,478	6,595,162	10,943,640	52,441,827

Cabotage navigation (only domestic Italian passenger traffic) clearly prevails in the total of passengers handled. Overall, passenger traffic has decreased by 1.8% per year compared to 2005.

Regarding cruise traffic, the main centres are easily recognisable as Civitavecchia, Venice, Naples and Genoa, tied to tourist attractiveness and ability to provide ground services to ships and passengers. However demand emerges also in other ports, with growing importance in all stopovers (Sicilian, Tuscan and Apulian ports, etc.).

Overall, the cruise sector has in recent years seen very high overall growth rates for the industry and for the Mediterranean, with the Italian ports leading the field. We note, however, a slowdown in recent years, with 10.4 million passengers carried in 2014 (-7% compared to the 11.2 million of 2013). Recent data however[3] indicates an upturn for 2015, with a forecast 11 million passengers by the end of the

[3] See the "Cruises Special 2015" prepared by Risposte Turismo.

year.

Passenger traffic data relating to inland navigation is shown below. The estimated figures for 2014 show a recovery from the previous year, confirming the growth trend in passengers carried.

TABLE 8 INLAND NAVIGATION - SCHEDULED PUBLIC PASSENGER TRANSPORT (THOUSANDS, 2005-2013)

	2006	2007	2008	2009	2010	2011	2012	2013	2014*
Passengers	114,842	113,215	106,350	118,291	123,764	126,474	127,425	120,267	128,723
Passenger-km	496,490	492,855	452,255	509,171	527,472	539,939	528,580	515,440	536,691

**Estimate*
source CNIT 2013-2014

Air transport

Air transport in Italy in 2014 was on the increase again after two years of contraction. The Italian airport system recorded a 4.5% increase in passenger traffic since 2013.

Passenger numbers in 35 Italian airports monitored by Assaeroporti, covering almost all airport traffic, amounted to 150,505,471 (+6.4 million more than in 2013). Increases were reported in almost all Italian airports, attesting to a capacity for growth in air traffic throughout the country. The significance of 2014 is that the figure is higher by 1.7 million passengers compared to 2011 (the last growth year for Italy) owing to the joint effect of a recovery both in national traffic (+2.5%) and international traffic (+5.9%). ENAC has recently revised its growth forecasts, estimating an annual increase of 3.2% until 2030 – lower than previously forecast because of the expected short-term slowdown and the low potential seen in Europe, where Italy has a market share of 9.6%.

TABLE 9 TOTAL PASSENGERS BY AIRPORT AND ORIGIN/DESTINATION IN 2014

Airport	Domestic	International	International E.C.	Transit	Total commercial	% var. on 2013
Alghero	1,037,836	597,231	575,653	2,745	1,637,812	4.83
Ancona	165,657	306,518	261,305	1,679	473,854	-4.51
Bari	2,542,393	1,122,588	1,039,846	9,047	3,674,028	2.15
Bergamo	2,771,505	5,994,830	5,244,803	6,195	8,772,530	-2.12
Bologna	1,732,406	4,801,219	0	38,859	6,572,484	6.24
Bolzano	57,868	471	134	0	58,339	96.37
Brescia	2,509	7,431	2,897	233	10,173	31.19
Brindisi	1,775,663	380,937	254,621	4,227	2,160,827	8.58
Cagliari	2,881,477	747,807	643,803	4,466	3,633,750	1.44
Catania	5,209,460	2,073,838	1,728,742	16,948	7,300,246	14.12
Cuneo	110,513	122,809	79,679	2,156	235,478	-18.30
Florence	401,919	1,838,080	1,652,439	50	2,240,049	13.55
Foggia	4,959	256	0	0	5,215	-3.30
Genoa	686,397	572,680	457,212	2,674	1,261,751	-2.68
Grosseto	315	3,593	1,590	0	3,908	-11.85
Lamezia T.	2,014,831	390,221	299,584	6,041	2,411,093	10.41
Milan LIN	5,129,709	3,854,576	3,853,513	2,609	8,986,894	-0.03
Milan MXP	2,867,694	15,802,046	9,372,870	168,921	18,838,661	4.99
Naples	2,516,451	3,400,805	2,957,811	31,714	5,948,970	9.47
Olbia	1,192,796	903,032	884,813	10,897	2,106,725	7.88

Palermo	3,619,832	933,799	889,215	13,099	4,566,730	5.06
Parma	139,952	63,638	62,950	118	203,708	4.42
Perugia	45,630	158,364	158,213	453	204,447	-2.87
Pescara	233,592	319,572	290,001	375	553,539	1.54
Pisa	1,367,799	3,303,137	0	5,077	4,676,013	4.56
Reggio Cal.	517,417	0	0	169	517,586	-7.09
Rimini	383	467,970	40,099	1,502	469,855	-15.94
Rome CIA	990,017	3,999,371	3,864,575	0	4,989,388	5.66
Rome FCO	11,447,610	26,840,909	17,300,703	217,948	38,506,467	6.47
Turin	1,830,609	1,588,493	1,433,756	5,093	3,424,195	8.60
Trapani	1,159,837	436,705	436,420	558	1,597,100	-14.90
Treviso	694,829	1,548,533	1,364,814	231	2,243,593	3.35
Trieste	458,809	277,361	271,028	1,847	738,017	-13.26
Venice	1,353,417	7,099,596	5,334,548	8,636	8,461,649	0.85
Verona	786,343	1,968,830	1,227,027	13,955	2,769,128	2.05
TOTALS	57,748,434	91,927,246	61,984,664	578,522	150,254,202	4.48

source Assaeroporti, 2015

Looking at the distribution of passenger percentages handled by the main Italian airports in 2014, Rome with its two airports at Fiumicino and Ciampino takes the largest share of passenger traffic (28.92%) against the 18.53% of Milan (Malpensa and Linate). The ranking of the top twenty airports based on passenger traffic in 2010 and 2014 includes only one Italian hub, Rome Fiumicino. Despite increased passenger numbers in 2014 (38,506,467 against 36,337,050 in 2010), the airport drops from 6th to 7th place in the European ranking.

Urban mobility and Local Public Transport

In 2013 the strong fall in demand for mobility in Italy reached a stopping point. On an average weekday, total movements of the Italian population (14-80 year band) again topped 100 million (about 128 million in 2008), an increase of 2.8% compared to 2012 and passenger-km volumes increased by 9.6% to 1.4 billion in 2013.

The nature of the journeys have nevertheless undergone some deep changes, with the numbers of people travelling daily for work and/or study increasing by about 2.1 million between 2001 and 2011 and reaching 29 million (48.6% of the resident population). There was also an increase in total kilometres of journeys made on an average day during workdays, as a result of the growth of urbanisation around the major cities.

TABLE 10 RESIDENT POPULATION TRAVELLING DAILY BY MUNICIPALITY, 2011

Municipality	Number of commuters
Rome	1,340,818
Milan	650,396
Turin	424,583
Naples	382,708
Genoa	286,418
Palermo	279,202
Bologna	189,064
Florence	181,944
Bari	140,849
Verona	130,288
Venice	127,826

Catania	117,457
Total	**4,251,553**

source ISTAT census 2011

Short journeys decreased sharply (in 2007 journeys of less than 10 km accounted for 74% of the total; in 2013 it was 68.9%) and there was a progressive increase in extra-urban mobility (rising from 37.4% in 2008 to 41% in 2013). In this sector public transport has a market share of approximately 14% and has witnessed an increase in train use, which accounts for 44.4 percent of all extra-urban journeys on public transport (41.8% in 2012).

TABLE 11 PASSENGERS PER DAY ON REGIONAL AND SUBURBAN TRAINS BY REGION, 2015

Region	Number passengers/day
Abruzzo	19,544
Basilicata	8,500
Calabria	23,500
Campania	271,553
Emilia-Romagna	198,000
Friuli Venezia Giulia	15,194
Lazio	540,000
Liguria	94,000
Lombardy	670,000
Marche	28,946
Molise	4,853
Piedmont	203,500
Puglia	**150,430**
Sardinia	**19,135**
Sicily	**37,000**
Tuscany	**237,000**
PA Trento	**22,300**
PA Bolzano	**29,300**
Umbria	**30,288**
Valle d'Aosta	**4,127**
Veneto	**161,600**
Total	**2,768,770**

source Legambiente

Railway use for extra-urban journeys has seen significant growth in some regions such as Lombardy (from 590,000 to 670,000 passengers per day in 2010) and Puglia (from 100,000 to 150,000).

Demand for local public transport in the provincial capitals in 2013 suffered a further fall to 188.6 passengers carried per inhabitant compared to 220 in 2008 and 201 in 2012. This trend, resulting from the economic and employment crisis and a reduction in supply, unfolded with big country-wide variations: the decrease in the North was less marked (from 238.8 passengers per inhabitant in 2011 to 221.2 in 2013) and quite significant in the Centre (from 348.7 to 282.4); in the South it was evident as an aggravation of an existing weakness (from 76.4 to 59).

Against the background of an overall decline in demand, 2013 brought a reversal in trend in motorised public transport, which had hitherto been in

continuous growth since 2006. The share of motorised public transport in fact dropped from 15.1% in 2012 to 12.8% in 2013, a return to 2008 levels. This trend is more pronounced in medium-sized urban areas (100,000-250,000 inhabitants), while nationally the sharpest decline was recorded in the Northwest and Centre; public transport use in the South, however, remains practically unchanged with a share of around 8.5% of motorised mobility. As with extra-urban transport, in 2013 the railway mode share of public transport saw an increase that reprised 2011 levels with percentages equal to 37.3% and higher levels in big cities (41.6%).

As regards intermodality, the proportion of extra-urban journeys made with more than one mode of transport is virtually unchanged from 2007 and stood at 6.4% in 2013, while in urban areas (medium-sized and large cities), despite a slight decline reported by the latest available data, the figure for this mode shows a significant increase in the last decade (6.8% in 2013, 8.2% in 2012 compared with 3.5% in 2004).

Surveys of levels of satisfaction among local public transport users show varied opinions regarding the different characteristics of the offer. The most positive feedback relates to speed and frequency of services: 64% of users say they are very satisfied, 55% are fairly satisfied and 54% are happy with punctuality and connections between different parts of the municipality. The most critical factors concern ticket cost (about 30%) comfort while waiting (38%) and cleanliness of vehicles (42%). Nationally, notable variations in satisfaction with the service are apparent with significantly more negative responses from users in the South and generally from residents in the centre of metropolitan areas.

Freight transport and the national logistics system

In 2013 more than 432 million tonnes of freight were traded with foreign countries[4]. Early 2014 data highlights a moderately positive trend in freight traffic compared to 2013, but these are nowhere near the volumes of the period before the 2008 crisis. The main driver of the improvement has been trade with foreign countries, even though early positive indications are emerging on domestic demand front.

The geographical structure of Italian exports continues the reorientation path undertaken in recent years. Although there are decidedly positive and encouraging trends emerging in relations with countries in North Africa, the Far East (+7.7%) and the Middle East (+7.4%), we must remember that exports have suffered the uncertainties of international economic scenario, i.e. the weakness of the eurozone countries (which soak up 54% of Italian products in value) is compounded by the evident difficulties affecting emerging countries (like Brazil , India and Russia).

The main mode for freight transport remains road haulage (55% of the total), which has a heavy impact on the total cost of logistics in Italy (more than 63%, compared with the 50% European average).

TABLE 12 DOMESTIC GOODS TRAFFIC BY MODE OF TRANSPORT, YEARS 2008-12 (MLN. OF TONNE-KM)

Modes of transport	2008	2009	2010	2011	2012	2013	2014
Railways	23,831	17,791	18,616	19,787	20,244	19,037	18,404

[4] SRM processing of data from Coeweb, Istat, 2014.

-of which large enterprises	19,918	16,232	15,139	17,279	16,849	17,594	17,009
- of which small/medium enterprises	3,914	1,559	3,477	2,508	3,396	1,443	1,395
Maritime cabotage navigation	*47,017*	*49,173*	*53,156*	*53,708*	*50,287*	*49,112*	*48,009*
Inland navigation	64	76	135	144	81	89	91
Air navigation	999	864	1,013	1,026	976	991	1,040
Road haulage (> 50 km)	136,952	130,847	134,261	114,736	101,380	102,320	99,649
Pipelines (>50 km)	10,455	9,714	9,606	9,476	9,636	9,593	9,152
Total	219,318	208,465	216,787	198,877	182,604	181,142	176,345

Estimated figures in italics
source: CNIT - Years 2013-2014

Rail and intermodal transport

Rail freight makes up a minority share of traffic (about 6%, while in other countries it is between 12 and 18%); the figure is in sharp decline (from 70.7 million train-km in 2008 to just 43.2 in 2013); but railway enterprises not connected to the Italian State Railways Group grew strongly (13.5 million train-km, + 5% year on year, eroding only the shares of the national carrier). As the Transport Regulatory Authority (September has reported 2014), in addition to the difficult economic scenario, it should be noted that the sector needs an essentially local basin with a modest share of cargo in transit through the national territory. In an altogether weak scenario, we can however perceive some interesting countertrend signals in terms of enhancement projects, especially in the field of intermodality and collaboration with road transport. These projects are intended to tackle the rail sector's inherent inflexibility issues, which complicate the attainment of the two traditional objectives of commercial demand (cost reduction and faster adjustment of supply).

Intermodal traffic is a feature, above all, of international relations and is most evident in some of the big rail terminals along the Po Valley, connecting with the freight routes toward the main Alpine crossings linking Italy with the countries of Central and Northern Europe (Simplon, Gotthard, and Brenner) and with those to Eastern Europe (Tarvisio) and the Balkans (Villa Spicina). Intermodal transport represents 40% of the total traffic handled by rail. In 2011 over 50 million tonnes were handled, a turnover made up of 68% from containers and swap bodies (with combined rail-sea), 15% from accompanied road vehicles and the remaining 17% from unaccompanied road trailers.

TABLE 13 INTERMODAL RAIL FREIGHT BY BIG ENTERPRISES BY UNITS OF INTERMODAL TRANSPORT: YEARS 2011-2013 (TONNES IN ABSOLUTE VALUE, TONNE-KM IN THOUSANDS, AVERAGE JOURNEY IN KM)

	2011		2012		2013	
	Tonne	**Tonne-km**	**Tonne**	**Tonne-km**	**Tonne**	**Tonne-km**
Containers and swap bodies	34,274,950	7,205,892	33,985,150	7,173,075	36,951,390	8,381,149
Unaccompanied semi-trailers	8,658,545	1,599,582	9,554,085	1,826,115	5,751,711	882,382

Accompanied road vehicles	7,500,807	940,267	5,468,473	682,771	5,154,034	607,708
Unknown	55,460	4,386	8,148	552	9,783	581
Total	**50,489,762**	**9,750,127**	**49,015,856**	**9,682,513**	**47,866,918**	**9,871,820**
Average journey	**193.1**		**197.5**		**206.2**	

source: ISTAT, 2015

In 2012, total goods movement in the Italian freight village system, according to data published in July 2014 by the Freight Villages Association (Unione Interporti Riuniti), was more than 1.83 million TEUs (1.73 in 2011), most of which (71%) was within the terminals of Interporto Quadrante Europa (36%, 667,000 TEUs), CIM of Novara (21%, 380,000 TEUs) and Interporto Padova (14%, 250,000 TEUs). In addition, high TEU volumes were handled in the freight villages of Bologna (151,000 TEUs), Trento (144,000 TEUs), Rivalta Scrivia (105,333 TEUs), Cepis (55,000 TEU) and the Integrated Logistics Centre of Mortara (48,000 TEUs). The indicator for movements of pairs of intermodal trains handled, in addition to confirming the thus described container traffic, also evidences significant levels of traffic through the Bari Ferruccio terminal.

These figures are in addition to the conventional trains handled by some terminals, equal to 136,648 units in 2012. Only three freight villages handled more than 20,000 railway wagons: Cepis (44,000), Interporto Quadrante Europa (29,000) and Bologna (24,000). In 2012 seven freight villages handled no railway wagons at all, while the remaining eleven terminals saw less than 10,000.

Road Transport

Road traffic grew in 2014 (+ 0.7% according to AISCAT motorway figures), after being in the negative in 2013. Note also that as many as 98% of the tonnes transported and 90% of all tonne-km was generated by domestic traffic and that in 2007-2012 Italian firms' share of domestic road transport on national territory fell by 27% while that operated by foreign companies grew 18%. The sector's considerable difficulties in recent years have also been accompanied by a deep changes in the kilometric range of journeys (about 68% of road transport took place within 100 km). In line with the European trend, Italy seems to be finally witnessing a reduction in long-distance journeys.

TABLE 14 HEAVY VEHICLE TRAFFIC ON THE MOTORWAY NETWORK: YEARS 2012-14 (MILLIONS OF VEHICLE-KM)

Company	2014	Var. % 2014-13	2013	2012	Var. % 2013-12
Autostrade per l'Italia	9,801.1	0.6	9,744.5	10,004.8	-2.6
Traforo Monte Bianco	3.30	0.9	3.27	3.46	-5.5
Traforo S. Bernardo	0.68	-2.9	0.70	0.75	-6.7
R.A.V.	27.4	0.0	27.4	29.4	-5.8
SITAF	83.8	0.1	83.7	85.4	-2.6
SAV	72.4	-1.9	73.8	78.6	-6.1
ATIVA	81.5	-0.5	81.9	86.6	-5.1
Asti-Cuneo	29.9	2.7	29.1	26.7	8.6
SATAP A4	518.7	-1.9	528.6	537.1	-1.6
SATAP A21	605.4	2.3	591.9	607.0	-2.5
Torino-Savona	149.4	2.6	145.6	151.7	-3.1
Milano Serravalle-MI Tangenziali	276.4	1.9	271.3	275.7	-1.6
Centro Padane	309.0	2.2	302.3	309.9	-2.4

Brescia-Padova	1,327.6	1.2	1,311.4	1,329.5	-1.3
CAV	271.5	-5.1	286.1	290.7	-1.0
Brenner	1,235.7	2.4	1,206.8	1,229.5	-1.9
Autovie Venete	722.1	2.5	704.8	714.9	-1.3
Autostrada dei Fiori	261.1	2.0	255.9	257.9	-0.9
Aut.le della Cisa	182.6	1.1	180.7	191.4	-5.7
SALT	351.1	-0.8	353.8	367.3	-3.8
SAT	44.2	-0.3	44.3	43.1	2.8
Strada dei Parchi	273.1	-2.5	280.1	290.6	-3.6
Tangenziale di Napoli	75.6	-1.7	77.0	78.3	-1.7
Autostrade Meridionali	143.3	6.2	134.9	132.9	1.6
Consorzio Autostrade Siciliane	220.5	-0.6	222.0	223.8	-0.8
Total	17,067.4	0.7	16,941.7	17,347.0	-2.3

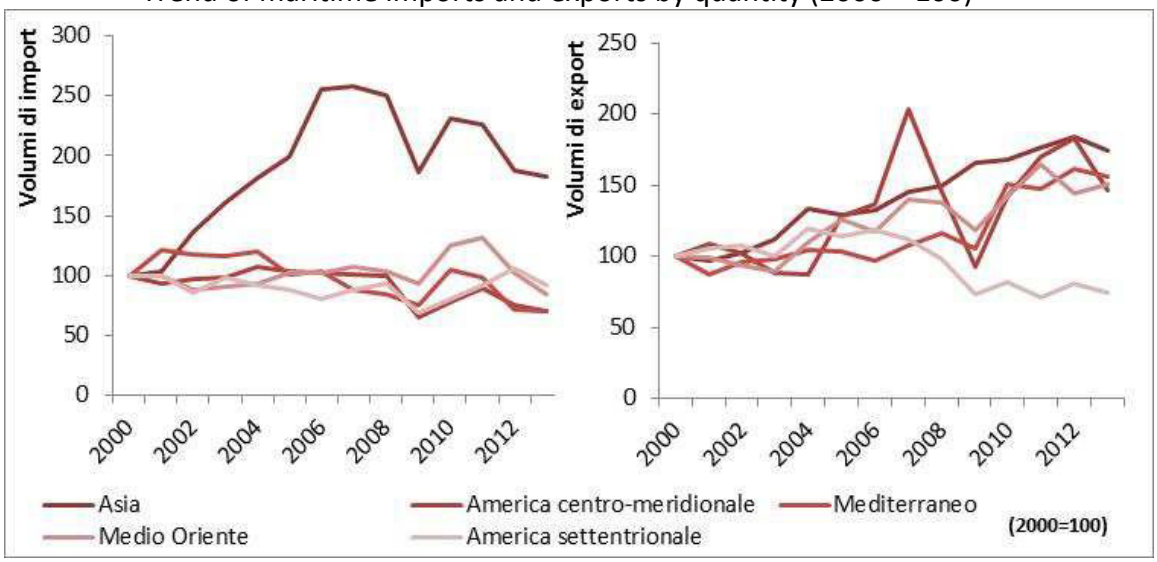
source AISCAT, January 2015

Maritime transport and inland navigation

The importance of the Italian maritime sector is evident when we consider that of the total freight traded with foreign countries, the amount of imports carried by sea is about 70% in quantity (equal to 38% in value) and for exports the quantity figure is 50% (equal to 31% in value).

Historical data for Italian maritime import-export shows increasing amounts of export goods, and decreasing imports due mainly to reduced provisioning of raw materials. The only area where imports have grown strongly since 2000 is Asia. However, it is important to highlight the decline in this area in the last three years, where value volumes are far below the highs of 2007.

Trend of maritime imports and exports by quantity (2000 = 100)



Data source: Coeweb, ISTAT.

Volumi di import	Import volumes
Volumi di export	Export volumes
Asia	Asia
Medio Oriente	Middle East
America centro-meridionale	Central and South America
America settentrionale	North America
Mediterraneo	Mediterranean
(2000=100)	(2000=100)

The main figures on the levels of maritime freight transport by region and geographical area reflect the heterogeneity of the Italian port network, which reveals terminals differing widely in terms of operational scale and degree of product specialisation.

The Italian ports are, in general, characterised mainly by multi-purpose traffic with low levels of specialisation, adequate to the traffic of the relevant regions of correspondence. Only four ports have flow in excess of 30 million tonnes: Gioia Tauro (33 million), Cagliari (35.6 million), Genoa (48.5 million) and Trieste (54.6 mln tonnes).

The data for recent years confirms that the gateway ports (North Tyrrhenian and Adriatic North), being able to serve the local inland production areas and at the same time act as gateways for ocean traffic bound for central Europe, resist the competition better than the transhipment hubs, which have gradually lost their market share, impacting negatively on the performance of the industry nationally. The data reaffirms the need for action to further raise the competitiveness of the system where container handling takes 18-19 days for imports and exports against an OECD average of 10/11 days.

Detailed data on 2013 container movements in major Italian ports reports an overall situation of slight recovery (5.7% on 2012, a pattern confirmed also in the first six months of 2014) determined by a differentiated response to the economic crisis; growth was seen in the Ligurian and Northern Adriatic ports and, as regards transhipment, there was a recovery in Gioia Tauro traffic (although marred by a drop in January-October 2014, -2.6%), which was offset by poor performance at Taranto (-24.1% in 2013 and -2.2% in 2014, falling to just over 27.8 million tonnes compared to 28.5 million tonnes in 2013).

