***Annex 1.1.***

***Current situation by modes of transport***

*Railway transport*

According to data of the National Statistical Institute (NSI) the total length of the railway lines in Bulgaria as of 31.12.2019 is 4 030 km. Of these, 990 km. are double lines and electrified are 2 870 km. All major railways in the country are part of the TEN-T network. In the direction of the corridor Western Balkans - Eastern Mediterranean the railway route includes the sections border with the Republic of Serbia - Sofia, border with the Republic of North Macedonia - Sofia, Sofia - Plovdiv - Svilengrad - border with the Republic of Turkey. In the direction of the corridor Baltic Sea - Black Sea - Aegean Sea the railway route includes the sections Vidin - Sofia - Kulata, and Sofia - Plovdiv - Burgas / Svilengrad (Turkish Greek border) Ruse - Kaspichan - Sindel - Varna / Karnobat, Ruse - Gorna Oryahovitsa - Dimitrovgrad and Simeonovgrad - Nova Zagora.

Based on the in-depth analyzes of various aspects of rail transport, gaps between existing transport needs and existing infrastructure, organizational and operational actions have been identified. There are insufficient connections between maritime and inland waterways and airports with the national rail network in order to increase the potential for the development of intermodality. With regard to the railway infrastructure, insufficient integration of the national railway network into the European railway system is established and the need to bring the technical characteristics of the main directions in line with the requirements of Regulation (EU) No 2024/1679. There is a significant difference in design and actual operational speed along the main railway lines - an indicator of the actual status of the railway. The permissible maximum load for individual sections is limited to 22 tonnes/axle. The average technical speed for passenger trains is one of the lowest in Europe. At designed speed of 120÷130 km / h, trains run at 75÷80 km/h, and in certain sections it is limited to 40-60 km/h to ensure traffic safety.

A considerable part of the rolling stock does not meet the European standards in terms of comfort, hygiene and quality, and the maintenance and repair of the obsolete park requires considerable resources. Increased allowable speeds up to 160 km/h for passenger trains up to 120 km/ h. for freight trains in railway sections where rehabilitation or upgrading projects have been implemented, contribute to improving the quality of the rail service, which also requires improving the technical characteristics of the rolling stock of railway undertakings.

With regard to energy facilities, the main problems are related to the moral and physical obsolescence of the contact network and facilities. There are similar problems in the security industry and telecommunications - long-term operation of relay station centralizations, refurbishing of stations from the main lines with modern station centralization (MCC) is carried out at a very slow pace, the basic equipment of telecommunications is at a very low technological level, given the pace development in this area and new technologies introduced, highways cables are obsolete and physically obsolete, as well as the tangible involvement of the human factor in ensuring safety of train movements is also required. The modern ERTMS signaling and telecommunication systems (with ETCS and GSM-R subsystems) have not been put in place everywhere to achieve interoperability on the 'core' and 'comprehensive' Trans-European rail network.

The southeastern region has the lowest railway network density in the country (31.6 km/1000 km2), on the other hand 90% of the railway network in the region is electrified and almost 30% of the lines are doubled (above the national average of 24.6 ). The other seaside region, the Northeast, is also below the national average density (33.1 km/1000 km2). The relative share of the electrified lines in the region exceeds the average for Bulgaria. Half of the railways are doubled, with the highest share in the country. The rail network in the Northwest Region is better constructed and more homogeneous than the road network. Most areas here have similar indicators, but below the national average. In the south central region, the railway network is not characterized by good performance, which is largely due to the mountainous relief in its southern part. The density for the region, although close, is below the average for Bulgaria, the level of doubling of the railway lines is one of the lowest, the lowest for the whole country is the relative share of the electrified railway lines. The best construction of the railway network is in the district of Plovdiv, with the highest density for the country, as well as in the Pazardzhik region, with a density above the average for Bulgaria. In the southwestern region, also with a predominant mountainous terrain, the railway network construction is characterized by better indicators - density (42.5 km/1000 km2) and the degree of electrification of the lines above the national average, but the degree of doubling of the lines is below the average. The north central region has the highest rail network density (44.5 km/1000 km2) and a near-average electricity level. At the same time, the level of doubling of railway lines in the region is the lowest in the country.

