European Union
European Structural and Investment Funds

OPERATIONAL PROGRAMME
TRANSPORT AND TRANSPORT INFRASTRUCTURE

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Answering tomorrow's challenges today

Evaluation of the contribution of the support from the European Structural and Investment Funds to the achievement of the objectives under each priority of the Operational Programme „Transport and Transport Infrastructure.

Key parameters of the evaluation

- **Period:** December 2021- September 2022 г.
- **Scope:** all five PA of the OPTTI in the period 2014 -2021
- **Evaluation cut-off date:** 31.12.2021
- **Elements and evaluation questions:**

Elements	Evaluation questions (No)
Relevance	1
Coherence	1
Effectiveness	3
Efficiency	1
Impact	10

- **Key tasks:**
  - Achievement of the objectives of the OPTTI 2014-2020.
  - Assessment of the programme impact .

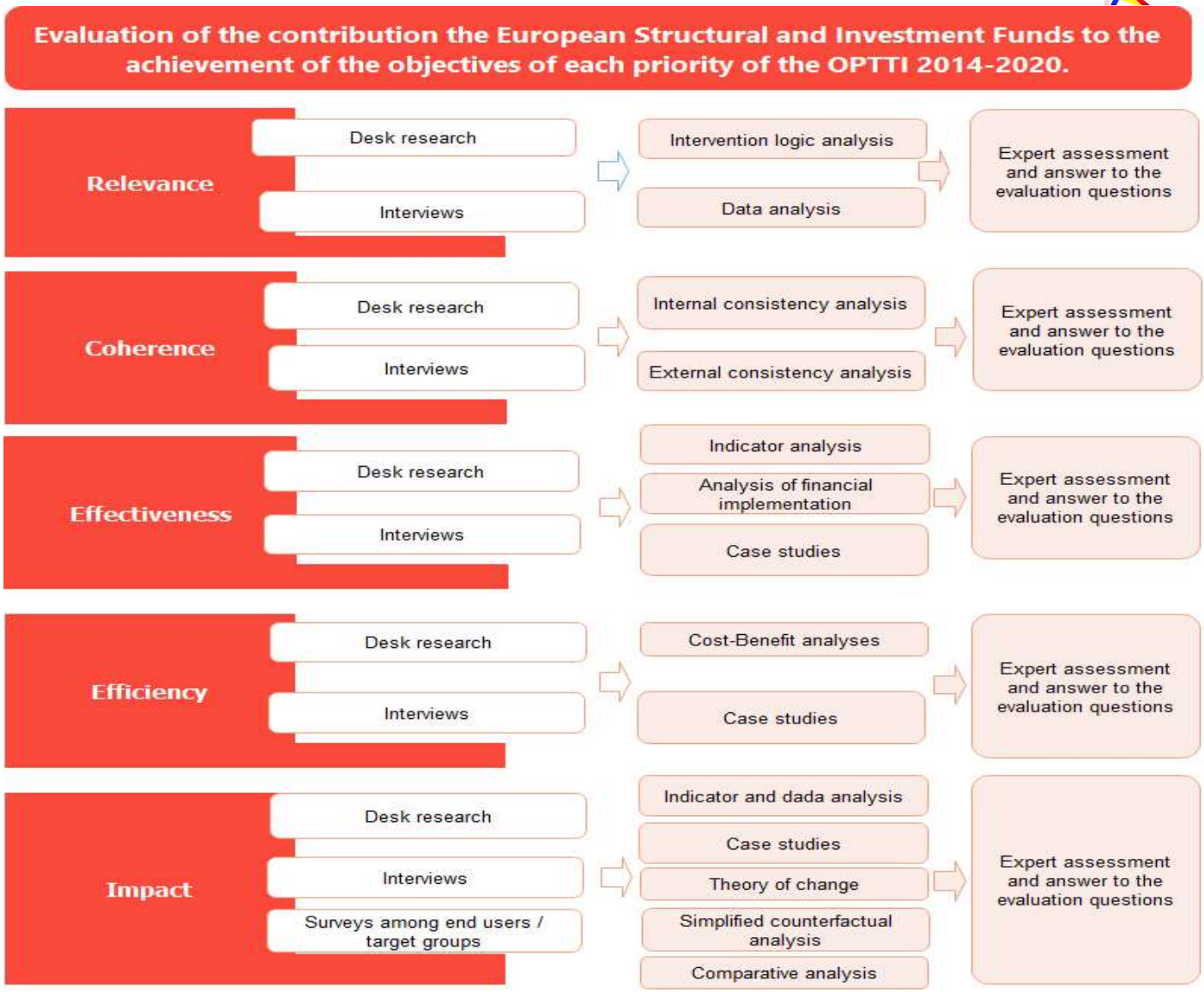
Methodology

Desk research: administrative data; statistical data; previous analyses and evaluations

Interviews: MA, MTC, beneficiaries, NGOs

Surveys: passengers – Sofia metro, 25 May-1 June 2022
300 respondents

Railway carriers, July 2022
1 respondent (11)



Case studies

Area	OPT 2007-2013	OPTTI 2014-2020
Railway infrastructure	Rehabilitation of Septemvri-Plovdiv section (BG161PO004-1.0.01-0008)	Rehabilitation of Plovdiv-Burgas section Phase 2 (BG16M1OP001-1.001-0003)
Road infrastructure	Struma Motorway, Lot 4 Sandanski-Kulata (BG161PO004-2.0.01-0009)	Struma Motorway- Lot 3.3, Kresna-Sandanski (BG16M1OP001-2.001)
Urban transport	Sofia Metro Lot 1 Tsarigradsko shose- Sofia Airport and Lot 2 Mladost 1 residential area – Business park Mladost 4 (B0161P0004-3.0.01-0005)	Sofia Metro, Line 3 Zhitnista Str. - Ovtcha Kupel residential area – Ring road (BG16M1OP001-3.001-0004-C05)

Limitations (1)