TABLE 15 CONTAINER MOVEMENTS IN THE MAIN ITALIAN PORTS: EMBARKATIONS+DISEMBARKATIONS+ TRANSHIPMENTS, YEARS 2009-2013 (TEUS)

	2009	2010	2011	2012	2013
Savona-Vado	196,317	196,434	170,427	75,282	77,859
Genoa	1,533,627	1,758,858	1,847,102	2,064,806	1,988,013
La Spezia	1,046,063	1,285,155	1,307,274	1,247,218	1,300,432
Marina di Carrara	6,168	7,793	5,455	99	356
Livorno	592,050	628,489	637,798	549,047	559,180
Piombino	-	-	-	-	-
Civitavecchia	28,338	41,536	38,165	50,965	54,019
Naples	515,868	534,694	526,768	546,818	477,020
Salerno	269,300	234,809	235,209	208,591	263,405
Gioia Tauro	2,857,440	2,852,264	2,304,987	2,721,104	3,094,254
Taranto	741,428	581,936	604,404	263,461	197,317
Brindisi	722	1,107	485	97	566
Bari	55	680	11,121	29,398	31,436
Ancona	105,503	110,395	120,674	142,213	152,394
Ravenna	185,022	183,577	215,336	208,152	226,879
Chioggia	-	-	-	-	-
Venice	369,474	393,913	458,363	429,893	446,591
Protonotaro	-	40	-	40	-
Monfalcone	1,417	1,166	591	812	814
Trieste	276,957	281,643	393,186	408,023	458,597
Catania	21,791	20,560	17,659	22,087	30,255
Augusta	19	78	-	200	203
Palermo	30,111	33,495	28,568	22,784	20,647
Pozzallo				3,522	3,987

Cagliari-Sarroch	736,984	629,340	603,236	621,536	702,143
Total	9,514,654	9,777,962	9,526,808	9,612,626	10,082,380

source Assoporti and Contship Italy, 2014

After the 2009 decline, gateway traffic has picked up since 2010, reaching the highest volumes of recent times in 2013 (just over 6 million TEUs, including those empty). So, between 2005 and 2013 there has been an increase of 1 MTEU with a CAGR of about 2.1%. Preliminary data for 2014 indicates a further increase compared to 2013, driven by the performance of Genoa. According to data produced by the Customs Agency import-export trade in 2014 grew by 4.6% in tonnes.

TABLE 16 OVERALL GOODS SHIPPING BY CARGO TYPE AND PORT OF EMBARKATION-DISEMBARKATION: YEAR 2013 (THOUSANDS OF TONNES)

PORTS	Containers	Liquid bulk	Solid bulk	Ro-Ro	Other cargo	Total	Various (%) total 2012-13
Ancona	1,131	172	587	2,053	36	3,978	-12.8%
Augusta	10	23,184	824	240	50	24,308	-2.3%
Bari	546	3	1,413	1,341	76	3,379	-1.0%
Barletta	-	337	591	-	210	1,138	-22.5%
Brindisi	3	2,387	4,572	984	885	8,831	-13.7%
Cagliari	6,923	1,784	167	3,150	220	12,244	-2.6%
Catania	214	18	307	1,972	300	2,812	4.0%
Chioggia	0	-	1,536	3	939	2,478	2.4%
Civitavecchia	612	1,679	3,573	3,695	192	9,750	-4.7%
Falconara Marittima	-	3,219	-	-	-	3,219	-14.2%
Fiumicino	-	2,556	-	1	-	2,556	-48.2%
Gaeta	-	2,214	916	-	63	3,193	16.6%
Gela	0	2,496	-	1	1	2,498	-36.0%
Genoa	13,376	17,631	1,382	7,829	612	40,830	-3.8%
Gioia Tauro	26,295	629	41	245	236	27,447	0.2%
La Spezia	9,464	625	1,835	5	183	12,112	-7.0%
Lipari	-	1,664	-	91	3	1,758	-2.2%
Livorno	5,894	8,057	702	7,597	1,627	23,877	16.4%
Marina Di Carrara	-	1	840	-	979	1,820	-41.6%
Messina	0	33	0	9,109	2	9,144	1.0%
Milazzo	-	14,318	-	141	58	14,517	-3.4%
Monfalcone	4	1	456	1,021	2,531	4,012	5.2%
Naples	2,775	5,461	863	3,754	387	13,240	3.8%
Olbia	0	-	57	6,014	84	6,155	-15.4%
Oristano	-	259	965	10	14	1,248	-14.8%
Ortona	-	828	380	-	134	1,342	-2.9%
Palermo	121	1,827	60	5,434	170	7,612	0.5%
Piombino	-	164	2,980	2,656	274	6,074	-15.2%
Porto Empedocle	-	139	586	53	363	1,142	-14.3%
Porto Foxi	11	24,786	-	-	-	24,797	0.7%
Porto Levante	-	3,997	-	-	-	3,997	4.6%
Porto Nogaro	-	12	242	1	876	1,130	-39.3%
Porto Torres	-	787	1,026	1,901	116	3,830	-8.0%
Portovesme	-	70	662	157	226	1,115	-49.4%
Pozzallo	22	96	715	108	158	1,099	-2.5%
Ravenna	2,308	4,856	8,394	1,433	5,531	22,522	0.5%
Reggio Di Calabria	-	7	141	6,267	52	6,466	4.9%

Salerno	1,813	22	177	3,767	268	6,048	9.6%
Santa Panagia	2	10,458	-	-	-	10,461	-14.0%
Savona	940	7,294	3,137	1,108	1,339	13,817	-2.0%
Taranto	981	4,137	13,327	1,411	4,640	24,496	-30.4%
Trieste	3,829	33,473	1,330	6,000	1,354	45,986	9.1%
Venice	3,606	9,496	6,711	1,094	2,244	23,152	-5.9%
Other ports	375	5,122	2,331	4,000	1,017	12,845	15.8%
TOTAL	**81,257**	**196,298**	**63,829**	**87,245**	**28,448**	**457,078**	**-4.1%**

source: ISTAT, November 2014

A comparison with the other port systems (Northern range and other European Med ports) demonstrates that the gateway traffic of Italian ports grew less than in Northern Europe but more than in the rest of the Mediterranean ports.

With regard to Ro-Ro[5], it is estimated that of the approximately 75.7 million tonnes/year of Ro-Ro traffic in Italian ports, about 48.8 is cabotage and domestic, 13.6 is between Tyrrhenian ports and the Western Mediterranean basin and 13.3 is from Adriatic ports to the Eastern Mediterranean. It is worth noting that significant flows in some ports are due to the automotive industry; in some of these cases shipping companies act as system integrators in the entire transport chain.

Liquid bulk is an area that, although in decline, is very important in terms of volume and therefore very strategic (high revenues for port commerce). Currently, with a net prevalence of imports, around 175 million tonnes are handled, mainly related to oil refining needs and energy demand.

Solid bulk propels various industrial sectors, which in recent years have experienced declines in line with industrial production trends (-20% from 2005 to 2013). In 2013 volumes handled amounted to 71 million. Most of the traffic concerns industrial ports, and demand is thus derived directly from on-site production (for example, the ILVA plant in Taranto), and the ongoing trend is largely determined by the degree of plant capacity utilisation.

Non-containerised cargo (general cargo) tends over time to become residual but remains vital for the supply chain of various industrial districts. This class includes sectors like project cargo, in which Italy has an internationally prominent profile, characterised by strong evolution linked to the export of technology, know-how and operator specialisation. General cargo demand, amounting to 22 million tonnes in 2013, is by its very nature extremely varied by goods type and origin/destination and is basically functional to relays with other modes of transport and as such less competitive, often linked to industrial chains directly connected to the port. On average there is a low degree of specialisation.

The trend of overall demand has emerged as strongly correlated to the evolution of GDP and on the whole it is difficult to imagine high growth in demand in this area. However, because of the variety of goods loaded, diverse opportunities can be grasped in individual sub-segments and differentiated port trends.

Freight traffic data relating to inland navigation is shown below. After the significant drop in 2012, the figures of the last two years denote a stable recovery, far, however, from the volumes carried in 2010 and 2011.

[5] ISFORT, 2014

TABLE 17 INLAND NAVIGATION – CARGO TRANSPORT (THOUSANDS, 2005-2013)

	2007	2008	2009	2010	2011	2012	2013	2014*
Tonne	695,439	497,606	443,300	1,259,109	1,223,922	654,530	761,722	750,085
Tonne-km	92,956	63,713	75,947	134,714	143,886	81,009	88,565	90,731

**Estimate*

source CNIT – Years 2013-2014

Air transport

The 2014 figures for Italian airport cargo traffic are extremely positive at 952,082 tonnes (+5% compared to 2013 and 12 thousand tonnes more than 2011) and evidences the high concentration of flows through the three main airports (Malpensa, Fiumicino and Bergamo), which together handle 674 thousand tonnes (75.4% of national cargo traffic). The long term forecast is broadly positive on the larger scale, subject to rectification of current infrastructure gaps (lack of customs, warehouses and services for an efficient logistics chain, poor connection with other networks); in such a case Italy can gain spaces with respect to major European country competitors and raise its market share (equal to about 6%, against 30% German and 10% French).

TABLE 18 FREIGHT TRAFFIC BY AIRPORT AND BREAKDOWN BY TYPE TO 2014

Airport	Cargo (tonnes)	% var. on 2013	Air cargo	Surface cargo	Mail
Alghero	38.77	15.40	38.42	0	0.36
Ancona	6,990	5.02	5,873	0	1,117
Bari	2,061	1.38	298	0	1,763
Bergamo	123,206	6.11	122,494	712	0
Bologna	41,789.34	5.35	32,160.06	9,622.37	6.92
Brescia	40,573	2.90	6,959	9,135	24,479
Brindisi	12	20	12	0	0
Cagliari	2,994	10.92	1,606	0	1,388
Catania	6,206	1.36	5,637	2	567
Florence	268.70	18.72	109.40	159.30	0
Genoa	3,482.59	25.66	275.86	3,206.72	0
Lamezia T.	1,460	11.08	68	0	1,392
Milan LIN	17,458.01	10.99	12,718.89	0	4,739.12
Milan MXP	469,657	9.14	459,696	0	9,961
Naples	9,950.31	32.41	5,581.19	2,176.93	2,192.20
Olbia	309.87	9.11	308.91	0	0.96
Palermo	1,507	1.70	513	0	994
Pescara	44	93.90	44	0	0
Pisa	8,210.15	238.98	7,722.15	386.23	101.77
Reggio Cal.	46.02	54.48	46.02	0	0
Rimini	400.48	52.53	280.40	0	120.09
Rome CIA	15,668	4.67	15,610	0	58
Rome FCO	143,088	0.83	134,685	0	8,403
Turin	7,036.86	27.38	695.20	6,341.65	0
Trapani	17.68	51.17	17.68	0	0
Treviso	0.20	400	0.20	0	0
Trieste	452.85	20.97	123.46	329.39	0
Venice	44,426.01	2.71	40,240.29	4,157.47	28.26
Verona	4,578	3.52	237	4,341	0
TOTALS	952,081.84	4.97	854,200.12	40,570.05	57,311.67

source Assaeroporti, 2015

I.2 SUMMARY OF ANALYSIS OF INFRASTRUCTURE ENDOWMENT

Rail network

The rail sector has an approximate total of 16,700 Km of operational lines; the proportion of electrified lines is 70% above the European average, and a similar percentage of the network is equipped with a train speed control system (SCMT), a technology harmonised with the European standard for interoperability between the ERTMS rail networks.

The percentage of double track lines (45%) is below the main European partners such as France and Germany. Additional analyses are derived from data on the characteristics of the network for national macroareas. The distribution of lines in operation covers around 65% of the entire national network, whereas approximately 76% of double track and electrified lines are located in the most developed regions. The less developed regions, on the other hand, have 27% of the lines, but only 25% of the electrified lines and 20% of those with double tracks

High speed/high capacity lines, mainly in the Torino-Milano-Napoli-Salerno corridor, cover seven regions with a total length of about 1300 km.

Various characteristics of the railway network impact heavily on the development capacity of freight transport. In this regard we find critical elements that affect the quality of terminal modules and stations, thus preventing the passage of trains up to 700 meters long, with restrictions on the transit of trains of 22 tonnes per axle and loading gauge limits that prevent the transport of high cube containers without using low-bed wagons. These limitations have widespread effects - with different degrees of importance but equal strategic seriousness – above all on two areas of the country: in the connection lines close to the main Alpine passes and in the South.

Precarious "last mile" connections with port facilities penalise rail and of course port freight traffic. Looking ahead, the growth in size of ships, driven by the search for economies of scale, will put additional pressure on land connections. Hence the importance, particularly for container transport, of links between ports and rail and road networks.

TABLE 19 CLASSIFICATION OF RAILWAY LINES ACCORDING TO D.M. No. 43/T/2000 - YEARS 2012-2013

		2012	2013
Basic lines	km %	6,444 38.5	6,448 38.5
Complementary lines	km %	9,359 55.9	9,365 55.9
- of which secondary	*km*	*6,765*	*6,771*
- of which low traffic	*km*	*2,350*	*2,350*
- of which shuttle use	*km*	*244*	*244*
Node lines	km %	939 5.6	939 5.6
Network total	**km**	**16,742**	**16,752**

source: CNIT years 2013-2014

The table below shows the detail of the extension of the national railway network based on key features from 2001.

TABLE 20 EXTENSION OF THE RAILWAY NETWORK - YEARS 2001, 2007-2013									
		2001	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Electrified network	km	10,864	11,531	11,727	11,887	11,906	11,925	11,931	11,969
	%	67.8	70.6	70.9	71.2	71.3	71.3	71.3	71.4
Non-electrified network	km	5,171	4,804	4,802	4,798	4,798	4,801	4,811	4,783
	%	32.2	29.4	29.1	28.8	28.7	28.7	28.7	28.6
Network Total:	**km**	**16,035**	**16,335**	**16,529**	**16,686**	**16,704**	**16,726**	**16,742**	**16,752**
Single track	km	9,805	9,285	9,223	9,192	9,191	9,213	9,206	9,211
	%	61.1	56.8	55.8	55.1	55.0	55.1	55.0	55.0
Double track	km	6,230	7,050	7,306	7,493	7,513	7,513	7,536	7,540
	%	38.9	43.2	44.2	44.9	45.0	44.9	45.0	45.0
Network with automatic shut-off	km	5,434	6,023	6,283	6,451	6,473	6,481	6,489	6,493
	%	33.9	36.9	38.0	39.0	39.0	38.7	38.8	38.8

source: CNIT years 2013-2014

Roads and motorways

The Italian road network stretches to over 180,000 km, about 6,700 of which comprises highways and 19,800 trunk roads. In national terms Northern Italy has the largest proportion of motorways both in relation to population (1.25 km per 10,000 inhabitants) and surface (2.90 km every 100 square kilometres) and with respect also to vehicles in circulation (2.06 km every 10,000 cars). In the South the motorway endowment is significantly lower, where, given the Northern Italy indicators of 100 km of motorways per inhabitant, per sq km and per cars in circulation, the equivalent values for the South would respectively be 81.3, 59.7 and 83.7.

TABLE 21 ITALIAN ROADS NETWORK - YEARS 1990, 2000,2008-2013 (KM)								
	1990	**2000**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Motorways	6,185	6,478	6,629	6,661	6,668	6,668	6,726	6,751
Other roads of national scope	44,742	46,556	19,290	19,375	20,856	20,773	19,861	19,861
Regional and Provincial	111,011	114,691	157,785	154,513	158,895	151,583	153,588	154,948
Total	**161,938**	**167,725**	**183,704**	**180,549**	**186,419**	**179,024**	**180,175**	**181,560**

source: CNIT years 2013-2014

Covering 6,751 km, 5,580 of which are under concession, Italian motorways account for about 10 percent of the European network. The figure of 22.1 km of highways per thousand sq km – a substantially constant value in recent years – remains above the European average and higher than France and the United Kingdom, but lower than Germany and Spain. Unlike other countries such as Spain, France and Germany, where the motorway network continued to grow until the last decade, the Italian network has remained essentially the same since 1980 in the face instead of substantial increases in traffic flows. This has had an obvious impact in terms of congestion: 15% of the cars circulate on the Italian network whereas the

figure for the European motorway system is about 9%[6].

The toll motorway network (about 5,800 km) includes three international tunnels (25.4 km), 566 galleries (516 km) and 1,718 bridges and viaducts (681 km); it has two lanes in each direction for about 68% of the network while the remainder has three lanes (about 31%) and a marginal proportion has four lanes (1.4%).

The 25,000 km of the ANAS-run network (about 1,300 km of which consists of directly operated motorways and 19,200 state roads) include over 11,000 bridges and viaducts, 4000 of which are longer than 100 metres and 1,200 galleries, 842 of which are longer than 500 metres. More than 40% of these structures were built prior to 1970 and have therefore met or exceeded their useful project life. The conservation of works therefore requires a scheduled maintenance programme in order to remedy the ageing of materials from weathering, often exacerbated by major physical effects of intense traffic volumes of increasingly heavy vehicles[7].

With regard to congestion, the regions suffering most are Lombardy, Lazio and Campania, which turn out to have the greatest concentration of cars per km of road network.

Port and inland navigation infrastructure

Links with rail and road transport, as mentioned, are one of the most important infrastructure elements in the port system. Regarding rail accessibility, about 78% of ports have a direct train connection to the main network, 52% have a railway terminal inside the port and four core ports currently have no connection to the national network. The ports (* indicates core ports) can be grouped according to the type of rail connection:

- Ports with type A rail connections (the railway enters the port/presence of tracks): Savona Vado, Trieste*, Genoa*, La Spezia*, Venezia*. Livorno*, Taranto*, Ancona*, Ravenna*, Messina- Milazzo, Gioia Tauro*, Marina di Carrara, Piombino, Naples*, Catania, Salerno;
- Ports with type B rail connections (the railway is located outside the port (track presence): Civitavecchia;
- Ports with type C rail connection (the railway does not have specific branches to the port): Golfo Aranci, Brindisi, Bari*, Augusta, Palermo*. Cagliari Sarroch*.

The key variables, in addition to the availability of the connection, are the maximum train length operable in the port, the layout of the tracks available (which affects operation), the modalities of performing manoeuvres (often a factor in the poor competitiveness of rail transport compared to road transport).

The tracks used for connection to the terminal where loading and unloading operations take place are sometimes of insufficient length and/or far from the port: this requires more manoeuvring for the formation of trains and longer container transit paths on wheeled vehicles.

Coordination with railway standards adopted on TEN corridors is another factor limiting development of the offer. Today most of the Italian network prohibits

[6] Transport Authority, first annual report to Parliament, June 2014.

[7] Senate 8th Standing Committee for Public Works, speech by the President of ANAS S.p.A., "The trend of investment and maintenance on the roads network and development prospects of ANAS S.p.A." 24 February 2015.

the running of trains with a length over 550 metres. In addition, loading gauge limits often constrict the transit of intermodal convoys carrying high cube containers (now 15% of the rapidly growing volume of container traffic) and road semi-trailers.

Regarding road accessibility[8], all 23 major Italian ports have links with ordinary roads; the majority however are lacking in terms of quality of connection to the motorway network, in particular[9]:

- only 7 ports have connections to extra-urban roads; the cities with better road connections (reached by extra-urban spur routes shorter than 3 km) are Naples, Genoa and Savona-Vado;
- 6 port cities have links with urban roads;
- the remaining 10 have mixed road systems.

The data brings to light poor infrastructure also in many of the 14 core ports identified by the European Commission as priorities by virtue of their being part of the TEN-T strategic corridors. Seven of the 14 core ports have road links deemed inadequate because they are reachable only by mixed traffic (urban/extra-urban) roads longer than 6 km.

A second problem area concerns seabed depth and the port's consequent ability to accommodate ships of large capacity. A recent study on the matter[10] urges recognition of the situation of the main Italian ports and an estimate of dredging needs.

TABLE 22 SEABED DEPTH AND DREDGING NEEDS OF ITALIAN PORTS

Port Authorities	TEU (2013)	Dredging needs (m2)	Current depth (m)	Post-dredging depth (m)
Gioia Tauro	3,100,000*		-18.0	-18.0
Genoa	1,988,013	2,956,000	-15.0	-17.5
La Spezia	1,300,432	918,000	-14.0	-15.0
Livorno	560,000*	1,860,000	-13.0	-16.0
Cagliari	685,000*		-16.0	-18.0
Taranto	197,317	19,500,000	-14.0	-16.0
Naples	490,000*	4,713,000	-15.0	-16.5
Venice	443,000*	6,650,000	-9.8	-12.0
Trieste	458,497	3,650,000	-18.0	-18.0
Salerno	270,000*	5,000,000	-13.0	-15.0
Ravenna	226,879	6,788,584	-11.5	-14.5
Savona-Vado	75,000*	430,000	-18.5	-20.0
Ancona	152,394	2,890,000	-12.5	-14.0
Civitavecchia (Fiumic., Gaeta)	49,600*	413,000	-15.0	-15.0
Palermo (Termini Imerese)	20,647*	434,568	-5.0	-10.0
Catania	27,800*	1,500,000	-8.0	-12.0
Bari	31,412*	200,000	-12.5	-13.0
Marina di Carrara	-*	140,000	-10.5	-10.5
Brindisi	-*	1,350,000	-14.0	-14.0

[8] Source: DIPE data from Annex 2.1 road and rail links and the last mile

[9] Naples, Genova, Savona-Vado, La Spezia, Gioia Tauro, Augusta, Civitavecchia, Messina Milazzo, Marina di Carrara, Piombino, Salerno, Palermo, Olbia-Golfo Aranci, Venezia, Brindisi, Catania, Bari, Taranto, Trieste, Livorno, Ancona, Ravenna and Cagliari – Soroch.

[10] DIPE - «Iniziativa di Studio sulla Portualità Italiana» (Study Initiative on Italian Ports) 2014

Augusta	203	86,914	-16.0	-16.0
Piombino		4,150,000	-12.0	-15.0
Messina			-11.0	-11.0
Olbia – Golfo Aranci		104,350	-10.0	-10.0
TOTALS	**10,076,744**	**63,734,256**		

source DIPE, 2014

For the purposes of this document this problem mostly impacts on transhipment terminals and deep sea traffic, but the trend of naval gigantism means that deep water availability will become increasingly necessary also for ports specialising in short-sea traffic. With the gradual entry into service of larger container ships. it is possible that companies will assign ships currently used over long distances to service within the Mediterranean. Finally, a series of administrative and institutional constraints create problems especially in the area of freight crossing times.

At present, the ports capable of accommodating larger ships are Gioia Tauro and Trieste, soon to be joined by Savona-Vado, where the new terminal is under construction. Dredging operations are already planned in eight Italian ports to create depths of up to 16 m, allowing the docking of all the new large ships.

A structural weakness of Italian ports is the overall size of the port areas, a constraint that greatly limits extension possibilities. To make a comparison with the main European ports, the total area of the ten largest Italian ports is equal to the surface of the ports of Antwerp, Le Havre or Rotterdam alone.

Finally, a series of administrative and institutional constraints create problems especially in the area of freight crossing times. In fact, from the point of view of customs controls, the high number of export-import preparatory and background procedures, distributed over 23 offices of different jurisdiction, is sometimes without coordination, generates system inefficiencies (increased time and cost) and duplication of information. To this we can add burdensome and heterogeneous red tape obligations, borne by operators at the national level (on freight quotas inspected, verification detail, actual time frames and lack of predictability).

On the passenger side, the evolving design and dimensions of cruise ships require adjustments to docks (length of berths). However, 13 ports are now able to accommodate ships longer than 300m.