The level of safety in rail transport is stable. Reducing traffic speeds is a preventative measure to reduce the number of accidents, but has a negative impact on the competitiveness of the service.

Transported passengers by rail is gradually decreasing. NSI data show that in 2012 their number was 26.5 million, while in 2019 the number of passengers carried was 21.3 million, mainly in an internal message. At the same time, freight transport by rail is growing. According to NSI data, in 2019, 14.95 million tons of cargo were transported. For comparison, transported freight in 2012 was 12.47 million tonnes. Work done with rail freight in 2019 including domestic and international shipments is 3 901.6 million tkm.

*Road transport*

According to NSI data, the total length of roads in Bulgaria as of December 31, 2019 is 19,879 km. Of these, highways are only 3.9% (790 km) and first-class roads - 14.6% (2 900 km). Third-class roads and road junctions at intersections and junctions (12 170 km) are the largest with 61.2%. Second-class roads (4,019 km) represent 20.2% of the total length of roads in Bulgaria. The development of the road network is in the direction of increasing its total length. For the period 2012-2019, it increased by 277 km. The length of highways increased by 249 km, and of third-class roads and road junctions at intersections and junctions by 119 km. The change in the length of the second-class roads is insignificant - it has increased by 16 km. The length of the first class roads has decreased by 75 km. Highways and roads of first class, of European and national importance, whose length represents 18.6% of the total length of the road network in the country, are part of the TEN-T network throughout the country. Investments are envisaged along Baltic Sea – Black Sea – Aegean Corridor.

The country's coverage of highways and first-class roads is uneven. The East-West roads are better developed than those in the north-south direction, which is also determined by the relief of the country. Despite large-scale investments for the development of road infrastructure, there are a large number of road sections with traffic intensity close to their maximum carrying capacity.

The density of the road network in the Southwest and Southeast is the lowest, but both areas have a well-developed high-class road network that carries international and national traffic flows. In the opposite position is the North Central Region, which has the highest overall road network density due to the well-developed regional network (highest density), but not yet completed highways. Transit flows are carried by first-class roads and the regional road network often has to take over their functions. In the Northwestern region, the low level of construction is mainly due to the poorly developed high-class road network and the regional road network to the south-eastern region. The south central region has the lowest built-up of the first-class road networkroad of all districts. This is to some extent offset by the northbound highway, but the prevailing territory is only served by the regional road network.

The main share of roads in the country (97.5%) is with asphalt pavement, and without pavement they are only 1.6%. Despite the measures taken and investments made in recent years, there is no significant improvement in the overall condition of the roads. About 1/3 of the Republican road network remains poor in pavement quality. It is necessary to increase the load capacity of the road surface along the main transport routes and to bring it in line with the European requirements.

Analyzes show that, on average, the number of cars in the country is growing by about 100,000 a year. Thus, in 2011, cars were just over 3.4 million, and in 2019 they were 3.8 million. The increase in the number of motor vehicles increases the intensity of road traffic as well as the risk of road accidents.

NSI data show that in 2019, 6,730 road traffic accidents were registered on the country's roads. For comparison, in 2011 the number of accidents was 6 639. The highest share of accidents, outside the settlements, is in the first-class roads, followed by the third-class and second-class roads. Least road traffic accidents have occurred on highways.

The data shows an increase in traffic across all road classes. Since 2016, only automatic counters have been used. The increase in the average daily traffic intensity on the highways in 2019 compared to 2016 is 5.24%, on the roads I class is 3.99%, on the roads II class - 11.02%, and on the roads III class - 2.69%.

There is an increase in the freight transported and the work performed by road transport. According to NSI data, in 2019 the freight transported amounted to 115.0 million tons, and the work performed incl. domestic and international transport is 20 613,5 million tkm. For comparison, in 2012 the freight transported was 140.4 million tonnes.

There was an increase in sales of electric vehicles, but at a slow pace. Sales of new hybrid cars in the EU in 2021 have caught up for the first time with those of diesels. In Bulgaria, sales increased by 48.3% to 636 units. Rechargeable hybrids, which have an internal combustion engine and a small electric motor, have a growth of 20.7% in 2021 and a market share of 8.9%. In Bulgaria, they increased by 136.6%, but the number is again small - 97. Increasingly popular are all-electric cars. Sales to the EU increased by 63.1%. In Bulgaria the growth is by 130.9%, but with a small number - 321.