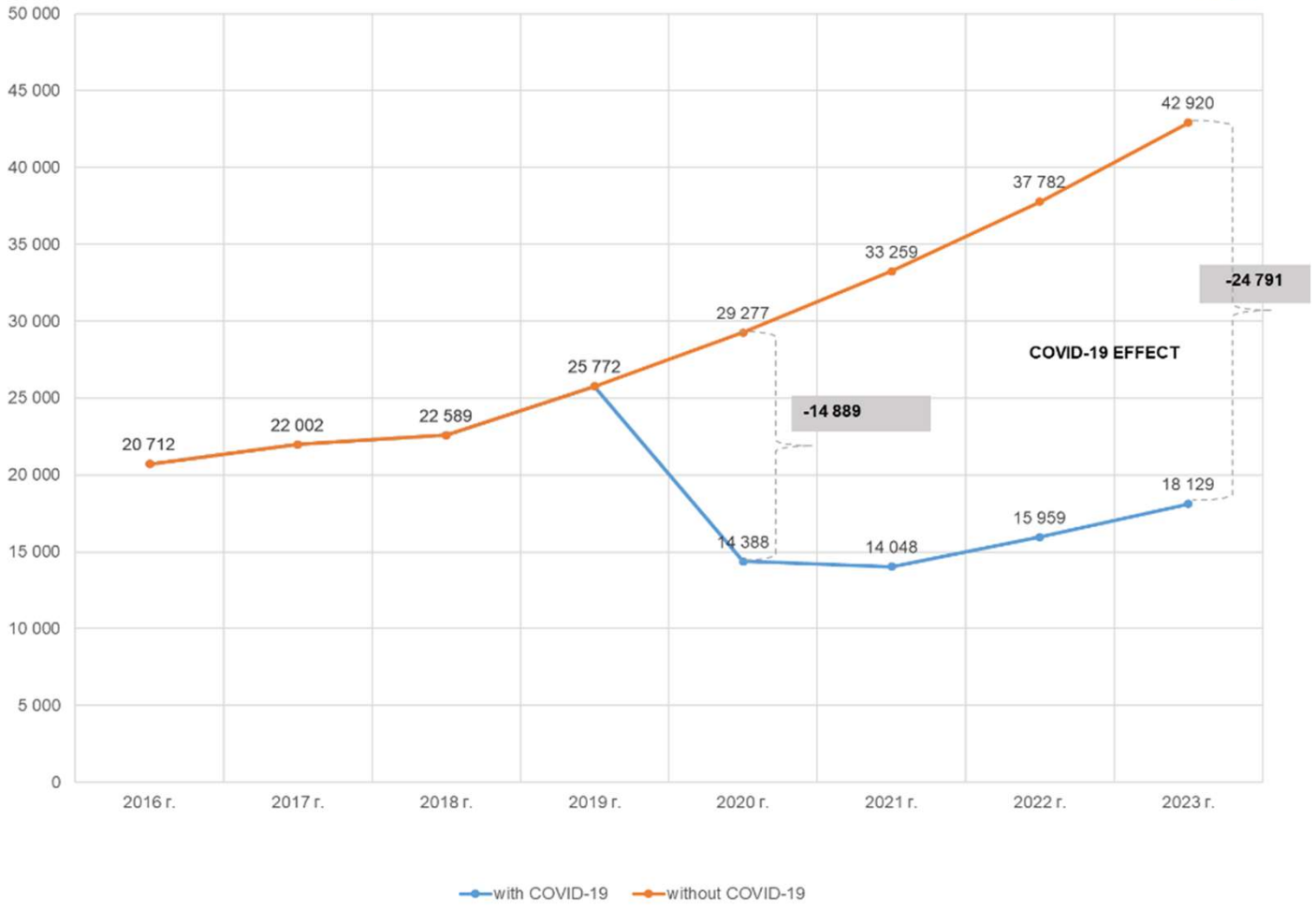
As of 31.12.2021 not all projects were completed

Number of contracts signed and completed projects under property axes of OPTTI, 31.12.2021

Priority axis	Projects	Completed
PA1. Railway infrastructure		
Technical assistance	2	0
Infrastructure	6	2
PA2. Road infrastructure		
Technical assistance	1	0
Infrastructure	2	1
PA3. Intermodal transport and sustainable urban mobility		
Reconstruction of railway stations	3	0
Sofia metro	3	3
PA4. Innovation, traffic management, safety and security		
Railway transport	1	0
Road transport	1	0
Metro	1	0
Water transport	8	4
PA5 Technical assistance		
Technical assistance	27	11
Budget lines	10	1

Limitations (2)

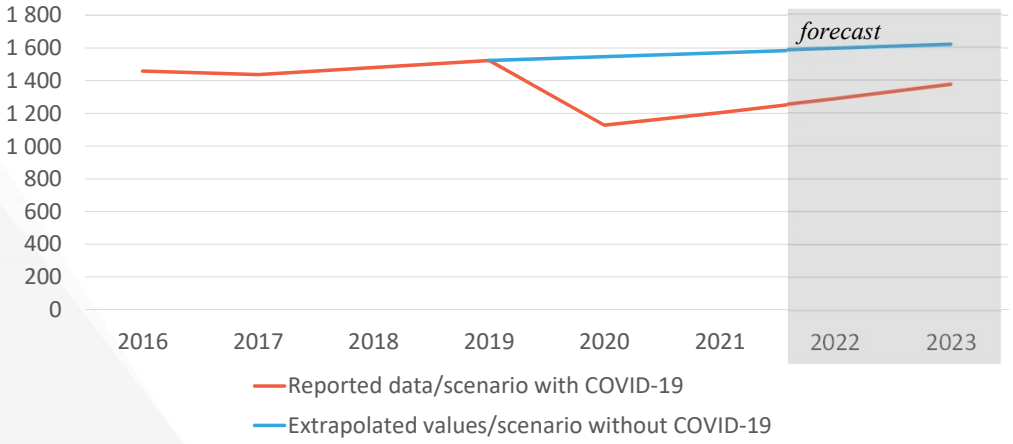
- COVID-19
- Assumptions and extrapolations



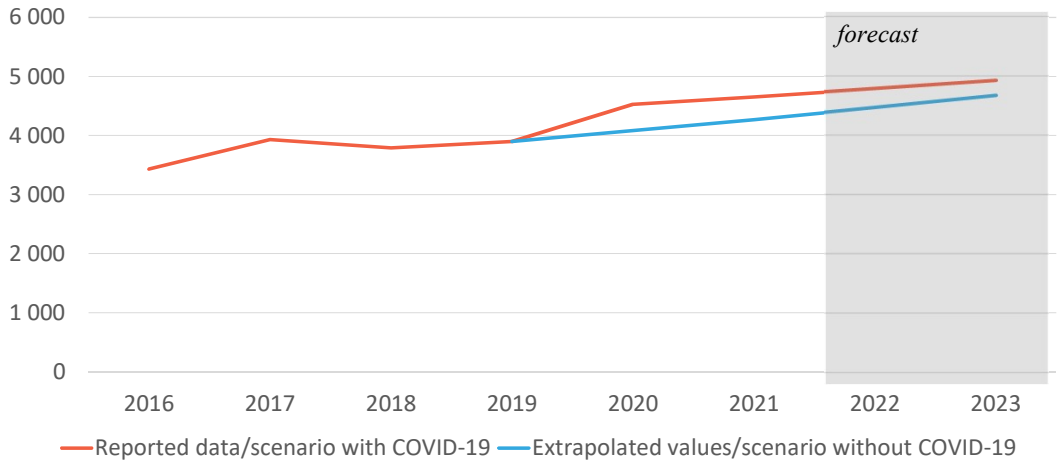
COVID 19 effect on passengers using metro lines „Trarigradsko shose – Sofia Airport ” and „Mladost 1 residential area – Business Park, Mladost 4“

COVID-19 effects on rail transport

Dynamics of the “Passenger railway transport performance“ indicator, scenario with and without COVID-19, million pkm.