TABLE 23 PORT INFRASTRUCTURE AT 31/12/2014

1) summary data

Ports and berths	**Italy total**	**Average per berth**	**Average per port**	**Northern Italy**	**Central Italy**	**Southern Italy and Islands**
Number of ports	278	-	-	64	35	179
Number of berths	1,899	-	6.83	601	333	965
Overall length of berths (m)	452,172	238.11	1,626.52	159,359	79,897	212,916

2) Breakdown of services provided in the berths

Services provided	**Italy total**	**Average number**	**Average number**	**Northern Italy**	**Central Italy**	**Southern Italy and**

		of services per berth	of services per port			Islands
Passengers	519	0.27	1.87	64	126	281
Petroleum products	167	0.09	0.60	30	36	89
Other liquid cargo	148	0.08	0.53	14	37	88
Dry bulk cargo	264	0.14	0.95	83	42	116
Packaged cargo	305	0.16	1.10	88	75	119
Containers	164	0.09	0.59	32	50	59
RO/RO	370	0.19	1.33	46	93	196
Other goods	216	0.11	0.78	43	51	108
Fishing	396	0.21	1.42	30	66	269
Pleasure boats	693	0.36	2.49	60	136	415
Support services and equipment	200	0.11	0.72	30	41	110
Naval mooring	190	0.10	0.68	11	42	123

3) Other services

Connection with the railway network	**Italy total**	**Average per berth**	**Average per port**	**Northern Italy**	**Central Italy**	**Southern Italy and Islands**
Berths equipped with rails connected to the railway network	230	0.12	0.83	103	48	32
Berths equipped with rails not connected to the railway network	675	0.36	2.43	121	147	324

4) Capacity of berths

Features of the freight storage areas	**Italy total**	**Average per berth**	**Average per port**	**Northern Italy**	**Central Italy**	**Southern Italy and Islands**
Surfaces of freight deposit yards (sq m)	18,482,014	9,732.50	66,482.06	8,488,018	2,914,995	5,314,001
Capacity of cold stores (cm)	694,692	365.82	2,498.89	114,000	473,937	84,055
Capacity of other stores (cm)	7,812,592	4,114.06	28,102.85	5,245,840	1,508,281	568,471
Capacity of silos (cm)	1,661,609	874.99	5,977.01	596,200	341,973	566,246

Source: CNIT - Years 2013-2014

With regard to inland navigation, Italy is peripheral to the European rivers network. The Italian waterways network principally involves the river Po in the Central Eastern part of the Po Valley, where, with its canals and tributaries, form what is called the "Padano-Veneto Waterway System" (included within the core TENT network).

TABLE 24 WATERWAY INFRASTRUCTURE - LINES IN OPERATION - YEAR 2013 NAME, CLASS AND LENGTH

Tract	Class	Length (km)
Waterways		
1) River Po (from Pavia to Polesine Camerini including 7 km of Ticino)	IV and V	406
2) Milan-Cremona waterway (from Pizzighettone to Cremona)	V	14
3) River Mincio (from Mantua to the River Po)	III	21
4) Ferrara waterway (from the River Po to Porto Garibaldi)	IV	70
5) Po-Fissero Port of Mantua waterway (through San Leone basin)	V	14
6) Fissero Tartar-Canalbianco-Po di Levante waterway (port of Mantovamare)	IV and V	135
7) Po-Brondolo waterway (from Volta Grimana to Venetian Lagoon-Brondolo Basin)	IV	18
8) Canals within the Venetian Lagoon (Brondolo-Chioggia-Malamocco- -Marghera-Venice-Lido)	V	73
9) Navicelli canals (from port of Livorno to the dock of the port of Pisa)	IV	16
Total 1-9		767
10) Litoranea Veneta waterway (from Cavallino to Foce Isonzo)	III-II	104
11) River Piave (from Revedoli basin to S. Dona di Piave)	II	18
12) Sile waterway (from Venice to Fiera di Treviso)	II	31
13) Canals within the Venetian lagoon (Lido-Portegrandi-Cavallino)	III-IV	30
Total 10-13		183
Total waterways		950
Other class I and II waterways		n.a.
Total lines of the lakes and Venice (ACTV)	IV-V	612
Total		1,562

source: CNIT years 2013-2014

This network is complemented by a 16 km artificial canal between the ports of Livorno and Pisa. The characteristics of the lines of operation of the main Italian waterway infrastructure are shown below.

Airport system

An updated and exhaustive survey on the infrastructural endowment of the Italian airport system[11], based on current traffic volumes, uncovers no broadly critical issues concerning the capacity of the national airport infrastructure regarding both landside and airside structures.

In view of expected increases in traffic and in the absence of measures to raise current capacity levels, the main Italian airports could face severe congestion over the next 10 years.

The forecast of reaching capacity thresholds in the short to medium term principally affects the two major Italian airports, Rome Fiumicino and Milan Malpensa, but other airports currently experiencing saturation levels at peak hours

[11] This is the ''Atlas of Italian Airports" section of the study assigned by ENAC to ATI Works One-KPMG-Nomisma: "State of the national airport system, scenarios and strategies of development."

including Bergamo, Catania, Naples, Bologna, Florence and Pisa.

One clearly critical element is intermodality: only 6 airports (Fiumicino, Malpensa, Palermo, Pisa, Turin and Ancona) are connected to the railway network, whether local or regional.

In general, airport accessibility is – at present – a critical factor even for the facilities located close to towns, affected moreover by local traffic congestion sometimes caused by an inadequate road system.

Infrastructure for urban mobility

An analysis of public transport infrastructure in provincial capital municipalities shows a high degree of heterogeneity and variability in the different modes of transport at territorial level. While some capitals like Milan, Rome and Naples have an infrastructure system that provides all modes of transport (buses, trams, trolley buses, metro and funicular lines), other areas essentially have only bus networks.

Looking at the most significant component i.e. buses (80% of the fleet), in 2013 the overall average availability of buses was 7.9 vehicles per 10,000 inhabitants, down 4.7% compared to 2012. This figure differs widely however over the various areas of the country, with the highest percentage in the North (9.3), an above-average figure in the centre (8.5) and the South suffering a distinct disadvantage (5.4). The highest levels in relation to population are in Cagliari (18.5), Florence (12.8) and Genoa (12.0). In terms of distribution, Milan has the highest density of trams and metro lines (respectively 64.8 and 35.4 km per 100 km2), while Cagliari is the city with the highest length of trolleybus lines in relation to municipal area size(43.5 km per 100 km2).

TABLE 25 COMPOSITION OF PUBLIC TRANSPORT VEHICLE FLEET IN LARGE CITIES AND THOSE EQUIPPED WITH TRAM, TROLLEY BUS OR METRO - YEAR 2013

Vehicles per 10,000 inhabitants

Municipalities	Bus	Tram	Trolleybus	Metro	Total
Turin	10.1	2.7	-	0.7	**13.5**
Milan	10.5	3.1	1.1	7.4	**22.1**
Bergamo	8.4	1.2	-	-	**9.6**
Brescia	12.2	-	-	0.8	**13.0**
Verona	6.9	-	-	-	**6.9**
Venice	10.8	0.3	-	-	**11.1**
Padua	10	0.8	-	-	**10.8**
Genoa	12	-	0.3	0.3	**12.6**
Parma	10.6	-	1.3	-	**11.9**
Modena	4.9	-	1.4	-	**6.3**
Bologna	10.5	-	1.2	-	**11.7**
Rimini	9.4	-	0.4	-	**9.8**
Florence	12.8	0.5	-	-	**13.3**
Ancona	11.1	-	0.2	-	**11.3**
Rome	9.4	0.6	0.1	2.0	**12.1**
Chieti	8.1	-	1.3	-	**9.4**
Naples	3.8	0.4	0.2	0.6	**5.0**
Bari	7.6	-	-	-	**7.6**
Lecce	5.5	-	1.2	-	**6.7**

Palermo	3.9	-	-	-	**3.9**
Messina	1.7	0.2	-	-	**1.9**
Catania	8	-	-	0.3	**8.3**
Sassari	8.4	0.3	-	-	**8.7**
Cagliari	18.5	0.6	2.6	-	**21.7**

source: CNIT years 2013-2014

The most significant indicator of the offer, expressed in seat-kilometres per inhabitant, as noted above, shows the provincial capitals suffering a significant drop of 4,482 seats-km per inhabitant compared to 4,742 in 2011. In terms of modal split, the offer is divided into 63% for buses, 27% for metro about 8% for trams. This division changes significantly in the large municipalities where, with an offer of 6,314 seat-km per capita, the bus proportion drops to 55.1%, while the metro gains (33.3%). The latter mode, in contrast, sees an increase in total seat-km offer (going from 1,128 in 2011 to 1,213 in 2013), as a result of the significant investments made in the main Italian cities in recent years.

In line with the figures on infrastructure facilities, there are striking regional disparities in terms of offer: in the cities of Northern and Central Italy the overall offer is on average approximately 5,500 seat-km per inhabitant, more than twice the average of the Southern cities, which amounts to 2,178. This distance has increased in recent years on account of a more modest decline in the North than in the South and the Centre. With reference only to large municipalities, the cities of the Centre-North on average offer 7,867 seat-km per inhabitant compared to 2,632 in similarly sized cities in the South.

I.3 THE DEVELOPMENT OF THE EUROPEAN PROGRAMMATIC FRAMEWORK

With regard to European levels of regulation, the relevant programmatic elements of greatest significance relate to the overall redesign of trans-European transport networks. In line with and in the implementation of the goals of smart, sustainable and inclusive growth under the Europe 2020 strategy – and the more specific objectives contained in the White Paper – the European Commission in 2011 launched a package of initiatives that fall under the Connecting Europe Facility (CEF) aimed at supporting infrastructure investment in transport, telecommunications and energy.

Following a complex legislative procedure, on 11 December 2013 the Council and the European Parliament approved the Regulations for the Connecting Europe Facility (No. 1316/2013) and the new guidelines for the development of the TEN-T networks (No. 1315/2013) designed to making effective and binding the use of funds that the EU disburses to projects of common interest, drawn from the resources of the Connecting Europe Facility, the ERDF, the Cohesion Fund and loans from the European Investment Bank.

The Regulations set a 2030 deadline for completion of the core network and 2050 for the comprehensive network. The networks must comply with technical specifications; in the case of railways these include type of electrification, ERTMS, axle load and minimum module. The motorway requirements include the provision of rest areas every 100 km, distributors of clean fuels, as well as the availability of smart technologies. There will also be measures to remove bottlenecks and make freight traffic and passenger transportation more fluid and efficient through intermodality and support for the development of connections between ports and airports and the TEN-T network, as well as integration with urban nodes. The Regulation also introduces the core network corridors as a means to facilitate the construction of the core network based on the principles of modal integration, interoperability and coordinated development of infrastructure, especially for cross-border sections and the removal of bottlenecks. During the 2014 -2020 period the EU, with the strong support of the Commission, has allocated about 26.3 billion euro for investment in the ***new TEN-T core transport network*** (*core network*). The rest of the cost, over 250 billion euro, will come largely from Member States' budgets, which are however hampered by the lack of sufficient resources and the inability to use those hard-allocated funds due to the constraints of the Stability and Growth Pact.

In light of this renewed framework, Italy, during its Presidency, urged Member States and the Commission to take further steps towards the strengthening and integration of European transport infrastructure by fully implementing the principles of intermodality, interoperability and competition between national systems.

The informal Council of European Transport Ministers, held in Milan on 16 and 17 September 2014, stressed the need to: strengthen the governance of the corridors and the interoperability of technologies and reciprocity of access; allow greater flexibility in the use of government and community grants to fund projects of European significance; overcome the special problems of starting innovative

financing instruments (like the *Marguerite Fund*, the *Loan Guarantee Instrument for Trans-European Transport Network Projects* and *Project bonds*).

The TTE (transport, telecommunications and energy) Council of 3 December 2014 unanimously adopted the conclusions of the Italian Presidency, expressed in the informal Council of Milan, acknowledging with satisfaction that the strategic planning of the corridors, drawn up on the basis of the new TEN-T Regulations and working plans of the European coordinators, allows all Member States to finally make use of an appropriate framework to formulate funding requests, starting with the first calls for tenders of the Connecting Europe Facility.

The Council's 3 December 2014 conclusions on transport infrastructure and trans-European network are intended, as part of a broader strategy of structural reforms, to guide the action of the new European Executive towards a robust programme of investment in transport infrastructure in both the European Commission three-year plan and the Europe 2020 strategy revision process, initiated last March by the European Commission.

The Italian proposal is in complete harmony with the aims of the European Fund for Strategic Investments, recently unveiled by European Commission President Juncker, to boost growth and jobs. The trans-European transport network (TEN-T), and in particular the core network, is an ideal target for these strategic investments.

The text also contains important in-depth information about potentially delicate political issues such as the strategic planning of projects, financing of investments and the governance and coordination of their implementation. To stimulate the huge amount of necessary investment in infrastructure public resources must be used optimally and to stimulate private investment, thus restoring investor confidence, improving competitiveness profiles and giving special priority to the exclusion from the stability pact of any national contributions. The recent EU Summit in Riga, focusing on the future of the TEN network, reiterated the importance of the issue and stressed the need for a real Community Action Plan for the "best use of new financial instruments for European infrastructure and transport projects". In that regard, the concluding document revolves around 12 "recommendations" and three points which the Italian Government intends to adopt:

- encourage a flow of higher quality projects, especially in terms of their economic and financial sustainability;
- give greater certainty to developers and investors, especially in the field of application of community and national regulations;
- involve other capital in the financing, so that the strategy can act as a catalyst and create hoped-for "leverage".

As regards maritime transport, the Commission's work is oriented towards the definition of a regulatory framework and strategic direction to strengthen and emphasise the centrality of the role of ports as nodal points in the European trading and transport system. In this regard it would seem appropriate to cite the Communication "The Blue Belt: a single transport area for shipping", through which the intention is to outline a framework for the creation of a maritime area where ships will be allowed to operate freely in the Union internal market thanks to simplification of administrative formalities, and where there will be enhanced

measures for the safety of persons and property, environmental protection and customs policies and taxation. It is also useful to recall the "Blue Growth Strategy" approved by the European Parliament on 2 July 2013 and aimed at enhancing sustainable growth in the marine, maritime transport and tourism sectors.

The following important developments are planned for the different modes of transport.

The ***Fourth Railway Package*** is an important opportunity to improve rail services in the European Union, increasing their effectiveness, efficiency and competitiveness. In order to be truly effective, these processes must be implemented uniformly and in appropriate time frames in all Member States. The three files that make up the **technical pillar** of the Fourth Package are:

- Proposal for a Regulation of the European Parliament and of the Council relating to the Agency of the *European Union for Railways* and repealing Regulation (EC) No 881/2004.
- Proposal for a Directive of the European Parliament and of the Council on the *interoperability* of the rail system in the European Union (recast).
- Proposal for a Directive of the European Parliament and of the Council directive on the safety of the railways (recast).

During the six-month Presidency a trialogue with the Parliament and the EU Commission was begun and carried on. Italy has strongly argued for progress also on the **political pillar**, addressing the issues of liberalisation and governance.

The political pillar is made up of the following files:

- Proposal for a Directive of the European Parliament and of the Council amending Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area, in relation to the opening of the market for domestic passenger transport services by rail and the governance of the railway infrastructure.
- Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EC) No. 1370/2007 as regards *the opening up of the market for domestic passenger transport services* by rail.
- Proposal for a Regulation of the European Parliament and of the Council repealing Council Regulation (EEC) no 1192/69 of the Council on common rules for the *normalisation of the accounts* of railway undertakings.

Progress reports were completed on the first two files during the Council of 3 December 2014; the general approach of the third was reached in the same Council.

The objective of the proposed "opening of the market" is to improve the quality of rail transport services and improve operational efficiency through common rules for the award of public service contracts for passenger transport, together with accompanying measures to increase the success of competitive tendering procedures.

The proposal on Governance aims to increase the competitive pressure on markets for domestic passenger transport services, including through measures aimed at ensuring equal access to infrastructure by the infrastructure manager.

In ***maritime transport*** Italy, in the Council of 8 October 2014, reached a general approach on rules for access to the port services market and the financial transparency of ports.

The regulation provides for measures relating to freedom to provide services and to provisions on financial transparency, aimed at demonstrating the allocation of public funds, non-arbitrariness of the prices fixed under monopolies and transparency of charges for infrastructure. It constitutes an important waypost for this country, so much so as to be referenced in the recently approved PNSPL.

In ***air transport***, the Commission and the European Parliament have respectively presented and amended the legislative proposal Single European Sky II+, which, having resolved the difficulties of the Single European Sky I and II, aims to ensure that Europe has a competitive air transport system capable of capturing the growing traffic demand expected in the coming years.

Italy introduced Single European Sky II+ into the priority themes of the Presidency half year, reaching a general approach on the whole package in the Council of 3 December 2014. The main objective of Single European Sky II+ is a reform of the architecture of Air Traffic Management (ATM) in Europe through the defragmentation of airspace. The expected results of applying the Single European Sky are reductions in costs, delays and environmental impacts in aviation and an improvement in safety in the aeronautical field.

Mobility in urban areas is also among the priorities of the European Union, given that cities are home to more than 70% of the population, produce 85% of GDP, generate 40% of CO2 emissions and 70% of other pollutants due to urban traffic and lead to 40% of road accidents. Urban mobility is affected by the use of new technologies that can offer diverse opportunities and generate new forms of mobility. The younger generation in particular appears to be the most interested in new forms of mobility. which can be accessed through the use of new technologies based on the use of the internet, its applications and social networks.

The increasingly effective use of ***technological systems*** will play a crucial role in creating an integrated, secure, efficient and sustainable system of transport for people and goods, as recognised by Community policy. In this regard it is appropriate to cite, among others, two regulatory instruments: the ITS Action Plan of December 2008 and Directive 2010/40/EU of 7 July 2010. The former, based on the systematisation of the EU-launched initiatives aimed at implementing technological systems (SESAR, ERTMS, RIS), is intended to "accelerate and coordinate the deployment of intelligent transport systems (ITS) in road transport and for interfaces with other modes of transport". Directive 2010/40 instead, defines and gives practical shape to – from a legislative point of view – the framework for the dissemination and coordinated and consistent usage of interoperable intelligent transport systems in the Union.

I.4 DEVELOPMENT OF THE REGULATORY AND NATIONAL PROGRAMMATIC CONTEXT

The most important innovation in relation to the regulatory and programmatic environment is the strengthening of strategic coordination among programming activities for nationally important transport infrastructure, in parallel with an acceleration in the reform and rationalisation of individual sectors.

As regards the overall picture, policy orientation is outlined in this Annex and will be broken down in terms of short to medium-term programming within the Multi-year Planning Document; notwithstanding this, the recent period has seen the launch, and in many cases completion, of initiatives to strengthen actions aimed at addressing national priorities regarding infrastructure investments for the various modes of transport.

As regards railways and roads, such action provides for an overall realignment of the relationship between the State and operating bodies.

A review is underway on the regulation of relationships between Rete Ferroviaria Italiana (RFI) Spa, as operator of the national railway network, and the State, as granting authority through the Ministry of Infrastructure and Transport. Starting in 2012, a distinction was introduced in the programme contract – investments part; this latter area thenceforth included the implementation of works for the development of the railway infrastructure and the raising of network safety levels, while the tasks that are more closely related to ordinary and extraordinary maintenance are governed by the programme contract - services part.

Approval was granted for a further piece of railway legislation, namely the Legislative Decree transposing the Directive of the European Parliament and of the Council establishing a single area for European rail transport ("Recast directive").

The road sector was also affected by a regulatory reorganisation process, initiated by art. 36 of Legislative Decree 98/2011, which transferred competence for toll motorway concessions from ANAS to MIT, effective from 1 October 2012; the company however retains the road network concession for about 25 thousand km of State roads and no-toll motorways. In order to give programmatic scope to public choices in terms of viability, the Interministerial Committee for Economic Programming (CIPE), with resolution No. 4/2014, provided that the programme contract between the Ministry of Infrastructure and Transport and ANAS S.p.a. - Investments Part be complemented by a five-year investment plan. Recently the new management of ANAS undertakes to carry out a major overhaul of the organisational model in order to rationalise activities and streamline processes, with a view to enhancing the assets and skills developed by the company, improving its service offer and achieving financial autonomy.

In order to improve the competitiveness of the port and logistics system, facilitate the growth of goods and passenger traffic and promote intermodality in freight transport, article 29, paragraph 1, of Decree Law No. 133 of 12 September 2014 (converted into law No. 164 of 11 November 2014) provides for the adoption of the national strategic plan for the port and logistics system, to be approved by Decree of the President of the Council of Ministers upon proposal of the Minister of Infrastructure and Transport subject to consultation with the competent parliamentary committees.

In parallel, and consistent with the European legal framework outlined above (including Commission communication 2014/C 99/03 on State aid to airports), *the planning act concerning the national airport network* was adopted by the Council of Ministers of 30 September 2014, aimed at promoting the rationalisation and streamlining of the sector through the development of the airport industry, taking into account the nature of the territories, the growth potential and the ability of airports to tap traffic demand.

The objectives of national legislative action in the field of intelligent transport systems feeds into the implementation of European policy in the sector. An example is provided by the Ministerial Decree of 1 February 2013 on "Deployment of intelligent transport systems (ITS) in Italy", which is also the methodological and operative basis of the national action plan on intelligent transport systems (ITS). This measure, adopted by the Ministry of Infrastructure and Transport with Ministerial Decree No. 44 of 12 February 2014, aims to achieve "the identification of priorities in the field of intelligent transport systems, definition of time frames and instruments of implementation and expected benefits for the country".

Also worthy of mention is the draft law on the reform of local public transport, pending examination by the Council of Ministers.

The draft consists of 13 articles that address various issues such as the use of public tendering procedures for the award of transport services; the facility of tax-deductible public transport subscription costs; cash reimbursement of full cost tickets in two cases: the cancellation of services or delays of more than 60 minutes in urban areas; and the liquidation of loss-making companies.

The reform also provides that a year after its approval, regions will have to undertake to reorganise local public transport services (LPT) by virtue of the catchment areas that should not be less than 350,000 inhabitants and can be divided into multiple tender lots. With regard to the metropolitan cities, those provinces and municipalities of more than one hundred thousand inhabitants must, however, avail of specially prepared urban mobility plans (detailing quantitative targets, passenger number increases and measures to be taken). Transport services will thus be organised based on the plan since public capital funding will be disbursed only in relation to planned works.

From here the prospect is the establishment of a single fund in which to catalyse all resources for investment in LPT, to be granted only to advance the implementation of the program.

This path of national legislation development has led to the definition phase of the new community programming period 2014-2020 (for further information see the paragraph on networks and infrastructure operational programme 2014-2020), which was finally formalised with the approval of Regulation (EU) No 1303/2013 of 17 December 2013 laying down common provisions for the use of structural funds and investment funds. Among the most significant regulatory innovations was the introduction of "ex ante conditionalities", which is a set of minimum of legislative, administrative and organisational conditions to ensure the effective and efficient use of funds.

As regards the transport sector, dealt with in the new community regulatory architecture Thematic Objective 7 "Promoting sustainable transport and removing bottlenecks in key network infrastructures", the main conditionality is the existence

of one or more plans or general frameworks for transport investment in accordance with the institutional framework of the Member States, which supports infrastructure development and improves access to the global network and the TEN-T core network.

The necessity to provide this requirement, together with the above path of regulatory changes, has led – through cooperative partnership between Member State and the European Commission – to the identification, in the Infrastructure Annex to the Economics and Finance Document, appropriately integrated, of the programming instrument of the national strategic lines for transport capable of satisfying the relevant ex ante conditionalities. This decision was ratified within the Partnership Agreement 2014-2020, approved by the European Commission in October 2014, while at national level the most important piece of legislation was CIPE Resolution No. 26/2014, which determined that the Infrastructure Annex constitutes the national reference framework in relation to the 2014-2020 programming cycle.