In Bulgaria, a change in the market is possible, although mostly petrol and diesel cars are still bought. An EIB study shows that the proportion of people who would buy a new hybrid or electric car is 52% higher than that of potential customers of a diesel or petrol vehicle.

*Port infrastructure and inland waterways*

The port system of the Republic of Bulgaria is composed of two types of ports - maritime (located on the Black Sea coast, representing the eastern border of the country) and river (located along the Bulgarian section of the Danube River, representing the northern border of the country). The “core” TEN-T network of the country includes the maritime port of Burgas and the inland ports of Rousse and Vidin. The "comprehensive" TEN-T network includes the maritime port of Varna and the inland ports of Lom, Oryahovo, Svishtov and Silistra. The national port system of the Republic of Bulgaria currently has 14 628 m. total length of the quay front in the sea ports for public transport and 13 964 m. in the river ports for public transport. The density of existing port infrastructure is high and free port capacity is available. However, most Bulgarian ports were built at the beginning of the last century, which negatively affects their technical condition.

Port terminals for public transport in Bourgas have the highest total carrying capacity, which is about 5% higher than those of ports for public transport in Varna (about 50% of the throughputs of the port of Burgas are provided from the specialized bulk cargo terminal Rosenets).

The development of public river and seaports for public transport is realized through their concession.

In recent years, modern logistical, navigation and information systems for the Black Sea and the Danube River have been built, contributing to improving shipping conditions and reducing the risk of accidents.

The main risks for navigation on the Danube River are the cases of shallow depths of the thalweg, especially in low water periods, when conditions are created that can cause ship jams and accidents. This can lead to the discharge of waste water and pollution with oil and/or marine fuel. Improving depth in critical areas will reduce the likelihood of such incidents occurring. To improve navigation safety and accessibility of the canals, specialized vessels are being purchased to provide navigation on the Danube River.

*Air Transport*

Air transport is increasingly important for travel to and from the country. The increased demand is mainly served by the international airports of Sofia, Varna and Bourgas and to a lesser extent by Plovdiv and Gorna Oryahovitsa. Both Bulgarian and foreign air carriers operate on the charter market and travel on regular international routes.

Sofia Airport is included in the "core" TEN-T network. The airport has two passenger terminals with a total annual capacity of 4,400,000 passengers. The cargo area handles cargo shipments, both in normal mode and in special processing mode. Transport to the airport is by road and by subway. The airports of Burgas, Varna, Plovdiv and Gorna Oryahovitsa are included in the "comprehensive" TEN-T network as complementary to the functions of the designated for "inter-modal" freights nodes from the "core" TEN-T network. The airports of Varna and Burgas are highly seasonal, with the major part of the passenger service activities being carried out between June and September. There are no rail connections to Bourgas Airport and Plovdiv Airport. Plovdiv Airport is used as a backup of Sofia Airport and receives traffic (at Sofia Airport) during the closure periods due to low visibility or for other reasons. The airport serves passenger, cargo and business flights. During the winter season, the airport serves daily charter tourist flights for the Bulgarian ski resorts in Bansko, Pamporovo and Borovets. Gorna Oryahovitsa Airport is used for domestic flights. Regular flights are non-scheduled and charter flights are performed as needed. The airport is also used for training flights by private airlines, there is also freight activity.

A key moment for the development of one of the priority projects for our country in the field of air transport - DANUBE FAB, is the successful introduction at the end of 2014 of two cross-border sectors between Bulgaria and Romania. This is the first establishment of cross-border sectors within the airspace functional blocks in Europe. This initiative further optimizes the network of air routes, delivers real fuel savings, saves flight time and minimizes environmental impact. Continued implementation of airspace elements for free route planning and servicing data transmission lines between pilots and the gorund as part of the SESAR deployment program.

Air transport in the country contributes to increasing the mobility of the population and the development of intermodality. Support is needed to improve the connectivity of airports with other modes of transport, as well as to ensure the subsequent development and deployment of intelligent transport systems in air transport.

*Intermodal transport and terminals*

The main routes for domestic and international intermodal transport coincide with the directions of the Bulgarian sections included in the AGTC and the directions of the "core" and "comprehensive" Trans-European transport network. There are no limiting overall dimensions in these areas related to tunnels, bridges, etc. using suitable rolling stock.