Dynamics of the “Freight railway transport performance“ indicator, scenario with and without COVID-19, million trkm.



Indicator	2016	2017	2018	2019	2020	2021	2022*	2023*
Recorded data, million. pkm.	1457.9	1437.5	1479.4	1523.8	1127.8	1204.6	1286.6	1374.2
Annual growth, %		-1.4%	2.9%	3.0%	-26.0%	6.8%	6.8%	6.8%
Extrapolated value, million. pkm.					1546.7	1570.0	1593.7	1617.7
COVID-19 effect, million. pkm.					-418.9	-365.4	-307.0	-243.4

Indicator	2016	2017	2018	2019	2020	2021	2022*	2023*
Recorded data, million. Pkm.	3433.7	3931.0	3792.0	3901.6	4525.7	4655.1	4788.2	4925.1
Annual growth, %		14.5%	-3.5%	2.9%	16.0%	2.9%	2.9%	2.9%
Extrapolated value, million. pkm.					4081.6	4269.8	4466.8	4672.8
COVID19 effect, million. trkm.					444.1	385.3	321.4	252.3

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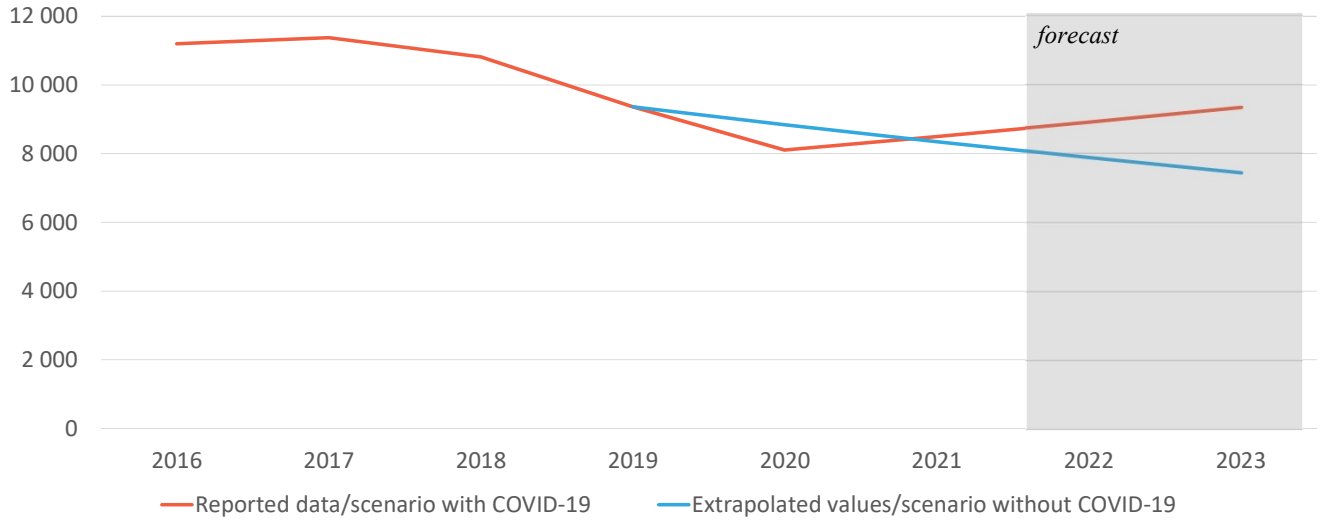
(post) COVID-19 effects on waste treated in ports

Dynamics of " Ship-generated waste and cargo residues treated in the ports " indicator, scenario with and without COVID-19, m3/year



Indicator	2016	2017	2018	2019	2020	2021	2022*	2023*
Recorded data, m3/year.	11200	11380	10818	9364	8109	8498	8905	9333
Annual growth, %		1.6%	-4.9%	-13.4%	-13.4%	4.8%	4.8%	4.8%
Extrapolated value, m3/year.					8840	8346	7880	7439
COVID-19 effect, m3/year.					-731.5	151.6	1025.8	1893.4

Relevance

The programme is in line with the objectives of European and national strategic documents

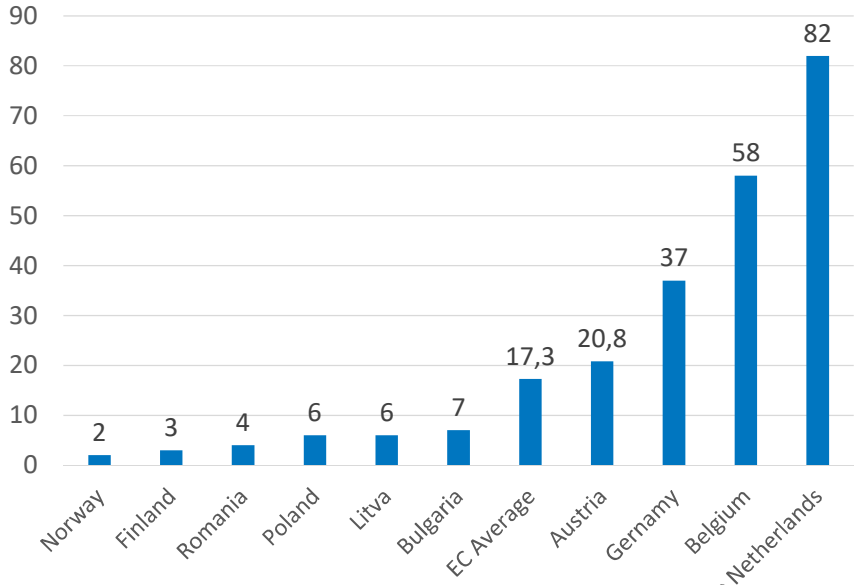
Programme's specific objectives remain valid:

- *Attracting rail passenger and freight traffic*
- *Removing bottlenecks on the Trans-European road transport network*
- *Increase the potential for the use of intermodal transport*
- *Increase the number of passengers using metro*
- *Improving transport management by introducing innovative systems*

Indicator	2013	2021
Share of freight traffic (%)		
Railway	16,6	20,7 (2020)
Road	56,0	50,6 (2020)
Water (inland)	27,5	28,7 (2020)
Share of passenger transport (%)		
Railway	2,9	2,2 (2019)
Road – cars	83	84,7 (2019)
Cargo turnover in river ports (thousand tonnes)	3 831	3 815 (2020)
Share of freight turnover river ports (%)	11,7%	13,1%
Cargo turnover in sea ports (thousand tonnes)	28 841	25 258 (2020)
Share of freight turnover sea ports (%)	88,3%	86,9%
Deaths in road accidents (number)	601	628 (2020)
Electric vehicle charging stations* (number)	0	683
Share of renewable energy in transport fuel consumption (%)	5,89	9,1 (2020)