In view of the comprehensive nature of these changes, the Infrastructure Annex highlights three particularly important aspects of the national regulatory and programmatic environment relating to ***safety***, ***transparency*** and ***intelligent mobility*** as part of policies for innovation.

Safety

The issue of safety cuts across the entire transport system, but it is roads – despite the continued reduction of all of road accident indexes (the number of accidents has dropped from 263,100 in 2001 to 181,227 in 2013) – that require priority intervention. The European Union's attention to the issues of road transport results in the production of regulations aimed both at cost containment and compliance with the requirements of safety and environmental protection. In this regard it is worth mentioning the Commission's Communication of 20 July 2010 "Towards a European road safety area: policy orientations on road safety 2011-2020" that sets out several strategic objectives to be achieved by 2020, including the improvement of road education and preparedness of road users, strengthening the enforcement of road rules and improving the safety of road infrastructure.
In accordance with these provisions, national road transport legislation aims primarily at regulating the different interfaces of road transport by establishing the modalities of operation of the service and the authorisation its development as well as contributing to the implementation of European policy. By way of example, Legislative Decree No. 35/2011 transposing Directive 2008/96/EC, effective from 23 April 2011, lays down the provisions for the establishment and implementation of a series of procedures, handled by a variety of entities, aimed at evaluating the impact on road safety for infrastructure projects, for road safety monitoring, road network safety management and safety inspections.

The Decree, while making specific reference to roads belonging to networks under State competence (national and trans-European), establishes the rule of principle and provides that by 31 December 2020, regions and autonomous provinces shall dictate the guidelines concerning road infrastructure safety management of their competence and that of local government, in accordance with the principles laid

down.

Transparency

With more general reference to the task of regulation, art. 36 of law No 27 of 24 March 2012 "Conversion into law, with amendments, of Decree Law 1 of January 24, 2012, introducing urgent provisions on competition, infrastructure development and competitiveness" established the transport regulatory authority competent in the field of transport and access to its infrastructure and ancillary services. With resolution n 70/2014 the authority has adopted a raft of measures on fair and non-discriminatory access to rail infrastructure aimed at "creating a new system of transparent rules to foster competition, efficiency and cost containment for the benefit of users, businesses and consumers and to give reassurance to investors".

Regarding oversight of observance of the rules of the procurement code and the regularity of tenders for public contracts, Decree-Law No. 90/2014 provides that ANAC (national anti-corruption Authority) take over the authority for the supervision of public contracts for works, services and supplies, while also acquiring tasks and functions.

The industry regulation tasks carried out by ANAC are of great importance, having the purpose of ensuring transparency of public action in tenders as a measure against corruption, through the adoption of interpretative and general acts (Determinations and Guidelines) as well as the drafting of tender templates for mandatory use by contracting authorities, save the existence of adequate reasons not to use them.

ANAC was recently tasked with a further specific responsibility on variants during works. The authority must receive notification, no more than 30 days after approval by the contractor, regarding any variants above the community threshold and involving a review greater than 10 percent of the original price of the work, resulting from unforeseen causes, sudden increases in the cost of materials, geological causes and design errors.

Equally decisive – for maximum transparency in governance and in the practical implementation of public works – will be the upcoming approval of the Procurement Reform bill. More than 15 percent of Italian GDP goes to spending on public contracts: the new code will not only be a technical and legal adjustment tool.

It will also have very high economic potential, also being a way to support high quality domestic demand with the potential to generate innovation in industrial production and in services of the national enterprise system.

The review of the guidelines on public procurement and concessions, in addition to being a strategic factor for the modernisation of the infrastructural system, will be an instrument to improve the efficiency of public spending through its containment in the fields of services and supplies and the subsequent reduction of organisational costs of contracting authorities. This also will create positive effects for the capacities of beneficiaries of public funds, encouraging more effective use of resources than in the past.

In addition to the transposition of the three community directives – the 2014/23/EU on the award of concession contracts, the 2014/24/EU on public procurement and the 2014/25/UE on the procurement procedures of entities operating in water, energy, transport and postal services – the reform gives us the opportunity to genuinely rewrite and streamline the laws and regulations contained

in the procurement code, which, despite being only ten years old, is widely considered no longer adequate.

In this regard, the Ministry of Infrastructure and Transport will give its full commitment in the drafting of the code and the implementation of delegation. It will be necessary to carefully consider the Italian context and the need to ensure the protection of fundamental principles – such as combating corruption and illegality and possibly introducing targeted measures – without adding new costs in the process. The instruments that go in this direction will include: the introduction of coordination between the various administrations, interoperable databases, computerised, standardized and traceable management of tendering procedures and the European single document.

Intelligent Mobility

Besides the aforementioned ITS national action plan, an important aspect of intelligent mobility is the national strategy for smart specialisation being defined and approved by the government. The aim is to reconcile and integrate regional strategic choices of intelligent specialisations in a unitary framework, in order to: enhance the strengths of the country; identify technological trajectories of development capable of strengthening and widening the industrial and technological components that compete on the global markets; enhance those activities and those subjects that can strengthen development and qualification of domestic demand, contributing to its growth.

Particularly relevant in this strategy is the priority thematic area "Digital agenda, smart communities, intelligent mobility systems".

The progressive shift of the population to the cities and metropolitan areas, and also the need to guarantee small towns and productive agglomerations sustainable development through the implementation of innovative, efficient and user-friendly technologies require the adoption of an integrated approach.

In this context it is necessary to strengthen the material and immaterial infrastructures so that, on the one hand, urban spaces can be provided with adequate railway lines, stations and interchanges, to promote the creation of intermodal mobility systems, thus improving passenger and freight transport, reducing costs and keeping high levels of efficiency and environmental sustainability.

On the other hand, it is necessary to implement broadband and ultra-broadband infrastructure in order to foster the growth and spread of ICT technologies to create conditions for the development of a digital economy and improve the offer of on-line services, both public and private.

The challenge is to build a new kind of common asset, a great technological and immaterial infrastructure that allows people and objects to interact by integrating information and generating intelligence, producing inclusion and improving the lives of citizens and enterprise activities.

What it means specifically is no longer implementing individual projects on one or more dimensions driven by local needs and regional needs, but realising integrated systems that make the citizen the main recipient of the benefits brought by the smart city.

This same priority thematic area also includes sustainable mobility, which embraces the industrial sectors of road, rail and maritime transport, distribution logistics and the related supply chains. It includes the technological domains of

design, manufacture and operation of propulsion systems (powertrain), materials and components for vehicles and transport systems, sensors, logistics and ICT applications for Intelligent Transport Systems (ITS).

The sustainable mobility area is one of the major industries for value of production and number of employees with significant investments in research and development, which support a continuous trend of technological innovation. Nationwide, the sustainable mobility sectors are estimated to involve about 139,200 enterprises, employing 1,351,000 employees and a total turnover of approximately 116 billion euro. These overall figures are the sum of the three sectors monitored by ISTAT, specifically transport and storage, manufacture of motor vehicles and manufacture of other transport machinery.

Support for enterprise innovation is ensured by a network of universities and cutting-edge public research centres with technological leadership in the fields of powertrain and reduction of GHG emissions, sustainable mobility, active and passive safety systems and vehicle design.

Investment in R&D is particularly important to sustainable mobility, representing, according to the most recent surveys, about 2.6% of industrial turnover in the sector –a figure that increases significantly for some specific areas (for example, it is more than 3% in automotive and railways). In summary, the national parameters of R&D investment in sustainable mobility are in line with average European values.

To concretise the concurrence of the productive technological innovation offer represented by the areas of regional specialisation and expressed or potential demand in national thematic areas, it is necessary to define, pursuant to the provisions of the Stability Law 2015 (paragraphs 703 and following), strategic plans of action to develop a strong component of innovative public demand and to foster the development of the system, along the of planned technological development trajectories.

During the final assembly phase of the strategy, in order to test the effectiveness of the national thematic areas such as the scope of construction of the strategic plans of action, it was decided to identify in each area the priority trajectories of technological development (priority setting) nationwide. The identification was made through a joint effort between central and regional administrations.

Finally, for the Community programming period 2014- 2020, Italy has chosen to have a National Operational Programme specifically for the metropolitan cities (PON METRO) because of the strongly felt need to establish a national strategy for cities; this strategy gives particular importance to sustainable mobility, both in terms of infrastructure strengthening and services.

Taking as a reference context the European anti-pollution strategy that will set a new goal to reduce emissions to 2030 (-40% compared to 1990), the programme supports the transition towards a model of sustainable urban mobility.

Considered as distinct from the ERDF programmes of the Regions, the PON METRO pursues specific outcomes:

- in all categories of regions, the programme supports the creation of solutions for intelligent management of the mobility system (intelligent transport system - ITS). The ISTAT indicator expresses the average commercial speed per kilometre during peak hours of public transport by road, bus and tram in municipalities

level, a variable available from 2015.

- in the RMSs, where there was a particularly low use of LPT (less than half of that detectable for RT and less than a quarter of the aggregate RS in 2012), the programme aims to enhance the quantity and quality of supply. The indicator measures passengers per inhabitant carried by LPT in the provincial capitals. Data from ISTAT. The initial situation of the municipalities is as follows (passenger values per year per inhabitant, 2012): Naples 173.2, Bari 63.4, Reggio Calabria 40.2, Messina 47.5, Catania 57.7 and Palermo 42.9. The programme that the target assumes as a prudent reference is a minimum increase of 5% compared to 2012 – an apparently limited but significant figure compared to the negative trend in many cities in the last five years.
- in the RS and Cagliari (RT), the programme supports the growth of cycling mobility with incisive upgrading of cycle paths. The indicator shows the number of people aged 15 and over who leave home to go to work by bike out of the total employed, from ISTAT sources. The initial situation of the municipalities is as follows (% values, year 2012): Turin 4.4, Genoa 2.0, Milan 6.3, Bologna 8.8, Venice 6.0, Florence 3.5, Rome 2.4 and Cagliari 0.7. In line with a growing cultural pattern, the PON METRO sets targets in excess of 10% in RS and 5% in RT.

I.5 FINAL DIAGNOSIS (SWOT ANALYSIS)

The following tables provide a summary – general and breakdown by mode of transport – of the issues emerging from the analysis of mobility demand, infrastructure endowment and development of the programmatic and European/national regulatory framework level in the form of SWOT analyses.

GENERAL ELEMENTS	
Strengths • Availability of a renewed European reference framework represented by the redesign of the TEN-T networks • Acceleration of the reform initiatives on the different modes of transport, intermodal transport and the logistics system	**Weaknesses** • Continued conspicuous imbalance in the allocation of infrastructure between macro-areas of the country • Modal imbalance in favour of the road mode • Connections between ports, logistics centres and networks still inefficient • Congestion in urban and metropolitan areas • Existence of obstacles to competitiveness linked to fragmentation in governance and administrative barriers • Design and building time of works still long with a high incidence of throughput times • Weak participation of private capital in investments
Opportunities • Increasing centrality of the Mediterranean in global interchange despite political tensions • Efforts to strengthen the programming and sectoral coordination of investment of national strategic importance • Signs of recovery in demand that checks the negative trends in all sectors • Plurality of financing instruments for the construction of infrastructure of national interest and for the dissemination of technological systems for smart mobility • Increased opening up of transport markets to competition (e.g. Fourth Railway Package framework)	**Risks** • Existence of strong competitors, both in the Mediterranean and in the dynamic Northern-Southern Range • Possible obstacles in the strengthening of national governance determined by territorial conflicts and in consultation between State and Regions

RAIL TRANSPORT	
Strengths • Features of railway infrastructure higher than the European average in terms of percentage of electrified lines and the existence of systems harmonised with the European interoperability standard • Affirmation in passenger and freight transportation not linked to the Italian State Railways Group, in a context of increased market competition	**Weaknesses** • Percentage of double-track lines below the European average • Significant differences in the quality of railway infrastructure and the provision of services between macro areas of the country • Significant and widespread shortcomings in railway infrastructure for freight transport (form length, gauge, axle weight) affecting especially in the lines connecting the main Alpine passes and in the South • Share of rail freight transport well below the EU average and the main European countries • Increase in freight volumes carried by operators, but only eroding the share of the incumbent • Poor modal integration especially between AV and airports • Negative assessments of operators and high costs in shunting services in intermodal terminals • Low use of the railways for medium and long distance movements of people • Evaluation of the quality of transport services by the low usership • Congestion of short distance lines in some areas of the country • Rail network not quite able to subdivide traffic types without discontinuity
Opportunities • Resumption of passenger traffic volumes and expansion of demand for market services • Events going against the trend of declining freight transport such as the introduction of innovative solutions for intermodal transport (i.e. "multiclient" trains, services to inland terminals) • Option of using AC/AV infrastructure for freight transport	**Risks** • European trials with longer trains, which might accentuate the disadvantages related to geomorphological aspects and the state of the infrastructure

ROAD TRANSPORT	
Strengths • Spatial density of the motorway network above the EU average and countries like France and the United Kingdom • Long-distance bus companies offer that operate in low density areas with no railway connections	**Weaknesses** • Ratio between motorway network density and car numbers below the European average and far below countries like France, Spain and Germany, with consequent effects on congestion • Density and quality of infrastructure of national interest differing significantly across macro areas of the country • Road infrastructure mostly created before the 1980s and now requires extraordinary maintenance action
Opportunities • Data on passenger and freight transport demand pointing to a turnaround compared to the negative trend of recent years • Emerging tendency towards a reduction in long distance road travel • New organisation of programme contracts to allow five-year programming of investments	**Risks** • Nationwide contraction of financial resources for allocation to road infrastructure investment • External environmental factors resulting from excessively imbalances in favour of road transport mode

MARITIME TRANSPORT	
Strengths • Strategic position in the Mediterranean • Relevance of industrial and consumption basin in Northern Italy • Proximity to the catchment area for gateway traffic • High potential for receiving large ships for transhipment traffic • Advance refining know-how • Strong presence of agri-food chains • Strong presence of national Ro-Ro traffic operators • Multiple highly attractive tourist destinations for passenger and cruise traffic	**Weaknesses** • Inefficiency of the last mile land side • Excessive number of counterparties needed to execute import/export processes • Fragmentation of terminal services offer • High cost of logistics chain services (pilotage, towage, manoeuvring, etc.) • Lack of space for further extension of the surface area of port terminals • High cost of labour compared to foreign competitors • Lack of Italian national big players • Fragmentation of port system governance and administrative barriers • Protracted procedures (customs, health, etc.) that result in long station times
Opportunities • Growth of traffic in the Mediterranean and container traffic with developing countries • Four TEN-T corridors transiting to Italy • Opportunity to serve the European catchment area indirectly • LNG market growth opportunities • Development of Motorways of the Sea • Increased demand in the tourism and the cruise sector • Partnerships with international universities and research centres	**Risks** • High number of international competitors • Restrictive policies for Alpine crossings • Fierce competition from Northern Range ports • Marginalisation of the Mediterranean following the opening of new intercontinental routes • Reduction of domestic demand • Development of competing tourism sectors • Risk of obsolescence of the existing infrastructure

AIR TRANSPORT	
Strengths • Absence of substantial critical issues concerning the capacity of landside and airside airport infrastructure in the short term • Adequacy of airport security levels • Compliance with the accessibility standards regarding the overall car parking provision	**Weaknesses** • Fragmentation of European airspace (between Member States, civil, military and technological use), which hinders the efficiency of traffic management and air navigation services • Average quality of passenger terminal and ancillary facilities significantly below European standards, in terms of architectural and structural quality of buildings, plant, technology and energy consumption" • Insufficient numbers of airports connected to the railway network and poor competitiveness of existing connections • Insufficient dedicated logistics infrastructure for cargo traffic compared to major European competitors, with resultant increased total transport costs for Italian companies • Strong housing and settlement pressure compromising the future growth of traffic in some domestic airports
Opportunities • Global passenger traffic forecasts positive • Long term growth outlook in the cargo sector; growth areas linked mainly to the development of international trade and the growth of GDP in emerging countries • Possibilities emerging from new Commission proposals (such as the SES II+ package) to pursue greater efficiency in the provision of air navigation services and to overcome the fragmented air traffic management system	**Risks** • Risk of congestion in the medium-long term in the absence of efforts to increase in capacity • Possible competition with the high speed railway, not in terms of overall European traffic, but with possible significant local scenarios • Cautious approach to overall growth forecasts in the sector, with reduced national growth estimates compared with those offered by international organisations

LPT AND URBAN MOBILITY	
Strengths • Breadth of distribution of the service • Demand for physical mobility (increase in commuting) • Demand for mobility in recovery from 2013 • Multiplicative effect of investment in LPT • Dynamism in the sector with regard to the application of innovative technologies in the provincial capitals (infomobility services; charging electric vehicles in public areas, car sharing)	**Weaknesses** • Low utilisation of public transport with high congestion of urban and metropolitan areas and high levels of pollution. • Fragmentation of service and limited integration between the various modes of transport (intermodality) • Poor infrastructure (metro, tram) especially in the South and obsolescence of the vehicle fleet • "Carcentric" vision in terms of preference for using private cars • Low level of openness to the market • Complexity of implementation processes for tendering procedures • Demand strongly penalised by poor quality of service and reduction of supply caused by the economic downturn and budget problems • High barriers to entry for industry operators
Opportunities • Increase in journeys using more than one mode of transport in the urban environment • Growth in the railways' share of demand for extra-urban transport • Launch of a process of rationalisation of the sector boosting service efficiency and liberalisation and greater emphasis on planning activities • Internationalisation of the sector following the progressive liberalisation of the service	**Risks** • Substitution effect (public transport growth in conditions of low mobility consumption) • Strong competitive pressure from private transport • Increased congestion in urban areas • Low attractiveness of the sector on supply side and demand side

CHAPTER II
STRATEGIC LINES

II. 1 OBJECTIVES AND LINES OF ACTION

The Infrastructure Annex sets out the strategic decisions in line with the commitments that Italy has taken on with regard to Europe, ensuring that national priorities are in line with those of Europe in the context of infrastructure programming. In this regard, Government and Parliament have approved the guidelines annexed to the Economic and Financial Document of April 2012 and the amendments to the code of public contracts (Legislative Decree No. 163/2006) under article 41 of Law 214/2011, establishing the criteria for selecting priority strategic works, which include "consistency with European networks and territorial integration".

Subsequently, CIPE resolution No. 26/2014 has definitively established that the Infrastructure Annex constitutes the community programmatic reference framework for community programming 2014-2020. The definition of such a framework goes through a necessary process of strengthening of strategic coordination between the Programme for Strategic Infrastructure and other infrastructure programming instruments, including sector plans (programming of ERDF and Fund for Development and Cohesion (FDC), Programme Contracts - Investment Part of RFI and ANAS, port and airport sectoral plans).

The strategy outlined in this Annex gives completeness to this coordination, outlining the programmatic frame of reference. This frame is also identified in response to a triple set of needs:

- adjustment of national strategic infrastructure programming to community precepts;
- acquisition of a strategic instrument that can offer guidelines for the programming of public administrations – also in the light of budgetary constraints – and for the investment decisions of private investors;
- facilitation of dialogue and negotiation with local authorities as part of the reform process of Title V of the Constitution, moving towards greater rigour in the sharing of priority works and the hastened definition and implementation of priority works criticality is exceeded.

Important pointers for national strategy thus emerge from careful observation of the context, briefly recalled in the first part of the Annex, and from the resulting diagnosis task conducted through analysis
of strengths and weaknesses and risks/opportunities (SWOT). In particular, major shortcomings have been identified in relation to:

- rail transport networks that do not meet the expectations in relation to other EU countries, particularly at border crossing points and in the southern regions, resulting in reluctance to use railways for freight transport;

- many sections of the TEN-T road network that do not yet meet safety standards, also at border crossings;
- maritime and intermodal transport in which the challenges of industry development are accentuated by fragmented and inefficient management of port nodes, substandard interconnections with major transportation networks and restricted competition, with negative impacts in terms of competitiveness;
- congestion in the major metropolitan urban areas and low quality of regional public transport;
- problematic implementation of private capital in the funding of infrastructure with potential financial return.

In the face of these shortcomings, there are moves towards greater integration of a reference programmatic framework, cutting across the various areas, and individual "vertical axes" represented by sector programming. These measures are accompanied by the rationalisation of financial allocations, enabling the construction of models for fund-matching between the different national and community instruments available.

With awareness of the limits imposed by the scarcity of available resources, the national strategic lines informing choices in investment in transport infrastructure and logistics to be implemented in the period 2015-2020 – looking forward to an extended 2030 time horizon consistent with European transport policy objectives – are intended to support:

- the strengthening of the rail mode and improvement of passenger services, in terms of quality and travel time, and freight transport in terms of form length, loading gauge and axle weight, focusing primarily on the completion of the European core network nationally, concentrating initially on cross-border corridors and the South as well as links between the TEN network and major urban and productive nodes;
- reducing urban and metropolitan congestion through the enhancement of metropolitan networks, starting from the most populated areas, and the improvement of regional multimodal mobility for better and more reliable services;
- improving the competitiveness of the port and freight village system, with the goal of enhancing the scope of individual harbours through necessary infrastructural and procedural works and the optimisation of national governance of the port systems;
- improving the road network through completion of the central road network, principally in the most congested areas, the strengthening of connections between secondary and tertiary nodes to the TEN-T global network and improved safety on the major arteries;
- optimising air traffic in accordance with the structure of the "Single European Sky" and the multimodal connection of airports with major urban centres;
- attracting private capital through appropriate policies for the administrative reinforcement of contracting bodies, the diffusion of analysis models of financial plans for private proponents, greater explanation of the benefits arising from the implementation of works contributing to the development of industrial clusters and the effective and synergistic use of the different sources of Community (European Fund for Strategic Investments, ERDF) and

national funding.

The major developments of the recent period in terms of impetus to sectoral planning and programming and review of regulatory instruments of relationships between state and managing bodies of infrastructure of national interest – these also characterised by a greater long-term programmatic scope – provide a clear and concrete breakdown of the strategic guidelines with regard to the different modes of transport and their improved integration.

Additionally, in compliance with the allocation of powers provided by the existing constitutional order, the strategic lines as described more fully below constitute the frame of reference, ensuring coordination and integration between national priorities and regional programming, also regarding updating or regional transportation plans.

Development strategy of the national railway infrastructure

The strategic guidelines for the coming years are intended to configure an infrastructure increasingly integrated with the European network in line with the community design of creating a single rail network able to interact, in terms of programming services as well as investment, with other transport infrastructures under a multimodal network rationale, with the goal of improving the overall accessibility of the national transport system and offering a structure of networks and integrated services.

Alongside the development of the network and the quality of the transport offer, the priority goals remain infrastructure safety, quality and efficiency, ensuring continuity for infrastructure maintenance programmes.

The development of an efficient rail infrastructure and, in particular, the strengthening of intermodal nodes and last mile connections also play a decisive role in the eventual transfer of freight traffic flows from road to more sustainable modes of transport.