The state of the rail infrastructure for combined transport does not generally satisfy the requirements for the provision of modern freight services. Key railway station complexes have been upgraded in recent years. An intermodal terminal was built in the area of ​​Plovdiv, which was subsequently granted a concession. The development of intermodal terminals connecting ports to the rail network is restricted. Available container shipping terminals were built in the 1970s and 1980s and do not meet the requirements for modern freight services. There is no national network of modern intermodal terminals to cater for the needs of rail and water freight. A project for the construction of an intermodal terminal in Varna has been planed to combine water, rail and road transport. Another problem is the no good equipment with specialized rolling stock of the operators. There are only a few direct operational/ logistical intermodal connections.

**Main identified problems and disparities compared to the EU developed countries**

*Railway transport*

The main problems identified in relation to the development of rail transport are the following:

* Unsatisfactory condition of the railway infrastructure and rolling stock, which is a prerequisite for the relatively low speed and level of passenger and freight services;
* Insufficient integration of the national railway network into the European railway network and the need to bring the technical characteristics of the main directions in line with the requirements of Regulation (EU) No 2024/1679;
* Lack of widely deployed modern signaling and telecommunication systems - ETCS system and GSM-R network for interoperability across the main and wide-ranging Ttrans-European Rail Network;
* Insufficiently developed connections between maritime and inland ports and airports with the national railway network to achieve increased intermodality.

*Road transport*

With regard to the condition of the road infrastructure, the following problems can be defined:

* High traffic intensity on the road infrastructure compared to other networks and a large number of traffic sections with traffic intensity close to their maximum capacity;
* Incomplete highway network for ensuring high-quality, high-speed connections between Bulgaria and the neighboring countries, as well as between some of the major settlements in Bulgaria;
* Unsatisfactory condition of a part of the road infrastructure that does not qualify for continuous, convenient and safe transport;
* Lack of bypass roads in settlements in the directions of high intensity of light and freight traffic;
* Low road traffic safety indicators compared to EU average;
* Increase in the number of cars and obsolete car fleet.

*Port infrastructure and inland waterways*

The main risks to navigation along the Danube are the unsatisfactory parameters of the shipping route and poor navigation conditions (fog, low water levels and other obstacles). The process of improving the parameters of the shipping route and improving the safety of navigation along the Danube River and in the marine areas of the Republic of Bulgaria has not been completed. There is a lack of charging infrastructure for alternative fuels in ports.

*Air transport*

Insufficient connectivity of airports to the transport network. The development and deployment of intelligent transport systems in air transport has not been completed.

*Intermodal transport and terminals*

The main problems are related to:

* lack of a network of terminals meeting the requirements for modern freight services;
* poor coordination between modes of transport towards the development of intermodal services;
* insufficiently developed intermodal connections between ports and airports and the rail network, in order to promote the potential growth of trade and transit;
* insufficient storage space on many of the cargo terminals.

***Annex 1.2.***

***Complementarity of investments***

PTC envisages the completion of the sections Elin Pelin – Kostenets, Plovdiv - Burgas and Voluyak – Dragoman, a railway connection between Bulgaria and North Macedonia to be built, as well as the Karnobat - Sindel railway facilities to be completed (modernization of section Lozarevo-Prilep). Completion of the restoration of the reception building of the Nova Zagora railway station and Stara Zagora railway station will be ensured. It is planned to build new railway stations, as well as to carry out the necessary preparatory activities for the construction of a city railway in Plovdiv and to build railway connections to Plovdiv Airport and Bourgas Airport. Funds under the programme will ensure preparation for development of the Gorna Oryahovitsa railway junction, the Ruse railway junction and the Varna railway junction. In addition, it is envisaged that under the Connecting Europe Facility (CEF), projects for the modernization of the Radomir - Gyueshevo, Vidin - Sofia railway lines and the railway connection between Bulgaria and Serbia in the Dragoman section - border with the Republic of Serbia be proposed for financing, including the project for doubling sections of the railway line Plovdiv-Svilengrad-border with the Republic of Turkey. National funds provide for the purchase of new rolling stock for the needs of BDZ - Passenger Sevices Ltd. In addition, the Ministry of Transport and Communications will purchase additional rolling stock under the PTC to support the development of rail passenger transport and improve safety and quality of service. For the development of the road infrastructure, the program envisages the completion of the Struma Highway, the construction of the Ruse - Veliko Turnovo Highway and the tunnel under Shipka, as well as the completion of Europa Highway, phase 2, the construction and modernization of road connections to the TEN-T network and main economic centers (transport infrastructure sites, industrial zones, etc.). State budget funds are earmarked for the construction of sections of the Vidin-Botevgrad expressway (part of the Vidin-Sofia road along the Orient-Eastern Mediterranean corridor). National funds are also envisaged for the construction of the Black Sea Highway and the completion of Hemus Highway.