Источник: НСИ, Евростат, * *European Alternative Fuels Observatory*

Motorway network density km/1000 км2



Источник: Евростат

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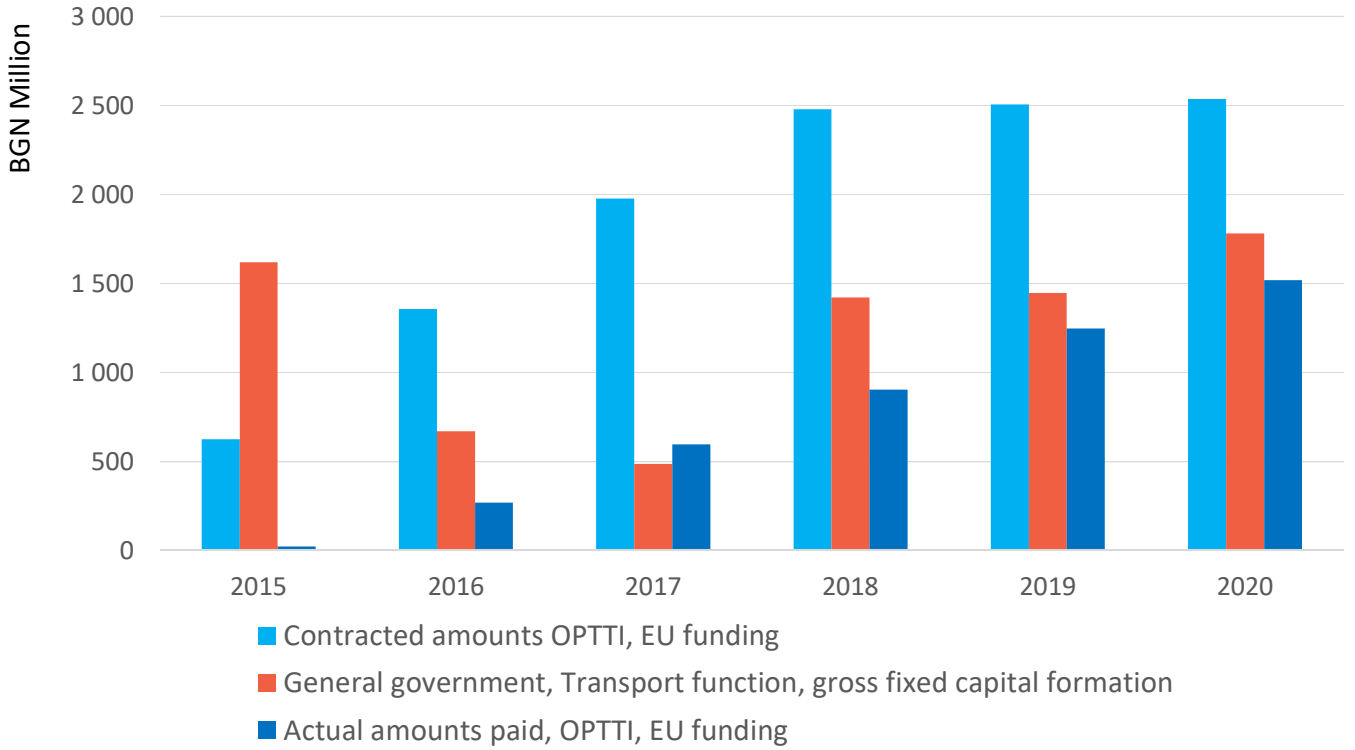
Coherence

- Complementarity with measures implemented in the previous period 2007-2013
- Significant contribution of ESCF – about 40% of budget capital expenditure in transport in the period 2015-2020
- Additional measures, that fall outside the scope of OPTTI are necessary

Investment expenditures in Transport sector from General Government and OPTTI 2014-2020



Source: UMIS 2020, Eurostat

Effectiveness – PA1

- Slow progress
- The output indicators may not be achieved

Output Indicator	unit	Target 2023	Achieved 2021	Implementaion %
Total length of reconstructed or upgraded railway line, of which: TEN-T	km	111	28	25.2%
Removed level crossings in the modernized railway sections	number	43	4	9.3%
Overpasses and underpasses built along the modernized railway sections	number	42	4	9.5%

Result Indicator	unit	Baseline 2013	Target 2023	Achieved 2021	Implementation %
Permissible maximum speed	km/h	99.4	140.4	125.2	62.9%
Passenger transport performance	mln. pkm	1 825.8	1 000.0	1 204.6	75.2%
Freight transport performance	mln. tkm	3 246.0	4 000.0	4 655.1	186.9%
Number of accidents at the locations of removed railway crossings along the modernized railway sections	number	4	0	4	0%
Number of conflict points at the places of the removed crossings along the modernized railway sections	number	129	0	117	9.3%

- COVID 19 effects on result indicators
- Effects of the rehabilitated infrastructure depend on implementation of other measures

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Effectiveness – PA2

- Output indicator is expected to reach 96% (76,65 км)
- Risk for implementation of Europe Motorway – 33,4 км

Output Indicator	unit	Target 2023	Achieved 2021	Implementation %
Total length of newly built roads, of which: TEN-T	км	79.553	35.63	44.8%

Result Indicator	unit	Baseline 2013	Target 2023	Achieved 2021	Implementation %
Saturation ratio of road infrastructure along the Struma Motorway	%	over 60%	Up to 50%	53.31%	66.9%

- COVID 19 effects on result indicators

Effectiveness – PA3

- Indicators measuring implementation of the Sofia metro were achieved
- Half of the railway stations were renovated

Output Indicator	unit	Target 2023	Achieved 2021	Implementation %
Total length of new or modernized tram and metro lines	км	12	13.1	109.2%
New metro stations	number	12	13	108.3%
Depot	number	1	1	100.0%
Metro trains	number	20	20	100.0%
Reconstructed railway complexes	number	6	3	50.0%

Result indicator	unit	Baseline 2013	Target 2023	Achieved 2021	Implementation %
Trips by metro	бр./год.	80 000 000	115 000 000	64 606 512	-44.0%
Share of reconstructed intermodal railways stations along OEM CNC, section Sofia-Plovdiv-Burgas	%	7.89	23.68	15.79	50.0%

- COVID 19 effects on the metro trips

Effectiveness – PA4

- Some indicators were overachieved
- Slow progress of the project for introduction of train management system as of end of 2021 (3%)