With reference to the development of medium-long distance passenger networks, the actions for the relaunch of rail services against other door-to-door modes will seek to increase network performance to make the mobility system more competitive using a mix that emphasises quick return "soft" investments (technologies, speeding up and removal of bottlenecks) along with some "heavy" investments for the development of the network aimed at:

- working on singular points of the conventional network with preferably technological solutions or modalities that limit land use to allow speed to be increased;
- maximising performance, continuing with the development of the AV/AC network (with specific attention to the South through the works identified by PON Infrastructure and Networks 2014-2020), including the speeding up of antenna sections, and the performance upgrade of major passenger standards;
- boosting the rail links to major airports in line with European strategy on the Core network to promote air-rail intermodality.

The development plan of the LPT network seeks to impose a strong sign of discontinuity with innovative proposals for the relaunch of the sector, going also in the direction of increased intermodal integration between rail and road. The aim is to significantly improve the quality of regional services, particularly with regard to the big metropolitan areas and commuter services, through targeted interventions to increase node capacity, speed up extra-urban routes, develop interchange points in urban areas, improve accessibility of services in stations, including through measures such as the renewal of rolling stock and the introduction of integrated ticketing systems.

To increase the quality of goods networks and make the train modes more attractive, joint programmes are underway with logistics operators for a series of actions to solve the main problems currently affecting the freight system. The intervention plan will focus on:

- freight traffic upgrade of the main European corridors "Core Corridors" (train loading gauges and forms), in particular the strengthening of links between domestic terminals – with specific attention to those of the South – and Alpine passes;
- separation and optimisation of flows by type of service;
- strengthening and streamlining of interconnections between the rail network and industrial clusters, ports and freight villages, with the aim of reducing "last mile" costs;
- improvement and expansion of services in installations.

The Sea System for the relaunched national economic

National policy actions embracing strategic guidelines for the development of **maritime transport**, both within and beyond sectoral confines, aim to reinstate the centrality of the Sea System, in terms of important productivity and efficiency margins, for the benefit primarily of the Italian industrial and productive system, but extending generally throughout the country.

Government action in the sector is in fact intended to go beyond the port environments, to function as a driving force and a stimulus to the entire national production system, especially the regions of the South, creating significant synergies with economic, industrial and also foreign policy in Europe and the Mediterranean. Thus, there is a view of the Sea System as an engine for economic recovery, in which the improvement of port efficiency has important consequences on the Italian production system from diverse points of view; it concerns not only the reduction of transport times and costs or the purely quantitative growth of the volumes of traffic required for different types, but has the goal of creating strategic added value for the national productive system.

A second aspect is the strategic aspect of trade in the Mediterranean and the economic and the productive potential that Italy and its Southern regions – as well as Europe as a whole – have before the South and which can provide the impetus for functions that the Italian port systems could perform. In this context, substantially improved services and infrastructure of the port sector, accompanied by a qualitative leap in transport and logistics services to manufacturing companies (especially SMEs), would contribute greatly to improving the competitiveness of the entire Italian industrial system, particularly in the South, in markets that will become

increasingly strategic in the coming years. This is along with the deployment not only of transport and industrial policy initiatives, but also a new foreign policy strategy in which Italy can be a"go-between" between Brussels and the capitals of the Maghreb, Mashreq, Turkey and Israel, focusing on the theme of maritime transport and logistics.

The Sea System is also considered a strategic instrument for the development and cohesion of the South, where two important factors promote the idea that the southern port and logistics system may play a renewed driving role not only for the economic recovery and development of this area of the country, but also for the process of cohesion with the rest of Italy and Europe. The first regards all that has been said of the importance of the South in the Mediterranean context. The second factor, relating to development and internal cohesion, stems from the high degree of integration achieved by many production areas of Northern and Southern Italy and the implications of this integration on business internationalisation processes and consequently on port systems and related logistics.

Last but not least, there is the aspect of sustainable vision of development. The strategic perspective of the Government is to back up the promotion of the logistics system and increased use of the sea as a more sustainable means of communication and transport than land transport with the protection of port areas from various sources of pollution, as well as the minimising of environmental impact of infrastructure on the surrounding areas and the reduction of energy consumption linked to port activities. Objectives are fully compatible with international and European guidelines for environmental protection and reduction of greenhouse gas emissions.

These strategic guidelines have informed the preparation of the national strategic plan of the port system and related logistics. In view of these guidelines, the plan, taking into account the current situation of the port system and maritime logistics, as well as the outlook analysis for the development of the sector, identifies 10 strategic objectives described in detail, along with actions aimed at achieving them, in the relevant paragraph of this Annex.

With regard to the guidelines for the selection of operations to be financed, the plan – in accordance with provisions for the other transport sectors – prioritises actions for the enhancement of existing infrastructure, either through works intended mainly to strengthen intermodal connections and in particular the railway network, and through the development of technological systems aimed at overcoming administrative barriers and improving supply chain efficiency by limiting the actions of capacity expansion only where really necessary.

In the context of the overall redesign of the governance of port systems, the plan calls for the issue of common national guidelines for the preparation of plans and infrastructural investment programmes of the different areas of the country.

The airport system and the single European sky

Based on the analysis of the Italian airport system, the existing airport stock appears capable of meeting traffic growth projected to 2030, taking into account ongoing scheduled upgrades and expansion, planned even beyond the Master Plan horizon already prepared by the airport companies.

However, it is necessary to adopt expansion strategies to ensure in particular:

- the optimisation of air traffic in line with the single European sky;
- the execution of works necessary to improve accessibility and intermodality;
- the need that airports, and especially strategic ones, guarantee, over time, the capacity supply needed to support the economic development of the country, through the imposition of regional constraints or functional relocation, should development of the airports be hindered by physical, environmental or safety limitations;
- inclusion of rail and road connections with the three intercontinental gates as urgent and unpostponable elements of the programming and planning of the relevant institutions;
- the optimisation of intermodal connections with the closest airports in areas where there is no airport infrastructure.

The airports national plan will identify the implementation modalities for the above guidelines. The outline DPR on the identification of airports of national interest was approved by the President of the Council of Ministers in August 2015.

In accordance with the guidelines on the Single European Sky and the SESAR programme in particular, actions will be implemented, including through investments under 2014-2020 programming, for the development of air traffic management systems.

The maintenance and enhancement of road infrastructure

Investment planning in the road sector is based on an approach aimed mainly at the improvement and safety assurance of the network while also taking into account the needs posed by different territorial interests.

The main purpose of the planning in the sector should focus on:

- the resolution of structural problems, with particular reference to the ages of the main works;
- the reduction of accident rates in order to improve road safety conditions and eliminate "black spots", in line with Legislative Decree 35/2011 on road safety management;
- the improvement of traffic in order to assist circulation and consequently reduce accident rates;
- the safeguarding of roads from landslides and flood risks in order to avoid service interruptions.

In the planning of intervention works, the investment priorities are:

- upgrade and rationalisation works on particularly dangerous or busy road arteries and routes, or to resolve critical issues arising from congestion at urban nodes.
- completion of important road upgrade and safety works initiated in the past
- static safety assurance of main structures through the carrying out of studies and tests on the static and seismic stability of infrastructure assets with particular regard to certain routes suffering infrastructure deterioration;
- improvement of road safety conditions in relation to the requirements of Legislative Decree 35/2011, through actions such as the upgrade or renovation of the road surface, with specific regard to routes affected by

heavy traffic or major accidents;
- improved stability of landslide-prone slopes or roads at risk of floods, through works for the stabilisation of landslide masses and regulation of rainwater.

Without prejudice to the above objectives and priorities, we must adopt an approach of synergy and integration between the different levels of programming, taking into account the need to facilitate accessibility to inland areas and -those places most disadvantaged by geographical layout and topography, thus helping to alleviate the isolation of significant sections of the population.

The effective use of different sources of funding

The implementation of the strategies described above must take place through a more effective use of financial resources available from the various funding channels.

In this regard, funds dedicated to improved territorial cohesion are particularly important, both from the national part (FDC) and the community section (European Structural and Investment Funds).

Based on the principles contained in the new community regulations for the 2014-2020 programming period, the above criteria for strategic coordination and focus of areas of action have guided the development of the national strategy described in the Partnership Agreement, which, for the transport sector, is duly broken down in the new National Operational Programme (PON) Infrastructure and Networks 2014/2020.

The PON Infrastructure and Networks strategy, which also represents the substance of the national strategy in regions receiving support from the ERDF, aims to improve the mobility of goods and people through the implementation of a realistic and mature action plan that prioritises: the strengthening of the rail mode, the development of intermodal connections for freight transport and the use of new technologies to increase the efficiency of existing infrastructure, as more fully described in the relevant section.

The development of planning and programming instruments - The MPD

Alongside the general and sectoral strategic guidelines mentioned above, equal importance is attached to continuity for the process started to overcome current fragmentation, and thus the strengthening of strategic coordination and concentration of content, in order to give operational support to the administrative and procedural strengthening of the central structures and implementing entities.

The Multi-year Planning Document (MDP), on the basis of strategic guidelines laid down in this Annex, will – starting from the 2017-2019 three-year period – be the unitary instrument for the choice, operational planning, implementation and monitoring of all the actions that fall under the competence of the MIT.

In particular, the implementation of this instrument will improve the quality of operational programming and will optimise the allocation of budgetary resources,

also by imparting consistency to all plans and investment programmes for public works.

The MDP will indicate all national, community and private financial resources intended for capital spending for the implementation of public works by the MIT and other entities, to which the resources – initially in the Ministry's own estimates – will be transferred.

Additionally, for the preparation of the MPD, article 8 of the decree states that each Ministry must draw up "*Standardised guidelines for the evaluation of investments*" that are submitted for acknowledgement to the CIPE.

With the Decree of the President of the Council of Ministers of 3 August 2012 implementing the aforementioned article 8, the reference model was defined for the Ministries' drafting of said guidelines and, in April 2014, the Prime Minister's cabinet, Department for programming and coordination of community policy and the Department for development and economic cohesion – Unit for the evaluation of public investments with the collaboration of the Project Finance Technical Unit and the Nucleus for evaluation and verification of DIPE investments, issued the *Handbook for the application of the Guidelines Model for the preparation of the Multi-year Planning Document*.

The start of a programmatic phase aimed at optimising the decisional and implementation process of public works provided by Legislative Decree No. 228/2011, is based on the strengthened evaluation of infrastructure needs and planned works through the instrument of the Guidelines. They provide a methodology to guide the selection of operations that match expressed needs, consistent with the objectives and strategies of the national planning set out therein, and to identify priorities for action on the basis of the criteria of cost and the fulfilment of those objectives.

The Guidelines of the Ministry of Infrastructure and Transport are currently being drafted, whereas we have seen the completion of the reconstitution procedure of the Nucleus for evaluation and verification of public administration investments, with the aim of getting the aforementioned regulations operational as soon as possible.

II.2 IMPLEMENTING AND FINANCIAL INSTRUMENTS

In view of the content and strategic guidelines outlined in the previous chapter, the following sections provide more detailed elements on the instruments of sectoral planning and implementary programming. The description here is mainly focused on the status of approval or updating of the various instruments, on financial provision and composition – if this is applicable – in the light of the different types of operations planned and with regard to their geographical location.

The aforementioned plans and programmes are funded through ordinary resources and additional national and community instruments described in this chapter (Connecting Europe Facility, European Fund for Strategic Investments, ERDF Structural Funds programming, Cohesion Fund programming).

II.2.1 Implementation instruments

The Strategic Infrastructure Programme (SIP)

The structure of the SIP is described in detail in Part Two of this document.

Outline of the programme contract Anas 2015

The road sector was also affected by a regulatory reorganisation process, initiated by art. 36 of Legislative Decree 98/2011, which transferred competence for toll motorway concessions from ANAS to MIT, effective from 1 October 2012; the company however retains the road network concession for about 25 thousand km of state roads and no-toll motorways.

In order to give programmatic scope to public choices in terms of viability, the Interministerial Committee for Economic Programming (CIPE), with resolution No. 4/2014, provided that the programme contract between the Ministry of Infrastructure and Transport and ANAS S.p.a. -
- Investments Part be complemented by a five-year investment plan.

In this perspective, the PC configuration is strengthened as an instrument that can give organic and effective implementation to national and community strategy, in line with the operational programmes that contribute to the funding of works.

The outline of the Programme Contract Anas 2015 was endorsed by the CIPE on 6 August 2015 with a total planned investment of 1,115 million euro.

The new works financed by the contract for about 830 million euro have been selected on the basis of criteria such as the completion of the "Comprehensive" and "Core" network of the TEN-T network (work on the Salerno-Reggio Calabria motorway and the two operations planned on the E78) and routes in operation, the improvement of road safety, integration of road and motorway nodes and the implementation of agreements with local authorities. The level of planning is a funding priority: four new works are already executive projects; the other six are at the final design stages, with all ten to go to tender by the end of 2015.

A further 10 million euro will fund the planning of 16 new works that will

allow the launch of matching investments in the coming years.

TABLE 22 NEW WORKS FINANCED BY THE OUTLINE PROGRAMME CONTRACT ANAS 2015 (mln. euro)

REGION	ACTION	OBJECTIVE LAW PROCEDURE	PROJECT STATUS	COST AVAILABILITY ALLOCATION		
Lombardy	S.S. 11-494 "Padana Superiore and Vigevanese" 1st lot from Magenta to Vigevano	YES	Final	220.00	102.00	118.00
Piedmont	Municipality of Re-Ponte Ribellasca (from km 23 +900 to km 29+668)		Final	70.50	0.50	70.00
Liguria	Nuova Aurelia - Variant to SS 1 Aurelia near Capo Noli		Final	39.90	10.00	29.90
Emilia Romagna	North Ringroad of Reggio Emilia 1st lot S. Prospero Strinati Section -"Network 2"		Executive	71.00		71.00
Tuscany	E78 1st Section Grosseto-Siena - 4th Lot and 9th Lot	YES	Final	237.00	-	237.00
Campania	Salerno Avellino Junction SS7 and SS7 bis first lot from the exit of Fratte A3 to the barrier of Mercato San Severino A30 2nd lot	YES	Final	114.00		114.00
Friuli Venezia Giulia	Variant to the town of Cividale del Friuli at km 13+900		Executive	5.40		5.40
Calabria	Motorway A3 SA-RC Functional upgrade of urban link Scilla-Leracari	YES	Executive	9.97		9.97
Calabria	S.S. 182 of the Serre Calabre Junction Gagliato-Satriano Junction including Satriano spur	YES	Final	54.56		54.56
Sicily	Trunk road Licodia Eubea - A19. Functional works lot from Regalsami junction to start of Caltagirone variant.		Executive	120.00		120.00
TOTAL				**942.33**	**112.50**	**829.83**

TABLE 15: FIVE-YEAR PROGRAMME ANAS 2015-2019 (*mln. euro*)

No.	Works amount (mil. euro)	Amount financed (mil. euro)	Amount to be financed (mil. euro)	No.	Works amount (mil. euro)	Amount financed (mil. euro)	Amount to be financed (mil. euro)	No.	Works amount (mil. euro)	Amount financed (mil. euro)	Amount to be financed (mil. euro)	TOT. No.	Total amount (mil. euro)	Amount financed (mil. euro)	Amount to be financed (mil. euro)
	NORTH				**CENTRE**				**SOUTH**				**TOTAL 2015**		
5	407	407	0	2	237	237	0	4	299	299	0	11	942	942	0
3	535	535	0	1	112	112	0	6	1,127	1,127	0	10	1,174	1,174	0
2	150	150	0	0	0	0	0	11	654	654	0	16	804	804	0
10	**1,091**	**1,091**	**0**	**3**	**349**	**349**	**0**	**24**	**2,079**	**2,079**	**0**	**37**	**3,520**	**3,520**	**0**
	NORTH				**CENTRE**				**SOUTH**				**TOTAL 2016**		
7	519	69	450	10	418	12	405	11	1,563	15	1,548	28	2,500	96	2,404
0	0	0	0	0	0	0	0	12	1,396	63	1,333	12	1,396	63	1,333
7	**519**	**69**	**450**	**10**	**418**	**12**	**405**	**23**	**2,959**	**78**	**2,881**	**40**	**3,896**	**159**	**3,737**
	NORTH				**CENTRE**				**SOUTH**				**TOTAL 2017**		
13	579	5	574	10	912	146	766	8	1,673	104	1,569	31	3,164	254	2,910
0	0	0	0	0	0	0	0	1	300	3	298	1	300	3	298
13	**579**	**5**	**574**	**10**	**912**	**146**	**766**	**9**	**1,973**	**107**	**1,867**	**32**	**3,464**	**257**	**3,207**
	NORTH				**CENTRE**				**SOUTH**				**TOTAL 2018**		
6	218	0	218	4	667	1	666	11	2,177	3	2,174	21	3,061	4	3,058
0	0	0	0	0	0	0	0	4	500	4	497	4	500	4	497
6	**218**	**0**	**218**	**4**	**667**	**1**	**666**	**15**	**2,677**	**6**	**2,671**	**25**	**3,562**	**7**	**3,555**
	NORTH				**CENTRE**				**SOUTH**				**TOTAL 2019**		
5	544	5	540	4	676	2	673	15	1,908	2	1,906	24	3,128	9	3,119
5	544	5	540	4	676	2	673	15	1,908	2	1,906	24	3,128	9	3,119
41	**2,951**	**1,170**	**1,782**	**31**	**3,022**	**511**	**2,511**	**86**	**11,596**	**2,271**	**9,325**	**158**	**17,569**	**3,952**	**13,617**

The remaining 275 million euro are destined mainly for extraordinary maintenance of the operating network (replacement of damaged safety barriers, road markings, surfacing, landslide emergencies and other natural disasters).

Regular maintenance, which also includes other services that ANAS provides to the operating network, is expected to receive additional resources estimated at 594 million euro.

In compliance with the express request of the CIPE, the outline programme contract contains the new five-year programme of investment to be carried out during the 2015-2019 period with a total expected expenditure of approximately 20 billion euro, of which 17.5 for new works and 2.5 for extraordinary maintenance. These works planned in part to support the completion of the TEN-T network, partly established upon on agreements with the regions.

This is an important step forward in medium-long term programming. As early as next year investments are planned totalling 4,400 million euro, including extraordinary maintenance.

Alongside the scheduled annual works there is an urgent need for an extraordinary maintenance programme mostly concerning the main structures of the operating network. Decree-Law No. 69/2013, so-called "doing" decree, converted into Law No. 98/2013, the stability law 2014 (Law No. 147 of 27 December 2013) and Decree Law No. 133/2014 so-called "Unlock Italy" converted into Law No. 164/2014 of 11 November 2014 have allocated about 950 million euro to the bridges, viaducts and tunnels programme; of that amount, about 850 million euro are currently available (table 24).

TABLE 24 BRIDGES, VIADUCTS AND TUNNELS PROGRAMME (mln. euro)

	NORTH		CENTRE		SOUTH		Total	
PROGRAMME	**No.**	**M€**	**No.**	**M€**	**No.**	**M€**	**No.**	**M€**
Decree Law 69/2013	33	46	39	102	28	151	**100**	**300**
L. 147/2013	65	68	42	62	86	117	**193**	**247**
Decree Law 133/2014	28	76	35	112	53	112	**116**	**300**
Total	**126**	**191**	**116**	**276**	**167**	**381**	**409***	**847**

* A total of up to 600 further works will be financed with bidding discounts achieved in contracts awarded.

In March 2015, 409 works were implemented, spread throughout the country. * A total of up to 600 further works are being financed with bidding discounts achieved in contracts awarded. In particular:

- **Decree Law 69/2013**: 99 works were awarded (€ 307.83 million), of which 98 were delivered (€ 300.35 million) and 66 completed for an amount of € 83.95. A further 34 works were also awarded, funded by bidding discounts, amounting to € 43.30 million
- **Law No 147/2013:** tenders were announced for € 247.16 million; 140 works awarded (€ 178.96 million), 56 delivered (€ 73.15 million) and 4 completed (€ 5.61 million). Tender procedures are underway for further works, funded by bidding discounts of those already awarded.
- **Decree Law 133/2014**: 64 tenders were announced for € 184.44 million, accounting for 61% of the funding agreed.

From the point of view of national distribution, the total investments in new works and extraordinary maintenance already financed – through the outline programme contract 2015 and the bridges, viaducts and tunnels programme – and pending implementation by ANAS, break down as 28.62% in the North, 29.37€ in the Centre 42.01% in the South.

Further works on the national road network can be financed with resources from the FDC 2014/2020.

Finally it should be noted that additional resources for works in the South have already been allocated to ANAS from the cohesion and action plan, in accordance with the outline below.

TABLE 25 ANAS WORKS FUNDED BY THE ACTION AND COHESION PLAN (mln. euro)

AXIS	LDI	BF	ACTION	NETWORKS AND MOBILITY PON 2007-2013	PAC 3	PAC 4
II	II.1.2	ANAS	S.S.N. 106 Jonica-Megalotto 4, intersection with A3 SA-RC and SS 106 Firmo-Sibari. Upgrade works to the category B of the SS 534	71.63		71.68
II	I.1.2	ANAS	S.S.N. 100 of Gioia del Colle, section: Bari-Taranto – Functional completion and safety assurance between km 7+200 and km 44+500	15.65		16.45
II	II.1.2	ANAS	S.S. 96. Modernisation project with upgrade to section III CNR of section end of Toritto-Modugno variant, including Palo del Colle variant	46.30		56.41
II	II.1.2	ANAS	S.S. 96. Modernisation works and upgrade of section type B of the CdS of the stretch between the end of variant of Altamura and the beginning of the Toritto variant: II lot from km 84+154 to km 94+040	25.94		36.74
II	I.1.2	ANAS	S.S. 96. Variant upgrade works in section III of CNR rules on S.S. 96 "Barese" - section: Altamura variant - 1st Lot S.S. 96 from km 84 + 154 (start Altamura variant) at km 81 + 300 (junction with S.S. 99)		27.99	
II	II.1.2	ANAS	ITS project on the road network located in the regions of Calabria, Campania, Puglia and Sicily			5.13
TOTAL				**159.53**	**27.99**	**186.43**

Programme contract investments of RFI

The programme contract incorporates national and community strategies for infrastructure development and therefore also the relevant operational programmes contributing to the financing of operations and contracting of resources for investment and maintenance of the network. In the current configuration there are two distinct programme contracts that define ordinary and extraordinary maintenance activities (covered by the programme contract - services part) and investments for modernisation and development (covered by the CdP - investments part).

The programme contract RFI 2012-2016 - investments part was signed on 8 August 2014 between the Ministry of Infrastructure and Transport (MIT) and Rete Ferroviaria Italia (RFI) S.p.A., and subsequently supplemented on 5 and 9 December

2014 and with two agreements reached between RFI and MIT regarding cost estimates for the new Turin-Lyon line (Italy quote) and the AV/AC line between Verona and Padua.

The value of the works in progress of the new programme contract 2012-2016 – totalling the new allocations with those under the previous 2007-2011 contract – stood at about € 98,736 million (including completed projects) compared to € 93,944 million (including completed projects) of the 2010/2011 update of the 2007-2011 programme contract, set out in tables A, B and C shown in the summary table below.

TABLE 26 PROGRAMME CONTRACT RFI 2012 -2016 (mln. euro)

PROGRAMME	TABLES	COST	RESOURCES	REQUIREMENT
Ongoing and programmatic investments portfolio	A	173,542	60,694	112,848
Extraordinary maintenance (surplus 2007-2011 cycle)	0	1,817	1,817	0
Statutory safety and upgrade measures	1	29,223	5,424	23,800
Technologies for circulation and increased efficiency	2	6,727	3,726	3,000
RFI proposals for overcoming bottlenecks	3	5,236	2,232	3,005
Enhancement and infrastructure development of Conventional /High Capacity Network	4	98,539	15,496	83,043
Infrastructure development AV/AC network Turin-Milan-Naples	5	32,000	32,000	0
Investments implemented for construction lots	B	25,157	6,430	18,727
Equity investments	C	5,676	3,275	2,402
Total Tables A + B + C		**204,375**	**70,399**	**133,977**
Works completed	E	28,338	28,338	0
GRAND TOTAL		**232,713**	**98,736**	**133,977**

Table A – Ongoing and programmatic investment portfolio consisting of two distinct sections:

- Section 1 containing "works in progress" with funding, with the launch of new works in local public transport (bottlenecks in major nodes and upgrading of passenger terminals), along freight corridors (Udine node, upgrade of loading gauge and form, connections with ports) and for the acceleration of the Bologna-Lecce and Milan-Trieste axes;
- Section 2 showing the values of "programmatic works" with related outline schedule of requirements

Table B – Investments implemented for construction lots includes large works along three TEN-T Corridors (Mediterranean, Scandinavia-Mediterranean and Rhine – Alps) to be implemented in accordance with the procedures provided for under article 2 paragraph 232 of the 2010 Finance Act: The Treviglio-Brescia, Brescia-Verona and Verona-Vicenza-Padua tracts of the Milan-Venice AV/AC railway, the Apex-Orsara section of the Naples-Bari AV/AC railway, the Milan-Genoa /AC AV line: Third Giovi Pass and new Brenner pass.

Table C – Equity investments include investments relating to infrastructure

projects that have not been undertaken directly by the operator but are entrusted, under article 3 of the Concession Act, to special purpose entities, to which it transfers, either directly or indirectly and based on its shareholding, the national financial resources under contract.

The MIT and RFI will undertake to update these contract tables in order to take account of the resources allocated by law No 164/2014
so-called Unlock Italy (864 million euro) and the Stability Law 2015 (12.3 billion euro, including 4.2 billion euro for extraordinary maintenance not covered by the contract investments part).

The implementation of the rail network development strategy will take place on a medium-term time horizon within the programme contract through the execution of the following lines of action:

- the maintenance and improvement of safety standards provided for in the obligations and regulatory requirements of railway transport;
- the strengthening of the AV/AC system and the Alpine passes;
- works aimed at overcoming problems occurring mostly in large urban areas;
- the improved performance of freight corridors;
- the speeding up the main passenger axes.

Below we provide a brief illustration of the characteristics of the planned works based on these lines.

Maintenance and improvement of safety standards provided for in the obligations and regulatory requirements of railway transport

The investment needs connected to this line of action arise from the monitoring of accidents, particularly at level crossings, hydrogeological instability and the need for adjustment of the base and installations to the technical standards identified in laws and/or ministerial regulations on safety of railway tunnels, noise abatement and mitigation of seismic risk.

Strengthening of the AV/AC system and the Alpine passes;

In the contract horizon, work will continue on the construction lots already begun (3rd Giovi Pass, New Brenner Pass and the AV/AC Treviglio-Brescia line) and further upgrade lots will start on the Milan-Venice axes and the AV/AC Naples-Bari line. The Contract also provides for considerable amounts to finance the construction of the new Turin-Lyon link.

Works aimed at overcoming problems occurring mostly in large urban areas;

The focus of the identified works – depending on the specificity of the sections – is the specialisation of the lines, enabling optimal use of line capacity, and/or "light" works on the installations to limit interference between converging flows on lines, and on lines adopting innovative technologies for spacing at 3-4'. More challenging infrastructure solutions such as doubling and quadrupling are scheduled in circumstances of limited spare capacity, where high potential demand cannot be met with technological work on existing infrastructure.

Node sections are also enhanced to increase interchanges with other modes of transport, such as metro, other railway lines, city and suburban buses and private

services, also equipping stops with adequate parking. To improve levels of service in stations there are also planned works aimed at improving accessibility to trains, public information systems and mobility within the terminals. These works, spread throughout the country, prioritise terminals with highest average usage.

Improved performance of freight corridors

To make the rail mode more attractive, the operator has worked synergistically with logistics operators to programme a number of actions for increased efficiency of connections between the rail network and industrial clusters, ports and major terminals, aimed at overcoming the infrastructure deficit within the port terminals and cutting "last mile" costs. The objectives are:

- enhanced performance of major European corridors (train loading gauges and forms)
- strengthening of links between domestic terminals and neighbouring countries
- separation and optimisation of service flows
- positioning of terminals outside the city centres
- increased efficiency of interconnections between railways and industrial clusters
- concentration of traffic on a limited number of installations and strong axes
- "last mile" cost reduction
- strengthening of links with ports and freight villages
- improvement and expansion of installation services.

The medium term will see a rationalisation of the goods traffic network, with traffic concentrated on the most important systems and lines specialised for freight and interoperable traffic; these must have the appropriate geometric characteristics (line module, kinematic gauges and slopes) and technological properties (ERTMS -S) suitable to accommodate the different types of traffic (rolling motorway, high cubes, swap bodies and semi-trailers) generated/drawn from the main logistics nodes: ports, intermodal centres and Alpine passes.

Investments in the network will therefore focus on the gradual adjustment of freight lines to the interoperability standards set by European legislation (lengthening of line modules, adjustment of loading gauges for rolling motorway or high cube transport and ERTM-S fixturing) and to the needs of the market (increased commercial speeds on main freight lines and special tracks coordinated with international corridors). The infrastructure of ports and intermodal terminals will benefit from upgrades in synergy with port investments made by the competent authorities.

The speeding up of main passenger axes.

Actions for the relaunch of rail services against other door-to-door modes aim to increase performance, continuing with the implementation of the AV/AC system and work on individual points of the conventional network with solutions preferably technology-based or which impose limited use of territory to allow for increased speeds, and better links with major airports to encourage air-rail intermodality.

Programmed works on conventional lines aim to gradually speed up the lines of the basic network depending on the commercial value and the use of the line. The priority works to be financed will concentrate on the European corridors of the TEN-T network and the routes of the AV/AC network. The works can be phased, focusing first on technological adjustments to the lines and installations and then on the more challenging operations on systems and variants. These operations funded by the plan will allow speed increases, also by means of technology, of up to 200 km/h on the conventional network.

In connection with the upgrading of links with main airports, the priority works programmed in this contract will aim to improve access to terminals, including new stops and new links and/or improved existing links, especially regarding high-usage core airports.

In the long-term horizon the network infrastructure will provide for the progressive extension of the high speed/high capacity network and improved performance of international crossings, basic network lines and connections to core airports, thus ensuring adequate feeder links to the AV/AC system.

National strategic plan of the port and logistics system

In order to improve the competitiveness of the port and logistics system, facilitate the growth of goods and passenger traffic and promote intermodality in freight transport, article 29, paragraph 1, of Decree Law No. 133 of 12 September 2014 (converted into law No. 164 of 11 November 2014) provides for the adoption of the national strategic plan for the port and logistics system, to be approved by Decree of the President of the Council of Ministers upon proposal of the Minister of Infrastructure and Transport subject to consultation with the competent parliamentary committees.

Following a processing path that included successive instances of sharing and participation by main stakeholders, the plan was approved by the Council of Ministers in August 2015.

In view of a vision of development of the Sea System that hinges on this system's ability to act as a driver and promoter for the entire national production system, and given the 10 aforementioned strategic objectives consistent with this vision, below is a description of the Plan's proposed actions and related activities aimed at achieving these strategic objectives.

ACTIONS	ACTIVITIES
ACTION 1 Measures for simplifying and speeding up procedures, controls, and works on ports of national importance	1.1. Completion of the one-stop shop for controls 1.2. Simplification of procedures for approving infrastructure projects 1.3. Simplification of procedures for the dredging the seabed 1.4. Transposition of directives for integration and simplification of procedures by international agreements
ACTION 2 Measures to improve the efficiency of port services and increase the competitiveness of operators	2.1. Definition of national procedures and modalities for assignment of nautical technical services 2.2. Regulation of state demesne concessions and promotion of competition and investment 2.3. Increased competitiveness of port labour 2.4. Strengthening of plant product health controls at points of entry in border ports 2.5. Promotion of tourism through increased efficiency and strengthening of the cruise segment
ACTION 3 Measures to improve transport	3.1. Simplification of shunting in ports 3.2. Extension of existing and planned European rail freight

services and increase the accessibility of ports by sea and land	corridors (RFC) inside international gateway ports 3.3. Introduction of Fast Corridor processing in railway freight terminals with appropriate equipment and traffic volumes 3.4. Measures for the promotion of maritime connections with access to national strategic terminals for traffic to and from the ports of the Mediterranean 3.5. Measures for promoting the development of Ro-Ro traffic and motorways of the sea through the aggregation and encouragement of demand for cargo transport. Measures for the promotion and development of fluvial-maritime links for land relay of cargo in bulk and unitised on arrival and departure from the Adiatric ports
ACTION 4 Measures to encourage the integration of supply chains and manufacturing and logistics activities	4.1. Establishment of integrated logistics areas in the slower-developing regions 4.2. Promotion of "Supply Chain Partnership Agreements" between port systems Measures for the encouragement of localisation of manufacturing and logistics activities in national port areas and in the Integrated Logistics Areas of the South. Encouragement for the re-use of disused industrial areas and areas available in the port districts for locating manufacturing activities and related logistics
ACTION 5 Measures for upgrading the infrastructure of ports and their overland links	5.1. Definition of selection criteria and priorities of public investment proposals put forward by the AdSP 5.2. Definition of national road, rail and waterway projects to increase the national and international accessibility of Italian ports 5.3. Establishment of an observatory for the analysis of costs and implementation times of investments Recovery of abandoned, derelict or underused military-owned areas or easements
ACTION 6 Measures to encourage research, development and technological innovation in the Italian port system	6.1. Digitisation of the logistics chain 6.2. Promotion of structured research partnerships between the AdSPs and universities and research centres 6.3. Promotion and funding of national high-level education programmes Legislative measures aimed at strengthening the dissemination of the National Logistics Platform
ACTION 7 Measures for the energy efficiency and environmental sustainability of ports	7.1. Possible Decree Law that obliges the AdSPs to introduce environmental and energy plans 7.2. Establishment of a national GREENPORTS fund for the co-financing of initiatives in line with the PEA of the ports, to be awarded on a priority and merit basis. In conjunction with the Ministry of Economic Development, the introduction of fleet renewal incentives to promote the circulation of green, energy efficient boats, in compliance with community rules on state aid
ACTION 8 Measures to financing management and investment in port systems	8.1. Creation of a programmable and balanced system for the allocation of economic resources generated within the port system
ACTION 9 National coordination, programming and promotion of the Sea System	9.1. Reorganisation of the Directorate-General of the port and logistics department in the MIT with national monitoring and system programming 9.2. Implementation of a system for monitoring and planning of the national system of ports, logistics and maritime transport 9.3. Formalisation of a port and logistics partnership forum 9.4. Review and harmonisation of the regulations on the programming of ports and perimeter definition of the AdSP 9.5. Promotion of strategic marketing of the port system and Italian logistics Definition of the regulatory framework for the preparation of land use plans and POTs
ACTION 10 Measures to bring port governance into line with the mission of the Italian ports system	10.1. Proposal for a new governance model

With more direct reference to infrastructure development activities, port sector investments drawn from the national budget will be selected on the basis of strict compliance with European, national and local policy priorities, subject to verification of failed economic returns by private investors, who would have to become more involved through evolved models of participation oriented towards the integrated development of port and industrial areas.

In order to speed up the completion of projects on port logistics in parallel with the development of the above plan, the port authorities, in accordance with paragraph 2 of the aforementioned article 29, have identified about 150 projects considered consistent with the plan, 30 of which are ready for funding. The Prime Minister's cabinet and the Ministry of Infrastructure and Transport will proceed to the final evaluation of said projects list examining consistency with community programming (TEN-T networks) and national projects (three-year programmes of port authority public works, port land use, programmes for environmental action, remediation and industrial restructuring in the ports etc.). The assessment also involves a set of programmatic, physical, financial and infrastructural parameters and indicators, updated on the basis of general statistics relating to port traffic and cargo management.

Airports of national interest

On 27 August 2015, the Council of Ministers, by proposal of Minister of Infrastructure and Transport Graziano Delrio, approved in the final examination agreed with the State-Regions Conference, after consultation with the State Property Office and with the opinion of the Council of State and the competent parliamentary commissions, a draft decree of the President of the Republic establishing the identification of airports of national interest in accordance with article 698 of the navigation code.

The decree identifies airports and airport systems of national interest as crucial nodes for the exercise of the State's exclusive competence, taking into account the size and type of traffic, territorial and strategic location and provisions of European TEN projects.

The measure is aimed at developing the sector within governance that balances the needs of national and international traffic demand with those of territorial development, essential infrastructure enhancement, profitable use of public resources and efficiency of air navigation services and the other services provided in the airport.

The identification of airports of national interest as crucial nodes for the exercise of the State's exclusive competence is also in line with national programming for the sector as well as the streamlining of airport infrastructure and related services.

In line with the objective of streamlining in the sector, the measure pinpoints ten uniform traffic basins, in accordance with transportation and local criteria. Thirty eight airports of national interest are identified within these areas, selected according to the criteria of strategic role, territorial location, size and type of traffic and relevance to the provisions of the European projects of the Trans-European transport network.

Among the airports of national interest, 12 are then singled out for their

particular strategic importance, including three international gates: Rome Fiumicino, Milan Malpensa and Venice. The 12 airports of particular strategic importance have been identified by giving priority to airports included in the Trans-European network (first among them the intercontinental gates) and to airports included in the Trans-European global network with highest traffic figures. The extended classification is as follows:

- Ten domestic traffic basins with 38 airports of national interest

In the "ten national traffic basins" identified, the "airports of national interest" are as follows: North West (Milan Malpensa, Milan Linate, Turin, Bergamo, Genoa, Brescia, Cuneo); North East (Venice, Verona, Treviso, Trieste); Centre North (Bologna, Pisa, Florence, Rimini, Parma, Ancona); Central Italy (Rome Fiumicino, Ciampino, Perugia, Pescara); Campania (Naples, Salerno), Mediterranean / Adriatic (Bari, Brindisi, Taranto); Calabria (Lamezia Terme, Reggio Calabria, Crotone); Eastern Sicily (Catania, Comiso); Western Sicily (Palermo, Trapani, Pantelleria, Lampedusa); Sardinia (Cagliari, Olbia, Alghero).

- Twelve airports of particular strategic importance

For each of the ten basins, the following are the airports "of particular strategic importance": Milan Malpensa and Turin; Venice; Bologna, Florence/Pisa; Rome Fiumicino; Naples; Bari; Lamezia Terme; Catania; Palermo; Cagliari.

- Three airports that have the role of intercontinental gates

Of these airports, three are identified as "airports with the role of intercontinental gates" Rome Fiumicino, as "primary international hub"; Milan Malpensa and Venice.

II.2.2 Financial instruments

Connecting Europe Facility and European Fund for Strategic Investments (EFSI)

The EU Regulations Nos. 1315 and 1316 set out new guidelines on the *Trans-**European transport network TEN-T*, geared to making effective and binding the use of funds that the EU provides to projects of common interest from the resources of the Connecting Europe Facility (CEF), the ERDF, the Cohesion Fund and loans from the European Investment Bank.

Access to CEF funding 2014-2020 will be determined by programming capacity, administrative efficiency and the availability of the national public resources.

According to the above regulations, the allocation of CEF resources should give priority to works that: promote inter-modality, such as projects related to railways, inland waterways and ports; reduce negative externalities (noise, pollution, sulphur, etc.); integrate multiple Core network nodes (8 airports, 14 seaports, 5 inland ports, 15 intermodal centres and urban "nodes") with the 4 TEN-T multimodal corridors of the central network that crosses Italy (Mediterranean, Baltic-Adriatic, Scandinavia-Mediterranean and the Rhine-Alpes, Annex 1); enhance the level of logistics infrastructure, still insufficient to ensure a percentage of the cost of transport of goods in line with that of main European competitors.

The total value of investments already finalised and now going to tender is substantial, although the resources needed to complete the four corridors is equally monumental when we consider that the cost of the three new Frejus, Brenner and Giovi rail tunnels alone is approximately 25 billion euro.

These are major works that are justified by analyses that take into account the long-term economic and social costs and benefits but that cannot be funded by private sources as the internal rate of return is considered too low for the investors market.

The funding of these works needs non-repayable community and government grants accompanied by favourable terms of debt for Member States and the Commission; the *Connecting Europe Facility* provides coverage for Community budget funds, while the *European Fund for Strategic Investments (EFSI*) Announced by European Commission President Juncker in late 2014 and currently being established, should facilitate access to credit by sovereign bodies.

In September 2014, the European Commission published the first TEN-T calls for tender for a value of about 12 billion euro in loans from resources of the Connecting Europe Facility. Italy sent 83 project proposals to Brussels within the deadline of 3 March 2015, on the prior instructions of the Ministry of Infrastructure.

The set of project proposals submitted to the EU Commission called for eligible investments amounting to 7,009 billion euro to be achieved by 2020 according to the timetable provided for each project, with a request for a Community contribution of 2,500 million euro equal to 21% of resources available in the tender (Annex 2).

In full compliance with the EU principles of intermodality and interoperability, more than 85 percent of the total contribution requested,

amounting to 2,174 million euro, covers 35 projects in the railway sector.

The EU Commission has approved 33 projects out of 83 submitted by Italy, with a contribution agreed at 1,242 million euro.

Italy ranked third among the major beneficiaries of this first CEF call – the largest, in financial terms, in the last 20 years of the history of European Union TEN-T funding.

The number of proposals received was much higher than funds available. Great attention has been placed on key projects of high European added value: cross-border projects, elimination of bottlenecks and major missing connections.

The Italian proposals include three cross-border rail projects that will significantly improve the capacity, economic efficiency and environmental impact of freight transport and will foster a substantial increase in passenger flows between Italy and the rest of Europe: the Brenner base tunnel, the Milan - Chiasso section (to benefit from the new Gotthard tunnel in 2016), and the cross-border section of the Lyon-Turin.

The acceptance of such large "network" projects is obviously related to support for certain "nodes" in order to contribute to the growth of trade with the rest of the world. In particular, CEF support will assist Italian port projects aimed at improving connectivity with the hinterland and can help equip them with green structures by means of the motorways of the sea.

Another Italian priority meeting with success has been the improvement of inland navigation (IWW), to develop multimodality and transport efficiency, with a number of projects on the river Po and the implementation of the IWW - RIS traffic management system.

Finally, some projects have been accepted for the construction of traffic management systems in all transport modes (such as ERTMS, SESAR and ITS) and the promotion of new technologies to improve the efficiency, safety and green credentials of the transport.

The major reason for the rejection of the remaining projects was the lack of total funds available; despite the excellent merits of many of the projects, their added value for the EU was relatively low compared to other projects of equally high quality and impact (for example, the new rail link between the Bologna node and Venice-Padua line; the technological development of the railway sections in the city centre and area adjacent to the Rome node; the Bussoleno-Turin-Milan tract). In other cases there is a need to improve the preparation and reasoning of the strategic importance of the proposals in relation to EU priorities.

A fair number of projects that will not receive CEF funding are able to generate financial revenue and may therefore benefit under innovative financial instruments. Taking into account the launch of the EFSI programme, this possibility should be further exploited in order to maximise the impact of the scant existing public resources by attracting private capital.

In conclusion, the view of the EU Commission is that Italy's performance in the CEF first tender call may be judged a success and a model for the preparation of good quality projects and high added value for the EU.

Here are some financial details of the results of the call:

1. Of the 83 the Italian proposals submitted – 30 of which with European

Partnerships – 33 proposals were accepted

2. A total community contribution was proposed with agreed financing equal to: 1,242 million euro

- For the 9 proposals involving exclusively Italian beneficiaries: 90.7 million euro
- For the 3 cross-border proposals (including the "Brenner railway tunnel studies and works" and the "new Turin-Lyon railway line"): 1,054.6 million euro
- For the 21 multinational proposals: 96.6 million euro

3. The main projects accepted by the Commission (for details see Sheet 1 – annex 1):

- Brenner Base Tunnel (1 study project and 1 works project): 1,181.5 million euro (IT+AT)
- New Turin-Lyon railway line: 813.8 million euro (IT+FR)
- Maritime projects (MOS+ports – Genoa, Trieste, Venice, La Spezia, RAM): 59.4 million euro
- Technological upgrade of the Milan – Chiasso rail section: 41 million euro
- 3 SESAR Projects (ENAV) (multinational): 41.4 million euro
- Padano-Veneto river system (2 projects): 10.5 million euro
- 4 ITS road and E-call projects (multinational): 10.5 million euro
- ERTMS: 14.0 million euro (multinational)
- Other rail projects (Milan Malpensa – national, freight rail corridors – multi-national): 5.6 million euro
- Innovation and intermodality projects (Padua freight village – national, E-freight and LNG road –multinational): 5.1 million euro

Italy receives co-funding amounting to € 90,744,789.29 for purely national projects, putting it in ninth place in the ranking of top European recipients after Germany, France, Spain, Belgium, Portugal, Austria, Netherlands and Great Britain.

Thanks to cross-border projects enabling an additional intake of about 1,055 million and multinational projects involving our country in multi-beneficiary proposals in international contexts, additional receipts will amount to approximately 96.6 million euro (for projects under SESAR, ERTMS, ITS, MOS, Ecobonus, Sea Traffic Management, LNG usage, maritime sector etc). The total value of contributions allocated to Italy comes to 1,242 million euro, making it the third biggest recipient of TEN-T grants.

Meeting the investment needs of the Union requires the efficient use of liquidity available on the market and its funnelling towards the funding of economically viable investment projects.

On 26 November 2014, the European Commission published the communication "*An investment plan for Europe*", which envisaged the establishment of a European Fund Strategic Investment (EFSI), a transparent list of investment projects at European level and the creation of a European investment advice hub. The subsequent European Council on 18 December 2014:

- called for the establishment of the EFSI in order to mobilise 315 billion euro in new investments between 2015 and 2017, inviting the EIB Group to launch activities using own funds from January 2015;
- stressed that EFSI will complement and will be added to EU programmes in

progress and to traditional EIB activities.

On 13 January 2015 the European Commission presented a regulation proposal – currently under discussion in the European institutions and expected to enter into force in July 2015 – that gives the EFSI targets to help tackle the difficulties of financing and realisation of productive and strategic investments in the Union and to improve access to business finance, with particular attention to small and medium-sized enterprises (SMEs).

To this end, it is envisaged that the EU and the EIB will guarantee the EFSI 16 and 5 billion euro respectively, allowing the fund to generate additional investments of at least 315 billion over three years. The fund was partly financed by a 2.7 billion euro cutback to the budget for the *Framework programme for research and innovation 2014-2020 – Horizon 2020* and a 3.3 billion euro reduction to the CEF budget.

In order to help channel these resources, Italy submitted a list of projects posted alongside those of the other Member States on the site of the EIB and the Commission in December 2014[12]. The inclusion of works in the list of Europe investment projects currently have informative and visibility value – for the benefit mainly of investors – and shall not undermine decisions concerning the choice of final projects qualifying for support or any other EU or public funding instrument.

A task force coordinated by the Ministry of the Economy and Finance with representatives of the Ministry of Infrastructure and Transport and the Cassa Depositi e Prestiti is analysing the list of transportation sector-related projects sent to Brussels in order to assess their compatibility with the Fund's criteria and the lending policies, or alternatively, to assess their eligibility for financing through ordinary EIB channels. The state of progress of the design cycle, and, in the case of guarantee requests to the Fund, its capacity to mobilise private resources and its risk level, will at this early stage constitute the main selection criteria of investments that will be submitted to the Fund and the EIB.