Output Indicator	unit	Target 2023	Achieved 2021	Implementation %
Introduced/ upgraded navigation information systems	number	1	1	100.0%
Delivered multipurpose vessels	number	3	4	133.3%
Commissioned port reception facilities for ship-generated waste	number	2	7	350.0%
Metro stations equipped with platform screen doors	number	2	7	350.0%
Introduced train management system	number	1	0	0.0%

Result Indicator	unit	Baseline 2013	Target 2023	Achieved 2021	Implementation %
Average multiannual number of days with bottlenecks at water levels above LNWL	%	26.34	23.49	24.7	57.5%
Ship-generated waste and cargo residues treated in the ports	m3/year	0	20 000	8 497	42.5%

- Achievement of the target for treated ship waste is at risk

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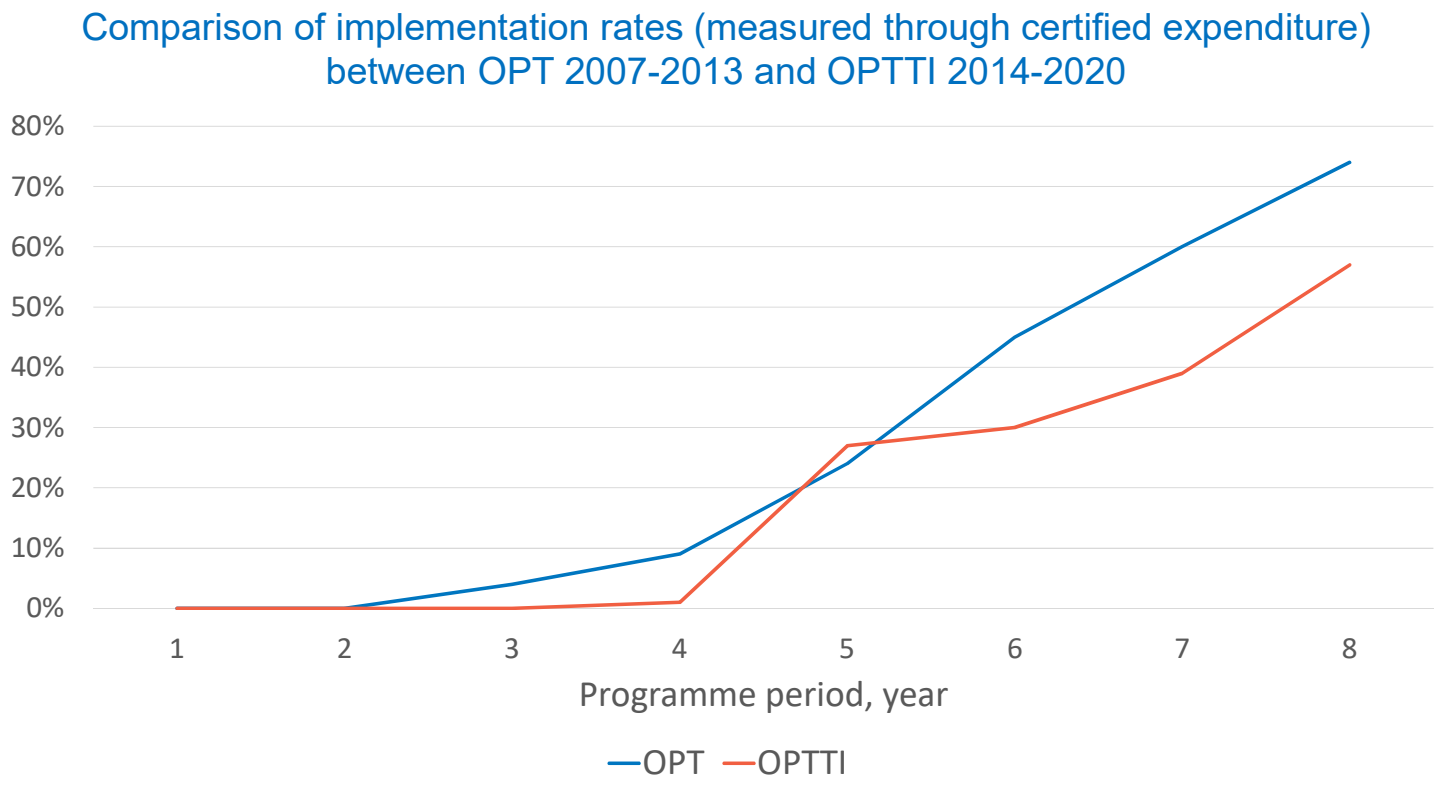
Effectiveness – PA5

Output Indicator	unit	Target 2023	Achieved 2021	Implementation %
Number of trainings of employees of Managing Authority and beneficiaries	number	1000	896	89.6%
Adopted Communication strategy	number	1	1	100.0%
Adopted Evaluation plan	number	1	1	100.0%
MC meetings held	number	16	16	100.0%
Number of employees (Full-time equivalents, FTEs) whose salaries are co-financed by technical assistance	number	45	45	100.0%
Major information activities	number	8	8	100.0%
Number of on-the-spot checks	number	120	69	57.5%
Number of public information events	number	20	8	40.0%

Result Indicator	unit	Baseline 2013	Target 2023	Achieved 2021	Implementation %
Trained people according to training programmes	%	0	100	90.34	90.3%
Completed activities under the Communication Plan	%	0	100	95.1	95.1%
Average time required to pay beneficiary from the date of submission of the application for reimbursement	дни	90	80	45	450.0%
Average time for evaluation of project	дни	90	85	53	740.0%
Degree of public awareness of OPTTI	%	0	30	44	146.7%
Share of on the spot checks expenditure	%	0	100	43	43.0%

Efficiency

- Slow down in the OPTTI implementation rate in 2019-2020 period



Efficiency

Efficiency coefficient	PA1	PA2	PA3	PA4	OPTTI
	0,69	1,29	1,02	1,24	0,98

- Achievements (implementation indicators) to resources ratio
- Indicators weights
- Low degree of implementation of target values of indicators within PA1, with the highest relative share in funding

Impact – macroeconomic indicators

Macroeconomic indicators	Effect by 2021*
GDP	0,6%
Exports of goods and services	0,0%
Imports of goods and services	1,1%
Current account (% of GDP)	-0,43 p.p.
Private consumption	0,7%
Private investments	1,3%
Employment (15-64)	0,6%
Unemployment rate (15-64)	-0,29 p.p.
Average wage	0,4%
Inflation according to HICP	0,2%
Budget balance (% of GDP)	0,04 p.p.

Source: MF; SIBILA model, *Total cumulative effect from 2014 to the end of 2021 r.