As soon as the financial structure of the first projects is fully defined, works will be submitted to the decisional bodies of the EIB and the Fund, which will become fully operational no earlier than the third quarter of 2015.

Within three years the Commission shall submit a report to the European Parliament and the Council, containing an evaluation of the use of the EU guarantee and the achievement of general objectives including the mobilisation of private capital, and an evaluation of the added value brought by the EFSI, the risk profile of operations supported by the EFSI and the macro-economic impact of the EFSI, including its impact on growth and employment.

Operational programme infrastructure and networks 2014-2020

A deepening of the European strategy took place during the formulation of the cohesion policy for the 2014-2020 period, introducing profound regulatory innovations with the primary goal of achieving alignment with long-term objectives on growth and employment set out by the Europe 2020 strategy. The European structural and investment funds are directed towards the pursuit of 11 thematic

[12] European Commission website http://ec.europa.eu/priorities/jobs-growth-investment/plan/index_en.htm. EIB website http://www.eib.org/about/invest-eu/index.htm.

objectives (TO) for regional areas divided into three categories: the least developed regions (GDP per capita below 75% of the EU 28 average), in transition (between 75% and 90%) and the most developed (over 90%). In accordance with the principle of concentration of resources, minimum thresholds, varying in relation to regional classification, have also been set for the achievement of certain objectives considered to be of particular significance.

The Italy Partnership Agreement 2014-2020, conveyed officially to the European Commission in April 2014 and adopted by the Commission on 29 October 2014, seeks to establish, through an application of Thematic Objective 7 "Sustainable mobility of persons and goods (promoting sustainable transport and removing bottlenecks in key network infrastructures)" and an evaluation of expected results and actions, what the investment priorities of Community funds will be for the 2014-2020 period.

The use of Community funds in the TO 7 is only intended for slower-developing regions (Basilicata, Calabria, Campania, Puglia and Sicily) with a clear distinction between projects of national and regional interest.

Based on the perimeter of intervention thus outlined, the National Operational Programme (PON) Infrastructure and Networks 2014-2020 – approved by the European Commission with Decision C (2015) 5451 of 29 July 2015 – requires a total investment of 1,843.7 million euro (75% ERDF – 25% national co-financing) and is characterised by a strategy aimed at improving the mobility of goods and persons in the regions with lagging development through:

- the extension of the southern railway network, with connections on the Naples-Bari and Palermo-Messina-Catania routes, in order to reduce times between some of the largest and most important metropolitan areas of southern Italy and break down the isolation of important inland areas;
- action towards freight intermodality by strengthening the centrality of certain transfer points and the preparation of last mile connections;
- the development of the port system through efficiency measures for existing port infrastructure in the main southern nodes, with particular reference to accessibility by sea and land;
- works aimed at increasing the efficiency of the infrastructure system, encouraging the adoption of new ITS (intelligent transport systems) technologies for the management of road traffic demand, SESAR for air transport and the introduction of one-stop customs to reduce times and uncertainty for the flow of goods.

A plan of mature and realistic actions

The plan of realistic and mature operations required by ex ante conditionalities is presented as an operational application of the aforementioned strategy as a guarantee of its concrete feasibility within the programming period.

In the implementation of this strategy the operations requiring ERDF support refer to infrastructure and other technological projects briefly referred to below.

As regards the expansion and upgrading of the rail network:

- completion of projects started in the 2007-2013 national programming period
  - Technological upgrade of the Naples node;
  - Doubling of Bari-S. Andrea Bitetto;
  - Metaponto - Sibari - Paola (S. Antonello junction): priority phase;
  - Speeding Up of Catania-Siracusa-Bicocca-Targia;

- Doubling of Palermo-Messina - Fiumetorto - Ogliastrillo section;
- Palermo railway node: La Malfa/EMS-Carini section;

- mature projects that fall within the Institutional Development Contracts (IDC) for the construction of the following railway lines: Naples-Bari-Lecce-Taranto, Salerno- Reggio Calabria and Messina-Catania-Palermo:
  - Enhancement of the Naples-Bari line.
  - Enhancement of Catania-Palermo line.
- equipment installation with ERTMS technology on lines identified in line with the ERTMS implementation plan in Southern Italy

Implementation of last mile measures in logistics nodes on the core network: ports of Augusta, Gioia Tauro, Naples, Palermo and Taranto, and the freight villages of Campania (Marcianise and Nola) and Bari, with the following areas of focus:

- in the South East of Sicily, on actions related to the connection of the port of Augusta with the national rail network, included also in the priorities of the CEF;
- for the logistics hub of Gioia Tauro, completion of the work started with the agreement of Framework Programme Agreement of 2010;
- as regards the Puglia system, works will have to continue in the direction taken under the previous programming phase, namely the strengthening of "last mile" links to the port nodes of the Bari-Brindisi-Taranto triangle, with particular emphasis on the Bari freight village.
- in the Campania area, development of connections between the system nodes (ports of Naples and Salerno, freight villages of Nola and Marcianise) and the TEN-T network.

The PON may also promote "last mile" intermodal railway works, in accordance with the National Airports Plan and the Partnership Agreement and in line with EU transport policy, focusing on operations to connect the TEN-T central railway network to strategic airports in less developed regions, which still do not benefit from this connection.

Design, creation and installation of new equipment and systems related to the development and improvement of technologies related to the European Air Traffic Management systems in the implementation of the SESAR programme.

Operations for completion of projects initiated under 2007-2013 programming and designed to fill further infrastructure gaps in ports and freight villages Central and global network, in accordance with the provisions of the national strategic plan for ports and logistics, emphasising: for the ports – the inadequacy of the seabed, breakwaters and quays, as well as works for the reduction of air and noise pollution through the electrification of the quays; for freight villages – the development of logistics facilities.

Operations in the area of Intelligent Transport Systems aimed mainly at:

- supporting the implementation and development of a one-stop customs point, with the aim of creating a national Single Window;
- the consolidation of the works implemented and/or initiated in the 2007-2013 programming, primarily those of the National Logistics platform, but also of the rail and intermodality-related platforms, in close coordination and interoperability with the customs one-stop shop;
- construction of intelligent info-mobility platforms and instruments for monitoring and managing of traffic flows of goods and passengers in order to:
  - improve access to transport services by users (passengers and goods)

through actions for the development of monitoring systems and traffic info-mobility, in order to ease congestion and optimise flows.
- promote the development of intermodal planner solutions that will provide intermodal information to support sustainable mobility choices both in terms of cost and environmental impact.
- identify standard models and reference architectural standards to support the integrated and interoperable development of ITS systems;
- provide special communications interfaces between the national transport network and the metropolitan nodes network.

Measures to increase implementation capacity

In the identification of measures to ensure the capacity of intermediate bodies and beneficiaries to implement projects receiving Community funding support, it is advisable to look not just at aspects relating to the resolution of critical issues generally affecting nationally important public infrastructure works, but also to build on previous experience accrued in the National Operational Programme (PON) Networks and Mobility 2007-2013 and the Regional Operational Programmes as regards the axes relevant to thematic infrastructure and transport.

This is also related to the fact that, as part of the strategic programming process of the new PON Infrastructure and Networks 2014-2020, on the basis of a European Commission request already stated in the Italy Position Paper of November 2012 and in the Partnership Agreement 2014 – 2020, accompanying steps were taken to draw up an Administrative Enhancement Plan (AEP) indicating corrective and capacity building measures to enable the resolution of these critical issues.

The development of the AEP, which gives a detailed description of the legislative, procedural and organisational actions identified, also included an initial phase of diagnosis on critical issues occurring in connection with the legislative, procedural and organisational context and which affected the startup process of the PON 2007-2013 and, to varying degrees, the following implementation phase. These critical factors arise mainly from the selection and preparatory stage of works in relation to the low maturity of the reference design basin, the complexity of the partnership and consultation phase and the broad presence of large projects that require a longer timeframe for submission and approval.

On the basis of the analyses carried out, the plan identifies the improvement objectives to be pursued – partly the reduction of Ministry of Infrastructure and Transport procedure times but mainly concerning overall governance strengthening of programme implementation – and matches them with multiple actions that significantly alter the observed conditions of weakness, acting on two levels: *consolidation of the management structure and the strengthening of implementation procedures*. With regard to measures intended to improve the structural efficiency and effectiveness of its activities, the AEP focuses on internal coordination, strengthening of the workforce and upgrading of their professional skills; on the implementation front, the utmost importance is attached to improvement of dialogue with beneficiaries (RFI, ENAC, port authorities, etc.), expressed in terms of strengthened monitoring and control but also through specific measures of support and assistance on issues of particular complexity such as procurement procedures and the field of state aid. As a supplement to the overall measures to increase capacity for implementation of works on schedule, the

enhancement plan envisages some regulatory measures for legislative simplification, such as being able to refer the preliminary draft for environmental impact assessment by changing Legislative Decree 152/2006 starting from art. 23 and the enhancement of the preliminary conference of services in accordance with art. 14 bis of Law 241/90 and subsequent amendments.
This initiative is also to be considered part of a broader review of the provisions relating to the conference of services envisaged by the enabling law for PA reform No. 124 of 7 August 2015, (Madia Reform)

It is useful also to recall some recent national regulations that help increase production capacity, both in relation to certain specific measures and to improvements in the selection, implementation and monitoring of public investments.

Firstly, reference is made to aforementioned Legislative Decree No. 228 of 29 December 2011 and the role of the "Multi-year planning document" (MPD) in boosting the coherence of all plans and programmes for investment in public works under the Ministry of Infrastructure and Transport.

Regarding the implementation of individual works submitted for support from community funds, note that Article. 1 of Decree
133/2014 (Unlock Italy) on "Urgent measures for the opening of sites, implementation of public works, digitisation of the country, bureaucratic simplification, the hydrogeological instability emergency and the renewed recovery of production activities" contains measures to accelerate the completion of the two projects for new high-speed railway sections under the Institutional Development Contract: the Naples-Bari and Messina-Catania-Palermo; it also appoints the CEO of the state railways as Commissioner for the implementation of such works. The Commissioner enjoys a range of powers aimed at streamlining procedures for project approval and tendering in order to allow work to begin before 31 October 2015.

The enactment of Legislative Decree No. 229 of 29 December 2011 finally set in motion a process of rationalisation and harmonisation of monitoring public works in order to achieve a single, coordinated data logging system for the various stakeholders, thus making available a full range of information, reduced redundancies and inconsistencies in information flows and inefficiencies in process costs. For this purpose a working group involving all the relevant bodies was set up for the rationalisation of the various monitoring systems, with the further aim of achieving an optimised and more functional synergy among the systems.

The Cohesion and Development Fund 2014-2020

The new regulatory framework of the programming of Fund for Cohesion and Development (FDC) 2014-2020, defined by paragraph 703, art. 1 of Law 190/2014 provides that the Fund's resources be allocated to the achievement of strategic objectives related to national themes. The identification of these areas is undertaken by the political authority for cohesion, in collaboration with the administrations concerned and after consultation with the State-Regions Conference; the choices duly made are communicated to the competent parliamentary committees.

The determination of the areas and their related strategic objectives provides the basis for the adoption of the CIPE resolution allocating area resources, allowing the subsequent development of the new governance procedure for the definition of

new programming instruments.

The governance body, consisting of a steering committee of representatives from central and regional administrations, contributes by defining, for each of the thematic areas, operational plans applied as actions and interventions with an indication of the expected results and the implementing actors.

This redefined reference context makes no change to the provision of law 147/2013 regarding the allocation of at least 80 percent of resources to works to be implemented in regional territories of the South.

The strategic infrastructure choices outlined in the preceding paragraphs are no doubt determining factors in the arrangement of the content of these thematic areas, taking into account the issues emerging from analyses conducted and information on infrastructure delays in the country (particularly in the South) compared to European standards, also pending the definition of the areas and subsequent identification of specific works. In particular, the FDC must support:

1. the completion of the major rail traffic routes already selected in the previous programme. Specifically, this means the Naples-Bari-Lecce-Taranto and the connection between Palermo, Messina and Catania, ensuring the funding of works provided for in the respective institutional development contracts and the connection between them and the local networks, in line with the provisions for these lines in the National Operational Programme (PON) Infrastructure and Networks;
2. the improvement of the related rail transport services offer. Overall, the works are specifically targeted – taking account of the existing programme contracts – at the improvement of local public transport, the high speed/high capacity railway, the upgrading of nodes, the standard of interoperability of European corridors and the improved performance of the rail network and services, increased speeds through specific technological operations on some axes where high speed is not achievable, and help towards the renewal and expansion of rolling stock;
3. the improvement of national road mobility, with particular attention to safety, and the strengthening of related local public transport services, to be pursued through the promotion of central purchasing bodies that ensure uniformity and transparency in the acquisition of supplies, thus creating aggregate demand hubs that can define uniform quality standards of products offered; the strengthening and upgrading of the vehicle fleet, aimed also at reducing emissions and offering new digital services that improve the use of the service itself;
4. the development of a specialised network with diversified roles for ports and airports, taking into account the link with central (core) and global (comprehensive) networks, with attention to the inland functions, able to link effectively with the traffic arteries and intermodal hubs referred to below;
5. the implementation, particularly in the South, of logistics hubs and intermodal centres, and the strengthening of the few already in existence, strategically connected with the transport infrastructure network and centres of production and processing. In this context, with close reference to the dedicated actions and investments referred to in the preceding paragraph, particular attention will be paid to last mile works;
6. the adoption of instruments for the intelligent management of infrastructure

systems, in components of networks, transport, vehicles and management systems for traffic and flows. In view its cross-cutting application to the different transport sectors, the work of the fund will allow – together with the previously described operative attention to the creation of intermodal mobility for passengers and goods – the generation of content for national strategy choices of intelligent specialisation in the field transport and mobility, as defined in the relevant strategic documents.

The Cohesion and Development Fund, within the framework of strategic choices confirmed by the most recent government decisions spelled out in specific plans that are already complete or underway, will ensure support for infrastructure projects in terms of school safety and construction and for those infrastructure works for the safety and recovery of the territory and the management of hydrogeological stability risks.

Particularly for school construction, the intervention will work through:

1. the definition of new standards for usability and efficiency and the building of new structures in line with these standards for all grades of the education system (child care facilities, primary and secondary schools, university buildings and student halls of residence), thereby reducing the use of leased facilities not in compliance;
2. renovation and enhanced energy efficiency of existing school structures, in view of high and widespread infrastructure needs and planning/programming currently underway.

In the environmental infrastructure sector, a key purpose of the use of the Cohesion and Development Fund will be to ensure the safety of the territory, based on planning undergoing consolidation, with due consideration to the seriousness of the hydrogeological risk.

PART TWO:
THE STRATEGIC INFRASTRUCTURE PROGRAMME

The Infrastructure Annex this year presents some important innovations to address some long-standing issues in Italy and in Europe.

First, it contains the ex ante evaluation of infrastructure and services needs provided for in article 3, paragraph 4 of Legislative Decree 228/2011, as required by CIPE resolution No. 26/2014.

Second, it identifies the national strategic transport lines (see Chapter II).

Third, on the basis of these strategic lines, the Strategic Infrastructure Programme (SIP) identifies a group of priority projects responding on the one hand to a widespread need for rationalisation and, on the other, to a healthy exercise of financial realism with the selection of a limited number of works in which to channel available public and private resources.

Therefore, the SIP strategy currently unfolds along the following lines:

- strengthening railway lines along the TEN networks, fostering intermodality and interoperability (electrification, ERTMS, axle load and the minimum form), with priority for the core crossing networks and the South;
- strengthening the sustainable mobility of the most congested metropolitan areas
- works on the most congested sections and the missing links with the central network.

Along with these transport works we can add the protection of the Venetian Lagoon (MOSE).

In the light of these strategic precepts, the list of SIP infrastructures in Annex XI to the DEF identifies ***25 priority programme works*** for a total cost of 70.9 billion euro and financial hedging amounting to 48 billion euro (67.7 percent), selected on the basis of assessed consistency of integration with European and national networks, the state of progress and the possibility of securing private capital for the bulk of the financing.

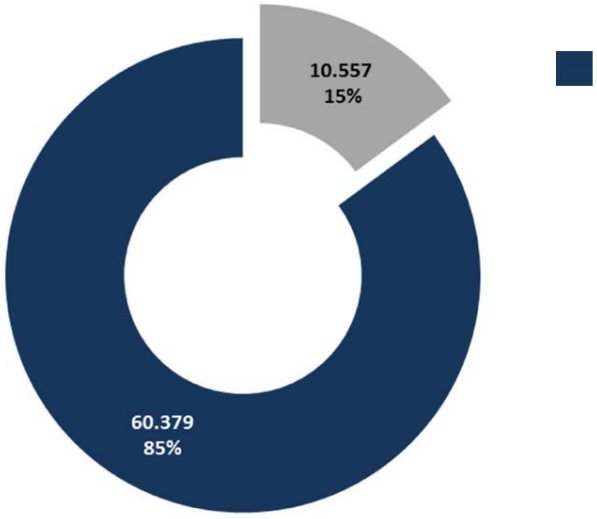
In accordance with the provisions of art. 161, paragraph 1-bis of Legislative Decree 163/2006 (procurement code), the list of 25 priority works is shown in the table in Annex 3, along with the following figures: cost; public financial coverage, highlighting the forecast needs over the next three years; resources to be financed with private capital; state of progress and implementation schedule. Annex 3 also include works with some sections already in operation.

The last column of the above table indicates the programmatic relevance of each single priority work highlighting, as mentioned above, the level of strategic synergy between the SIP and the most important programming acts not only of community but also national relevance, in accordance with European ex-ante conditionalities for accessing structural funds and European investment funds, and with CIPE requirements as per resolution No. 26/2014.

Based on the evidence of the above column, it appears that about 85 percent of the total cost of priority works referred to projects shown to have "strengthened" strategic relevance, having been included in the main community programming instruments (CEF, European Fund for Strategic Investments and Structural and

Investment Funds) and national (Anas and RFI programme contracts and institutional development contracts) tools already approved or in advanced states of development (Figure 1).

FIGURE 1 STRATEGIC RELEVANCE OF PRIORITY WORKS (mln. euro)



Priority works from at least one of the following plans and programmes:

- Connecting Europe Facility (CEF)
- European Fund for Strategic Investments (EFSI)
- Operational Programme Mobility Networks 2007-2013
- Operational Programme Infrastructure and Networks 2014-2020
- Programme Contract RFI 2012-2016 - investments part
- Anas Programme Contract and five-year plans
- Institutional development Contract (IDC)
- Unlock Italy

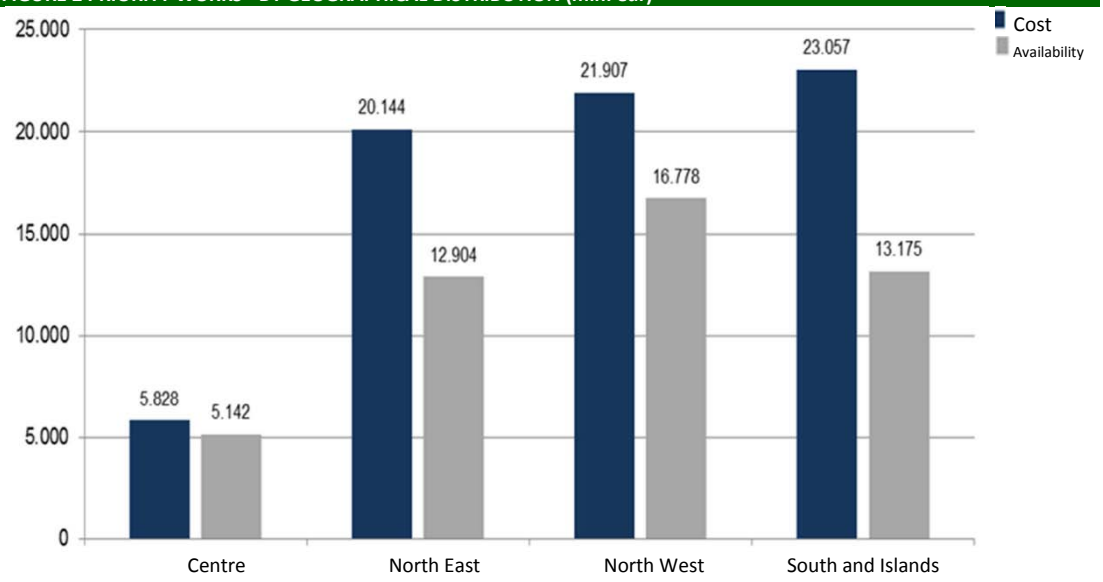
Table 19 below shows the sectoral distribution of priority works. The high total cost of roadworks is justified by their now insignificant weight in the community programming instruments (CEF and structural and investment funds) and by the increasing use of private financing in the roads sector including through access to the resources of the European Fund for Strategic Investments.

TABLE 27 PRIORITY WORKS - BY SECTOR (mln euro)

Sector	Cost	%	Availability	%	of which: private	Three-year requirement
Rail Transport	28,034	40	15,055	31		2,152
Roads	25,269	36	17,300	36	6,466	
MOSE	5,493	8	5,272	11		221
Metro	12,140	17	10,373	22	395	1,110
Total Priority Works	70,936		47,999		6,861	3,483

A significant part is taken by metros, which are essential in making up the deficit accumulated in local public rail transport major urban centres in the country. Regarding the geographical distribution of the works, the importance of the "Northwest" districts stems from the TEN-T rail links (Turin-Lyon, Third Giovi Pass and Brescia-Verona), motorways junctions (Pedemontana Lombarda and Milan Eastern Ringroad) and the metros of Turin and Milan (Figure 2).

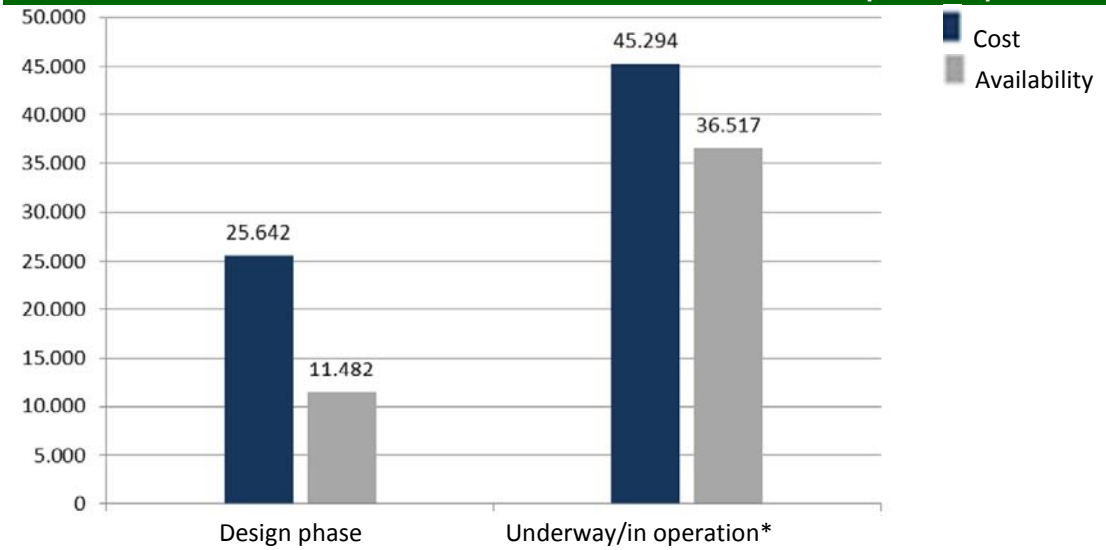
FIGURE 2 PRIORITY WORKS - BY GEOGRAPHICAL DISTRIBUTION (mln. eur)



In the North East, we find TEN-T rail links (Brenner and Verona-Padua), motorways (A4, Pedemontana Veneta) and the MOSE. The Centre shows a significance weight for road junctions (Quadrilateral and Grosseto-Siena) and Line C of the Rome metro. The South and Islands have the highest cost percentage of the four districts, in implementation of the aforementioned community guidelines for cohesion policies. The data shows rail Naples-Bari and Messina-Catania-Palermo links, huge road investments for the SS 106 Ionica road, the Salerno-Reggio Calabria, Agrigento-Caltanissetta and Olbia-Sassari motorways and the metro lines of Naples.

As regards the state of physical maturity of the priority works, 60 percent of the total cost relates to works in progress, while the remaining 40 percent of works is in the design phase (Figure 3).

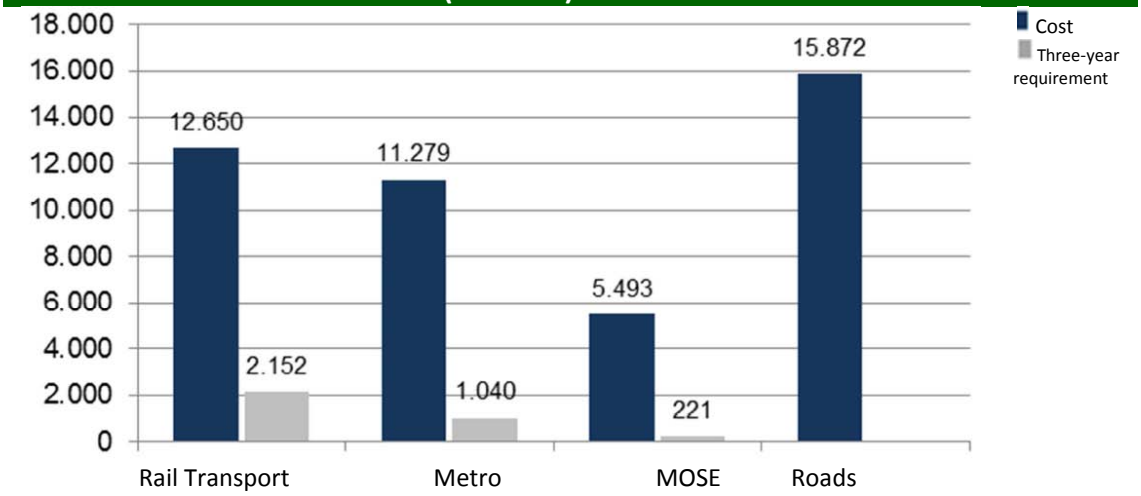
FIGURE 3 PRIORITY WORKS - BY STATE OF PHYSICAL MATURITY (mln. eur)



(*) Parts of works under construction that are already open to the public

Figure 4 below clearly shows the need for new public resources for the next three years, amounting to 3,483 million euro, almost entirely due to large rail investments (Brenner and the third pass) and the metros of Rome, Naples and Catania. The scant number of works receiving new allocations highlight the efforts made to accelerate the advancement of all the priority projects already financed in part; new resources are designated to a small number of works in progress that might not otherwise proceed in contracts or works without receiving additional funding. The pursuit of the strategic goal of intermodality further justifies the diversion of available public resources towards such works.

FIGURE 4 PRIORITY WORKS UNDER CONSTRUCTION - COST REQUIREMENTS BY SECTOR IN THREE YEAR PERIOD (mln. eur)



ANNEX 1

TEN-T MULTIMODAL CORRIDORS

Regulation 1315/2013 provides for the identification of TEN-T multimodal corridors of the core network as a means to facilitate the coordinated implementation of the network. The key themes are modal integration, interoperability, and the coordinated development of infrastructure, particularly in cross-border sections and bottlenecks.

In order to facilitate the implementation of the corridors, the Commission appointed a European coordinator for each corridor to support early implementation through the analysis of funding possibilities, the definition of measures and actions to be taken to facilitate access to forms of available financing and the preparation of a work plan that analyses the development of the corridor, with a description of features and cross-border sections, objectives and priorities of the corridor and an analysis of the investment needed and the expected sources of funding.

The European Coordinator shall be assisted in the execution of its duties regarding the work plan and its implementation by a consultation body known as the "Corridor forum", set up and chaired by the European coordinator and with a membership drawn from the Member States involved.

Each corridor forum is chaired by the corresponding European coordinator.
For Italy, they are:

- former German transport minister Kurt Bodewig (Baltic-Adriatic corridor);
- former Spanish foreign minister Ana Palacio (Rhine-Alps corridor);
- Pat Cox (Scandinavia-Mediterranean corridor);
- Laurens Jan Brinkhorst (Mediterranean corridor).

CORRIDOR SECTIONS OF INTEREST TO ITALY

Baltic - Adriatic Corridor
ALIGNMENT:
Gdynia – Danzig – Katowice/Sławków
Danzig– Warsaw – Katowice
Katowice – Ostrava – Brno – Vienna
Stettino/Świnoujście – Poznań – Breslavia – Ostrava
Katowice – Žilina – Bratislava – Vienna
Vienna – Graz – Villach – Udine – Trieste
Udine – Venice – Padua – Bologna – Ravenna
Graz-Maribor-Ljubljana-Koper/Trieste

Mediterranean Corridor

ALIGNMENT:

Algeciras – *Bobadilla –Madrid – Zaragoza* – Tarragona
Seville – *Bobadilla – Murcia*
Cartagena – Murcia – Valencia – Tarragona
Tarragona – Barcelona – Perpignan – *Marseilles*/Lyon – Turin – *Novara* – Milan – *Verona – Padua* – Venice – *Ravenna/Trieste/Capodistria* - Ljubljana – *Budapest*
Ljubljana/Fiume – Zagreb – Budapest – UA border

Scandinavia – Mediterranean Corridor

ALIGNMENT:
RU Border – HaminaKotka – Helsinki – Turku/Naantali – Stockholm – Malmö
Oslo – Gothenburg – Malmö – Trelleborg
Malmö – Copenhagen – *Kolding/Lübeck* – Hamburg – *Hannover*
Bremen – Hannover – Nuremberg
Rostock – Berlin – Leipzig – Munich
Nuremberg – Munich – Innsbruck – Verona – Bologna – *Ancona/Florence,*
Livorno/La Spezia – Florence – Rome – Naples – Bari – *Taranto – Valletta*
Naples – Gioia Tauro – Palermo/Augusta – Valletta

Rhine – Alps Corridor

ALIGNMENT:
Genoa-Milan- *Lugano – Basel*
Genoa – Novara – *Brig – Bern* – Basel – *Karlsruhe* – Mannheim – *Mainz – Koblenz* – Cologne
Cologne – Düsseldorf – *Duisburg – Nijmegen/Arnhem-Utrecht* – Amsterdam
Nijmegen – Rotterdam – Vlissingen
Cologne – Liège – Brussels – *Ghent*
Liège – Antwerp – Ghent – Zeebrugge

REFERENCES FOR COORDINATORS OF CORRIDORS OF INTEREST TO ITALY AND HORIZONTAL CORRIDORS (ERTMS AND MOS)

CORRIDOR	COORDINATOR	ADVISOR
Scandinavian-Mediterranean	Mr Pat COX (IRELAND) Contact person: Mr Leo Huberts (EC) Leo.HUBERTS@ec.europa.eu	Contractor: **KombiConsult GmbH** Contact person: Mr Klaus-Uwe Sondermann e-mail: usondermann@kombiconsult.com tel. +49.69.244 32 93 – 172 sub contractor (for Italy): **Gruppo CLAS SpA** Contact person: Mr Carlo Vaghi e-mail: c.vaghi@gruppoclas.com tel. +39 025418431 mobile: +39 335 5374652
Mediterranean	Mr Laurens Jan BRINKHORST (NETHERLANDS) Contact person: Mr. Gunther Ettl (EC) Gunther.ETTL@ec.europa.eu	Contractor: **PricewaterhouseCoopers Advisory SpA** Contact person: Dr Paolo Guglielminetti e-mail: paolo.guglielminetti@it.pwc.com tel. +39 06 570832008 mobile: +39 348 4020558
Baltic-Adriatic	Mr Kurt BODEWIG (GERMANY) Contact person: Ms Silke Brocks (EC) Silke.BROCKS@ec.europa.eu	Contractor: **LeighFisher Limited** Contact person: Dr Roberto Zani e-mail: roberto.zani@leighfisher.com tel. +39 051 223061 mobile: +39 347 4828309
Rhine-Alpine	Ms Ana DE PALACIO (SPAIN) Contact person: Mr Patrick Vankerchoven (CE) Patrick.Vankerckhoven@ec.europa.eu	Contractor: **HaCon Ingenieursgesellschaft mbH** Contact person: Lars Deiterding e-mail: lars.deiterding@hacon.de tel. +49 511 33699 132 mobile: +49 171 3756073 sub contractor (for Italy): **PricewaterhouseCoopers EU** Contact person: Francesco Gargani e-mail: francesco.gargani@it.pwc.com mobile: 0039 348 1505264
ERTMS	Mr Karel VINCK (BE)	
Motorways of the Sea	Mr Luis VALENTE DE OLIVEIRA (PT) as of 1.7.2014: Mr Brian SIMPSON (UK)	

ANNEX 2

PROJECTS SUBMITTED TO THE EUROPEAN COMMISSION FOR ACCESS TO THE *CONNECTING EUROPE FACILITY*

MODALITY	PROJECT TITLE	COORDINATOR	PROJECT AMOUNT (IT)	%COFINANCING	IT/EU
AIR	Unified project for the implementation of the PDP (Preliminary Deployment Programme) - Cluster 1	ENAV	35.08	50	EU
AIR	Unified project for the implementation of the PDP (Preliminary Deployment Programme) - Cluster 2	SD AG	16.23	50	EU
AIR	Unified project for the implementation of the PDP (Preliminary Deployment Programme) - Cluster 3	ENAV	39.42	50	EU
Sub-Total AIR			90.73		
ERTMS	ERTMS deployment	MERMEC	0.30	50	EU
ERTMS	EDERA	RFI	10.35	50	IT
ERTMS	ERTMS (SRS ETCS baseline 3) track technology implementation Italian sections of Corridor A (Rotterdam – Genoa)	RFI	40.00	50	IT
ERTMS	ERTMS (SRS ETCS baseline 3) track technology implementation Italian sections of Corridor D (Valencia - Budapest)	RFI	40.00	50	IT
ERTMS	ERTMS / ETCS level 2 (baseline 2.3.Od) track technology implementation of Florence - Rome section	RFI	236.86	22	IT
ERTMS	ERTMS HIPHOPS	RINA	0.46	50	IT
ERTMS	ERTMS NTV PLAN	NTV	6.64	50	IT
Sub-Total ERTMS			334.61		
INNOVATICI	WAVESAX	AP Civitavecchia	2.35	50	IT
INNOVATICI	Connect2LNG	Unilever Supply Chain Logistics	0.90	50	EU
INNOVATION	Decarbonisation of road transport – LNG refuelling infrastructure network deployment	Edison	1.00	50	IT
INNOVATION	Electric Vehicle Arteries (EVA)	ENEL	5.15	50	IT
INNOVATION	UNIT-E	EDF	0.60	55	EU
Sub-Total INNOVATION			9.99		
INTERMODAL	Upgrading of the Venice-Udine railway section of the Baltic Adriatic Corridor	Interporto Centro Ingrosso Pordenone SPA	11.52	23	IT
INTERMODAL	EUROPEAN RAIL FREIGHT LINE SYSTEM	Provincie Gelderland (NL)	0.50	50	EU
INTERMODAL	LEMAR 2020	REGION LIGURIA	7.66	50	IT
INTERMODAL	Increased efficiency of the new container terminal at Padua freight village	INTERPORTO DI PADOVA	16.39	21	IT
INTERMODAL	Connection between Port Community System port nodes of the TEN-T network and third countries	AP Livorno	0.41	50	IT
INTERMODAL	E-IMPACT	AP Lisbon	1.33	50	EU
Sub-Total INTERMODAL			37.82		
ITS	LHeERO		2.60	50	EU
		ERTI CO (DE)	0.00		
ITS	EU ITS PLATFORM (EU EIP)	MIT	2.09	50	EU
ITS	MedTIS 2 Project	MIT	27.59	20	EU
ITS	URSAMAJOR 2 Project	MIT	10.96	20	EU
ITS	CROCODILE 2 Project	MIT	3.49	20	EU
ITS	EDA - Eco-Driving Arcese	ARCESE	7.52	20	IT
ITS	RESA - Re-engineering supply chain management along TEN-T Corridors	ARCESE	10.72	20	IT
Sub-Total ITS			64.97		
IWW	IWW CLASSEV	AIPO	51.91	40	IT
IWW	RIS-ITALY	Sistemi Territoriali	2.39	50	IT
Sub-Total IWW			54.30		
MARITIME	INSTALLATION OF FIBRE OPTIC CONNECTIVITY	Harbourmaster's Office	30.11	22	IT
MARITIME	RAVENNA PORT HUB: infrastructure works and support activities	AP Ravenna	145.35	20	IT
MARITIME	EXPANSION OF PIER VII PORT OF TRIESTE	AP Trieste	87.27	23	IT
MARITIME	INES	AP Genova	23.08	20	IT
MARITIME	Vado-Ligure – development of multimodal logistics platform	AP Savona	25.00	20	IT
MARITIME	Upgrade of road system in the port area of Cagliari	AP Cagliari	10.97	20	ITA
MARITIME	Port of Ancona – studies to improve sea and land accessibility	AP Ancona	8.93	50	IT
MARITIME	ERICA – Easy Railway Infrastructure and Customs Access	AP Livorno	32.50	36	IT
MARITIME	Raise - UP - Rail Interconnecting System to Europe for Upgrading Piombino	AP Piombino	1.27	50	IT
MARITIME	VOOT - OFFSHORE/ONSHORE FINAL DESIGN OF THE PORT OF VENICE	AP Venezia	8.00	50	IT
MARITIME	NAPA4CORE	PORT OF KOPER	120.07	19	EU
MARITIME	NAPA4MOS	AP Venezia	38.22	30	EU

MARITIME	FFC - FRESH FOOD CORRIDOR	Port of Koper	1.84	50	EU
MARITIME	GAINN4COMP	MIT - DG Ports and Maritime	7.00	60	IT
MARITIME	GAINN4C0RE	MIT - DG Ports and Maritime	64.00	60	IT
MARITIME	GAINN4INN	MIT - DG Ports and Maritime	40.00	60	IT
MOS	GAINN4ADMIN	MIT - DG Ports and Maritime	1.50	60	EU
MOS	GAINN4M0S	Fon dado n Valencia Port	10.00	50	EU
MOS	STM	Swedish Maritime Administration	7.78	50	EU
MOS	POSEIDONMED II	Public Gas Corporation of Greece (DEPA)	38.31	50	EU
MOS	MED-ATLANTIC EC0B0NUS	PUERTO DEL ESTADO	0.41	50	EU
MOS	CI.VA.MOS	AP Civitavecchia	22.27	31	EU
MOS	THE FIRST MOTORWAYS OF THE SEA LINK BETWEEN BLACK SEA AND MEDITERRANEAN SEA	SOGEAAAR	1.25	50	IT
Sub-Total MARITIME+ MOS			725.11		
RAIL	GATE2 Action	Airport of Genoa	1.00	50	IT
RAIL	SMART 750	CEI	1.93	50	IT
RAIL	Design of rail link with airport of Milan Malpensa	RFI	3.60	50	IT
RAIL	Construction of the link between the installations of the Bologna node and the line to Venice	RFI	17.81	20	IT
RAIL	Infrastructure and technological upgrade of Turin-Milan-Venice: Bussoleno-Turin-Milan section	RFI	105.20	30	IT
RAIL	Technological upgrade in the Rome node and related lines	RFI	167.70	30	IT
RAIL	Performance upgrade Scandinavia-Mediterranean corridor between the ports of Livorno/La Spezia and the Brenner pass	RFI	41.42	31	IT
RAIL	AV/AC line Milan-Genoa: third pass of Giovi	RFI	368.04	30	IT
RAIL	Upgrade of lines and installations in the Genoa node	RFI	375.66	30	IT
RAIL	Technological upgrade Turin-Milan-Venice: Milan-Venice section	RFI	213.38	30	IT
RAIL	Infrastructure upgrade Turin-Milan-Venice: AV/AC section Treviglio-Brescia - urban section of the interchange with Brescia Ovest, PRG and ACC of Brescia	RFI	144.00	30	IT
RAIL	Technology and infrastructure enhancement Chiasso-Milan	RFI	135.79	30	IT
RAIL	Infrastructure and technological upgrade Domodossola-Novara	RFI	33.30	31	IT
RAIL	Upgrade of Baltic-Adriatic Corridor	RFI	130.00	27	I -
RAIL	Design – Venice node: restoration of intersection lines	RFI	4.00	50	I -
RAIL	4 interchange nodes in Lazio: Civita Castellana, Fara Sabina, Colleferro and Valmontone	ASTRAL SPA	1.20	50	I -
RAIL	AAXP - AT - RAILINK	FerrovieNord SpA	4.13	50	I -
RAIL	Strengthening and update of freight rail corridor No. 6 - Mediterranean corridor with extension to Croatia	GEIE CORRIDOIO MERCI 6	1.16	50	I U
RAIL	Strengthening and update of Freight Rail Corridor No. 5 - Baltic Adriatic Corridor	GEIE CORRIDOIO MERCI 5	0.49	50	I U
RAIL	Strengthening and update of freight rail corridor No. 1 - Rhine-Alps Corridor	GEIE CORRIDOR AAERCI 1 (support)	1.83	50	I U
RAIL	Design of intermodal urban node Naples	RFI	1.00	50	I -
RAIL	STUDIES - BRENNER BASE TUNNEL	BBTSE	336.15	50	I U
RAIL	WORKS - BRENNER BASE TUNNEL	BBTSE	1,570.95	40	I U
RAIL	CROSS-BORDER SECTION OF RAILWAY LINE LYON-TURIN-BASE TUNNEL MONT-CENIS	LTF	1,922.00	37	I U
RAIL	Infrastructure upgrade in the Rome node	RFI	21.60	20	I -
RAIL	Design of rail link with Venice airport	RFI	12.77	50	(
RAIL	Final Design rail link to Rome airport	RFI	23.17	50	(
RAIL	Technological upgrade Sardinian network lines	RFI	48.00	20	I -
Sub-Total RAIL			5,687.28		
ROAD	PRELIMINARY DESIGN OF BYPASS OF CORE URBAN NODE OF PALERMO	ANAS	2.30	50	I -
ROAD	PRELIMINARY DESIGN OF MODERNISATION OF GRA JUNCTIONS ROME NODE	ANAS	2.11	50	I -
Sub-Total ROAD			4.41		
GRAND TOTAL			7,009.23		

ANNEX 3

PRIORITY WORKS OF STRATEGIC INFRASTRUCTURE PROGRAMME

Sector	Action	Cost	Availability		Three-year requirement	Procedural status	Date end of works	% progress	STRATEGIC RELEVANCE
			Totals	of which private					
Rail Transport	Turin-Lyon (Italian side)	2,633	2,564			Final Design	31/12/2029		CEF, EFSI, CdP RFI
Rail Transport	Brenner (Italian side)	4,400	1,757		691	Underway	31/12/2025	7.35	CEF, EFSI, Cdp RFI Unlock Italy
Rail Transport	**AVAC Milan-Venice:**	3,954	2,268			Final Design			CEF, EFSI, CdP RFI
	Brescia Verona	2,050	2,050			Underway	30/11/2016	51.49	CEF, EFSI, CdP RFI
	Treviglio Brescia Verona Padua	5,402	1,869			Final Design			CEF, EFSI, Cdp RFI Unlock Italy
Rail Transport	Giovi Third Pass	6,200	2,187		1,461	Underway/in operation	02/02/2021	6.53	CEF, EFSI, Unlock Italy CdP RFI
Rail Transport	Naples - Bari	2,656	1,621			Preliminary Design			CIS, PON 14-20, CdP RFI
Rail Transport	Messina Catania Palermo (Bicocca-Raddusa A.)	739	739			Preliminary Design			CIS PON 7-13, PON 14-20, CdP RFI
Rail Transport		28,034	15,055		2,152				
Roads	A4 Venice Trieste	614	614	614		Underway	31/12/2017	47.69	EFSI, Unlock Italy
Roads	Pedemontana Lombarda	4,118	4,118	2,873		Underway	31/12/2021	27.88	Mediterranean Corridor
Roads	Pedemontana Veneta	2,258	2,258	1,649		Underway	31/12/2019	11.96	EFSI
Roads	Eastern Ringroad Milan	1,660	1,660	1,330		Underway	30/06/2015	65.18	Mediterranean Corridor
Roads	**Salerno - Reggio Calabria:**	3,079	795			Final Design			Unlock Italy, Anas five-year plan 2015-2019
	Design phase Underway	1,194	1,194			Underway/in operation	31/11/2017	53.2	Anas five-year plan 2007-2011
Roads	A19 Agrigento Caltanissetta	1,535	1,535			Underway	31/12/2017	62.68	Anas five-year plan 2007-2011
Roads	Grosseto - Siena	471	471			Underway/in operation	30/06/2016	29.7	CdP ANAS 2015
Roads	Quadrilatero Marche-Umbria	2,139	1,803			Underway	31/12/2017	62.64	Unlock Italy
Roads	**S.S. 106 Jonica:**	6,318	969			Final Design			Anas five-year plan 2007-2011 and 2015-2019
	Design phase	1,081	1,081			Underway/in operation	31/12/2018	67.72	PON 07-13, CdP ANAS 03-05

	Underway								
Roads	Olbia - Sassari: Upgrade	802	802			Underway	31/07/2017	0.81	CIS
Roads		25,269	17,300	6,466					
MOSE	MOSE	5,493	5,272		221	Underway	30/06/2017	80	
MOSE		5,493	5,272		221				
Metro	**Turin:** Interchange	162	162			Underway	31/12/2020	0.31	Unlock Italy
	Rebaudengo - Turin rail link	498	294		70	Final Design	31/12/2021	4.12	EFSI Unlock Italy
	Turin Metro								
Metro	**Milan:** Monza Metro	790	790	322		Underway/in operation	31/12/2017	89.95	
	M5 Milan line M4	1,820	1,820			Underway/in operation	31/12/2022	6.6	
	Lorenteggio Linate								
Metro	Rome Metro Line C	2,665	2,315		280	Underway/in operation	31/12/2021	40.41	Unlock Italy
Metro	**Naples:** Line 6	1,211	743		300	Underway/in operation	31/12/2020	37.47	
	Line 1	2,410	2,191		200	Underway/in operation	31/12/2020	66.38	Unlock Italy
Metro	Circumetnea	880	354		260	Underway	31/12/2020	13.75	
Metro	Node of Palermo	1,152	1,152			Underway	31/12/2017	61.7	PON 07-13, PO ERDF Sicily 07-13, CdP RFI
Metro	Florence tramway	190	190	73		Underway/in operation	31/12/2017	15	Unlock Italy
Metro	Bologna Metropolitan Railway Service	363	363			Final Design			
Metro		12,140	10,373	395	1,110				
Total Priority Works		70,936	47,999	6,861	3,483				

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