Impact on the transport system

- Slight trend to shift freight from road to rail
- Road transport dominates the sector

Goods and passengers transport (%)	2014	2015	2016	2017	2018	2019	2020
Passenger transport, mode of transport, %							
Trains	2.6	2.3	2.2	2.1	2.2	2.2	2
Passenger cars	82.3	83.1	83.7	84.8	85.8	84.7	89,6
Motor coaches, buses and trolley buses	15.1	14.6	14.1	13.1	12	13	8,4
Freight transport, mode of transport, %							
Railways	18.2	17.9	17.1	18.5	19.3	21.1	20.7
Roads	54.9	54.7	55.6	56.6	56.2	47.1	50.6
Inland waterways	26.9	27.4	27.3	24.8	24.5	31.8	28.7

Source: Eurosat: Modal split of passenger transport; Modal split of freight transport

Trains' movement	2014	2015	2016	2017	2018	2019	2020	2021
Trains movement (thousand tkm)	27 332	28 564	29 509	29 012	30 610	28 026	28 134	27 858
freight	6 879	7 659	8 155	8 923	10 726	7 913	8 432	8 782
passenger	20 453	20 905	21 354	20 089	19 884	20 113	19 702	19 076

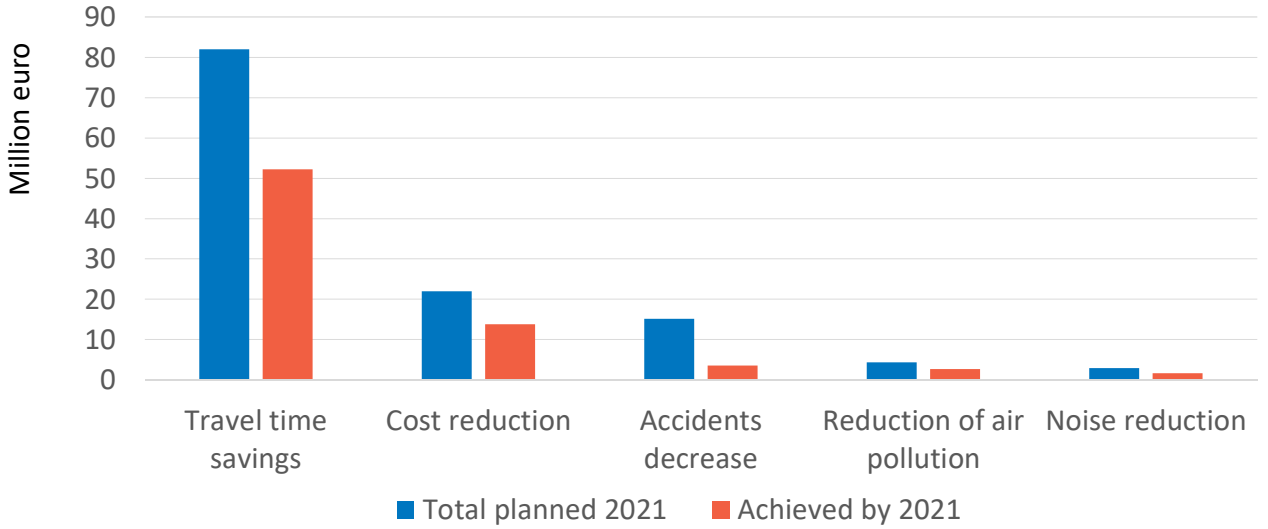
Source: Eurostat

- Rail passenger transport continues to decline

Impact on society

- Most of the effects are related to reduction of travel time (railway and road projects, as well as investments in Sofia metro)
- Limited contribution to improving safety

Benefits from OPTTI up to the end of 2021 г., million euro



Benefits, million euro	Planned (2023)	Achieved (2021)
Total for OPTTI	126.73 (100%)	70.41 (100%)
For transport operators	22.03 (17%)	13.66 (19%)
For citizens	104.70 (83%)	56.75 (81%)

- The benefits are mainly for citizens and more limited for businesses

Rail and road projects

- Realisation of effects depends on completion of construction works and on investments in rolling stock.

Railway transport	Septemvri-Plovdiv (2007-2013)	Plovdiv-Burgas, Phase 2 (2014-2020)
	minutes	minutes
Saved travel time (potential)	12	14

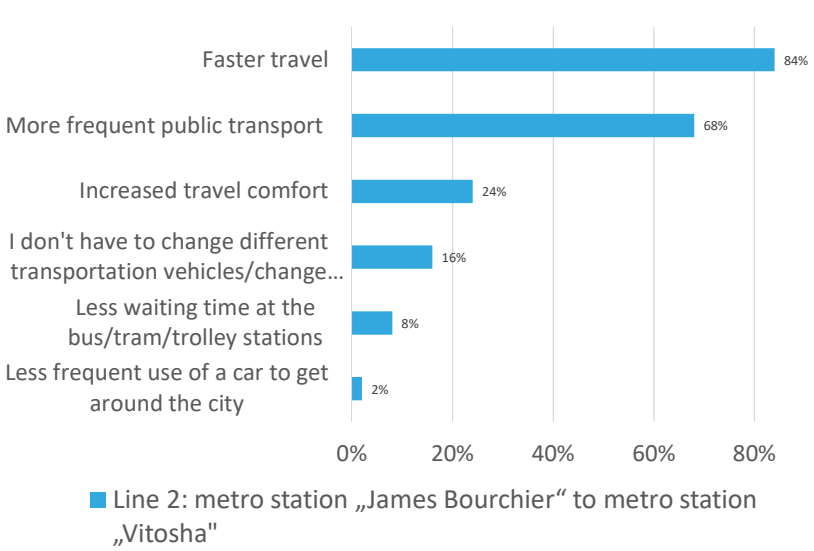
Road projects	Sandanski-Kulata (2007-2013)	Kresna-Sandanski (2014-2020)
Achieved increase in average speed km./h.	31.8 (108.7)	32.2 (106.8)
Saved time (minutes)	2.7	10.4
Accidents reduction (%)	26%	62%
Change in the number of fatal accidents (%)	+200%	+50%
Change in the number of other accidents (%)	-16%	-3%

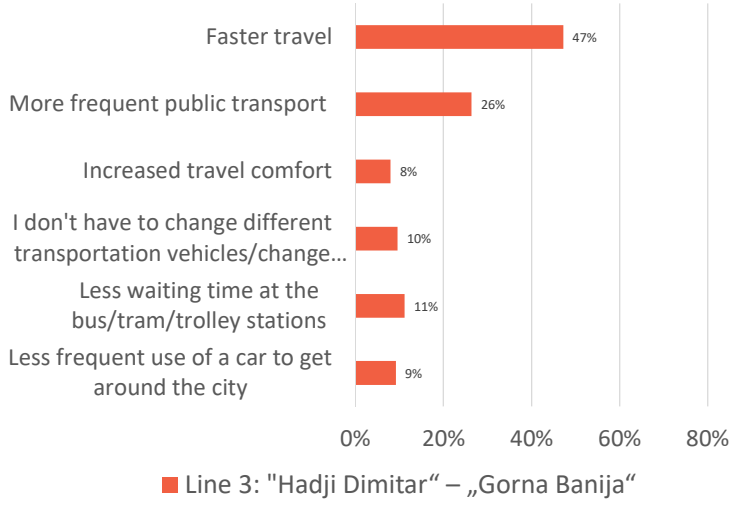
- The number of accidents is decreasing.
- There is an increase in the number of fatal accidents.

Impact – Sofia metro

- The main effects are reduction of travel time and improved urban mobility
- Adverse effects from Covid 19 restrictions

Citizens perception on the benefits of Line 2 extension and construction of Line 3 of the Sofia metro





Based on data from a non-representative survey conducted in May 2022.

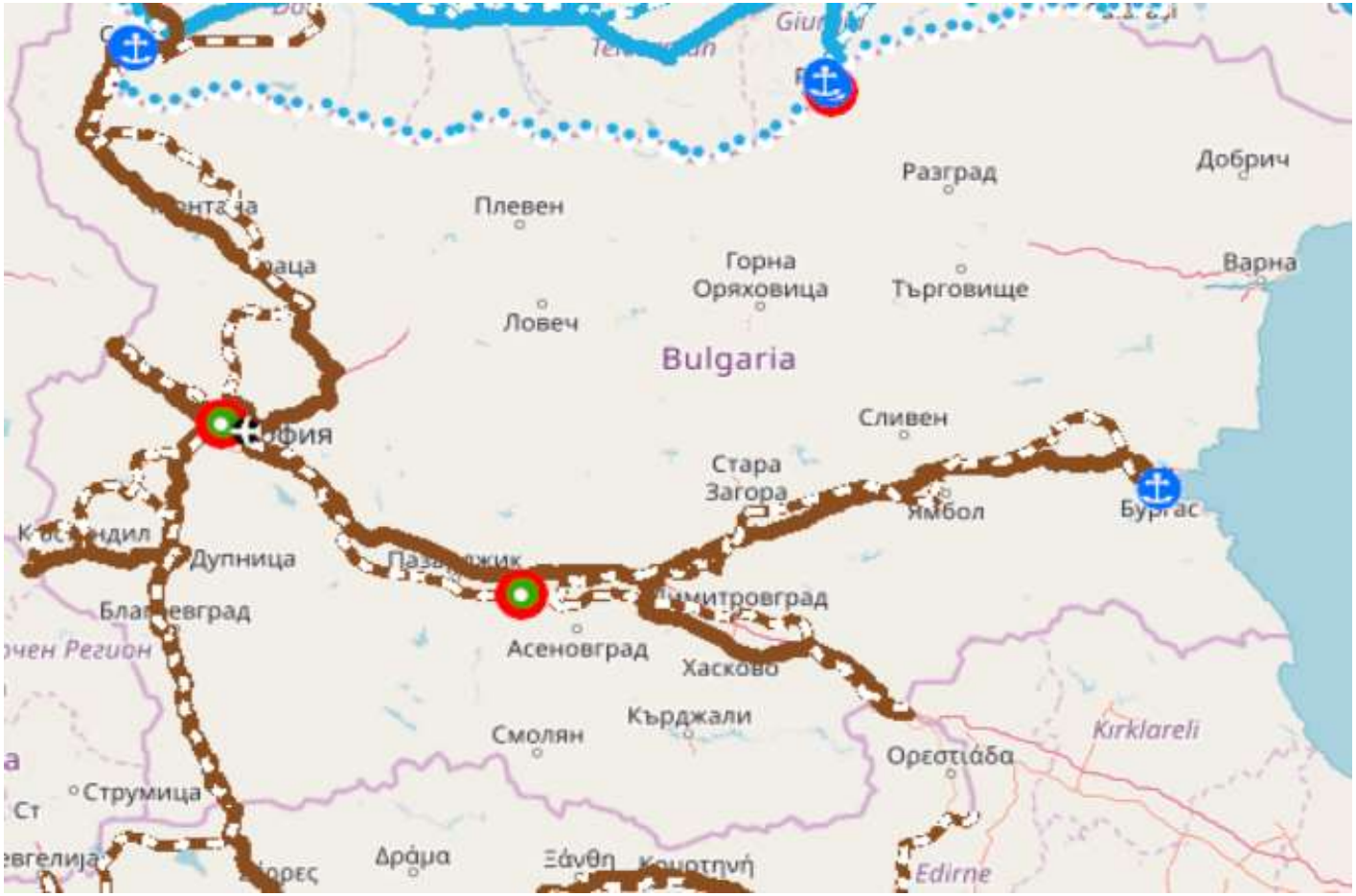
Integration with the European transport system

- Railway and road transport: Orient/East-Med corridor

- Increased interoperability trough introduction of ERTMS systems

- Water transport: Rhine-Danube corridor – improving waterway navigation conditions

- Investments in ports, multimodal terminals, connecting infrastructure?



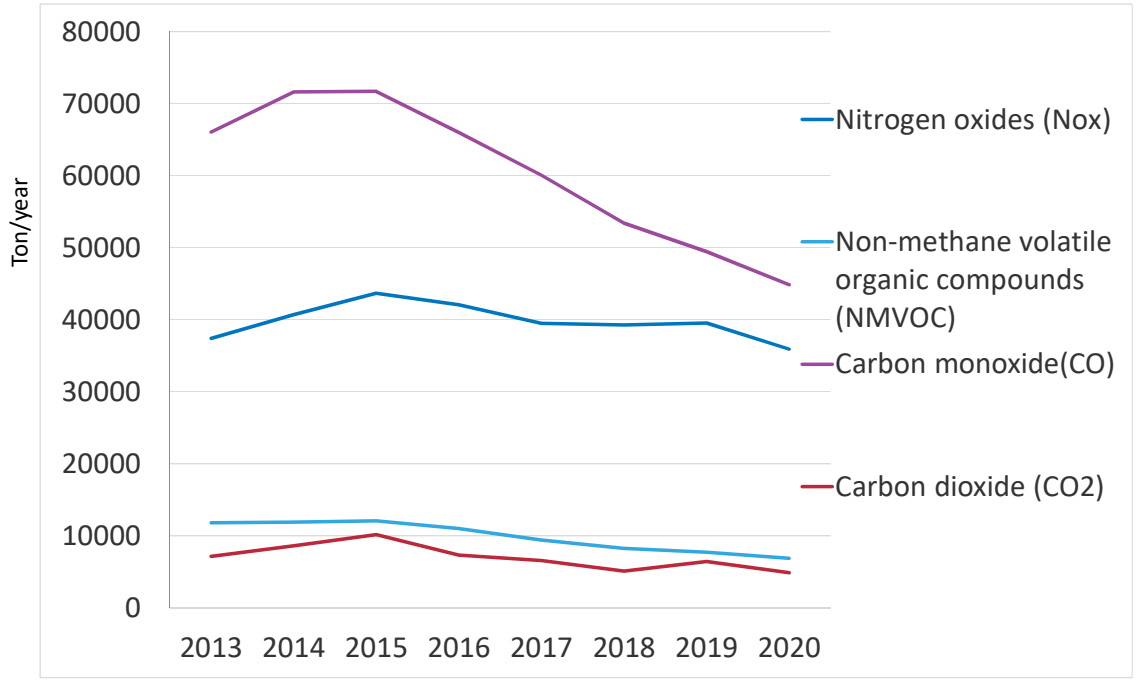
Source: https://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/map/maps.html

Impact on the environment

- Reduction of emissions

Project	Target value 2023	Achieved 2021
Total for PA1	8.75	2.00
Plovdiv-Burgas project	5.36	2.00
Elin Pelin-Kostenets project	3.39	0
Total for PA2	67.64	47.43
Struma Motorway (lot3.1+lot3.3+Zeleznitsa)	31.03	16.71
Sofia west ring	36.61	30.71
Total PA3	1.41	1.16
Metro line 3 Phase I	0.89	0.71
Metro line 3 Phase II	0.52	0.45
Total for OPTTI	77.80	50.59

Road transport emissions in Bulgaria, tonnes/year



Source: NSI data

Impact on the environment

- Noise reduction

Noise protection facilities near Manole village and Belozem village; project "Rehabilitation of the railway line Plovdiv - Burgas, Phase 2"

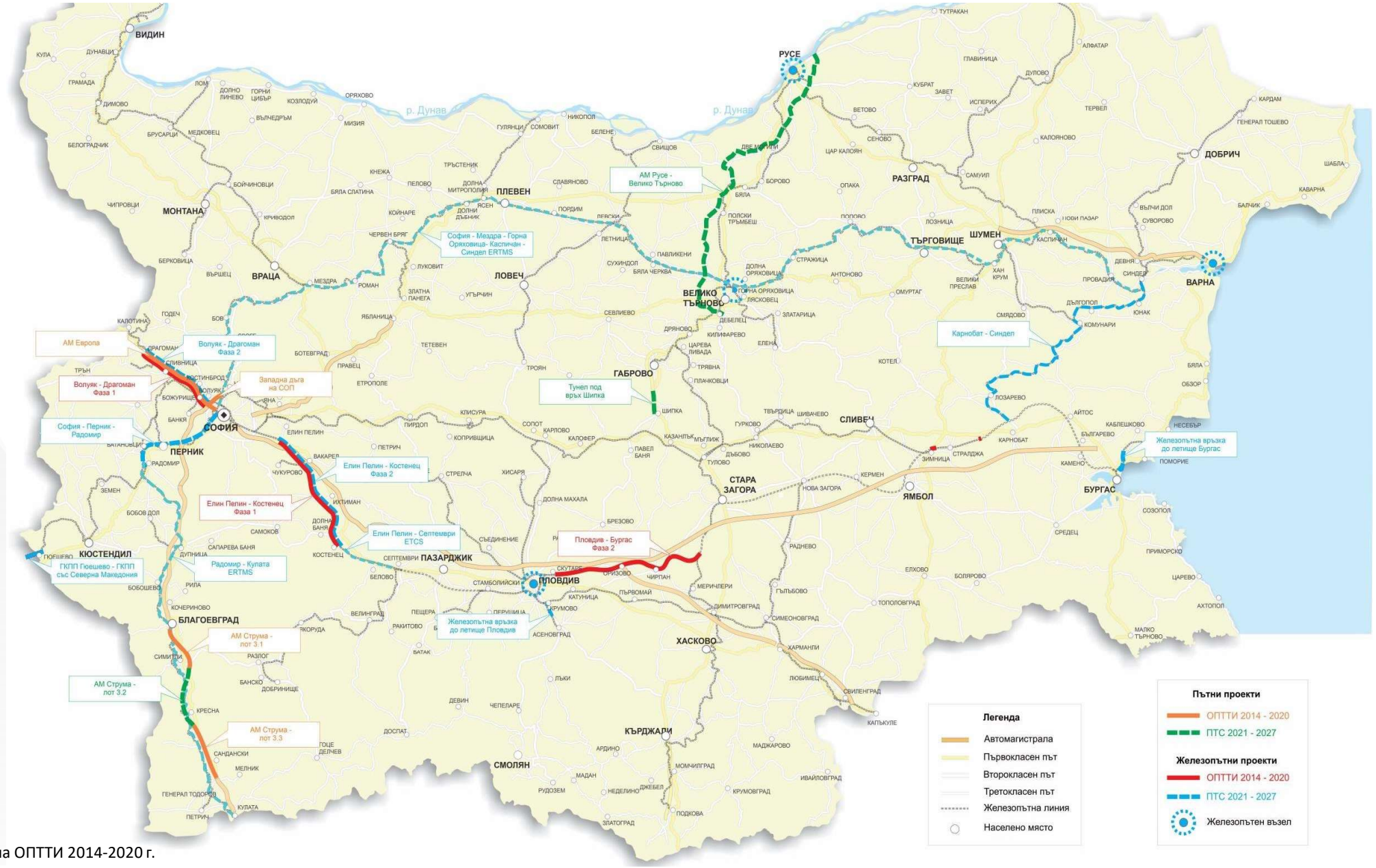
- Reduction of water pollution risk (Danube and the Black sea)

Treated waste (m^3/year)	2020	2021	Target (2023)
Varna and Burgas	8 109,27	8 103,10	20 000
Ruse, Silistra, Lom	-	-	

Impact on the regions

- The main infrastructure projects are located in South and Southwest Bulgaria.
- Limited effects for North Bulgaria from the projects for improvement of security and safety of waterway navigation

Benefits, million euro	Planned (2023)	Achieved (2021)
NUTS 2		
South Central	2.34	1.90
South East	17.46	0.15
South West	106.93	70.41
NUTS 3		
Sofia city	70.32	68.10
Plovdiv	2.34	1,90
Stara Zagora	6.38	0.00
Sliven	1.21	0.00
Yambol	2.99	0.00
Bugras	6.88	0.15
Sofia	22.27	0.00
Blagoevgrad	14.34	8.12



Източник: УО на ОПТТИ 2014-2020 г.

Key recommendations

- Strengthen beneficiaries' capacity, mainly of the National Railway Infrastructure Company, related to expropriation and territorial procedures in order to improve the quality of the documents submitted and reduce the number of returns from the Ministry of Regional Development and the Ministry of Finance.

- For strategic projects of national importance, an inter-institutional group should be set up to facilitate project preparation in order to improve the interaction between the different responsible institutions and reduce the project preparation time.

- It is recommended to collect and store data that can be used to evaluate effects and benefits from the implemented projects.

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Contact us: ecorysSEE@ecorys.com