Projects for the deployment of intelligent transport systems beyond the scope of the projects under the program, including intelligent transport systems in the field of air transport will also be proposed under CEF. It is planned to build an intermodal terminal in Ruse (the Ruse - Veliko Tarnovo highway building, the development of the Ruse railway junction, the construction of anti-flooding facilities at the Ruse port terminal will be ensured under PTC). It is also envisaged to finance projects to improve the navigation on the Danube through CEF funds. In addition under Transport Connectivity Programme investments are planned for improvement of shipping, development of information systems, upgrading the existing systems, supply of multifunctional vessels, modernization and construction of facilities for improvement of transport safety and environmental protection, including ports facilities for safe, efficient and secure inland and maritime transport.

Planned investments are of national importance and allocated along the Trans-European Transport Network on the territory of the country (do not have a regional or territorial character, despite the benefits for the settlements through which the sections in which the investments are made pass). Investments are planned based on needs assessment and projects readiness. Investments in railway infrastructure development are mainly concentrated along the section of corridor Orient-East Mediterranean passing horizontally through the middle of the country and aim to complete the direction in which investments have already been made in previous programming periods, in order to achieve interoperability and to increase the efficiency of investments. The planned interventions aim to complete the railway corridor from the Turkish border to the Serbian border and to ensure the connection of the railway networks of Bulgaria and North Macedonia. These investments although located in the South-West planning region contribute to the development of rail transport in general completing the East-West direction of the corridor. Investments in railway infrastructure are also planned in northern Bulgaria. Such projects under the programme are the project for completion of railway facilities along the railway line Karnobat – Sindel and the projects for development of rail junction Gorna Oriahovitza, rail junction Ruse and rail junction Varna. ERTMS projects are also planned outside the scope of the planned railway infrastructure projects. Large-scale project for development of railway infrastructure in northern Bulgaria is the project for modernization of railway line Vidin – Sofia along corridor Orient-East Mediterranean envisaged for funding under CEF. The project will improve transport connections to Romania. The investments for development of road infrastructure along the TEN-T are mainly concentrated in northern Bulgaria where completed highways are still missing and the regional road network is additionally congested while in southern Bulgaria is only the project for completion of Struma Motorway, Lot 3.2.

The use of PPP is envisaged mainly for the development of airports and ports, as well as for the construction of intermodal terminals.

Discussions are ongoing with the Romanian side to reach an agreement on the construction of new bridge connections on the Danube.

Funds for the maintenance of the transport infrastructure are provided outside the program, in accordance with the Bulgarian legislation. See Annex 1.3.

Other programs for the period 2021-2027

In addition, under the Programme for regional development (PRD), investments are planned for integrated urban transport and for improving the connectivity of the urban network. Investments for sustainable urban mobility under the PRD 2021-2027 include improving the links between integrated urban transport, intercity bus, rail, air, inland waterway and maritime transport, as part of the implementation of intermodal transport- renovation of municipal bus stations and the respective pre-station areas municipal property, bus stops of the public transport, providing easy transfer to the next type of transport and logical connections between the elements of the infrastructure. It is planned to develop and improve public urban transport systems, including the purchase of new, environmentally friendly rolling stock for the needs of urban transport, which complies with the European regulations for harmful emissions from engines and the use of renewable / alternative energy sources in urban transport. Financing of first, second and third class roads outside the TEN-T network, fourth class roads on the territory of urban municipalities and also road safety measures are envisaged.

The Strategic Plan for the Development of Agriculture and Rural Areas also envisages measures to ensure connectivity and labor mobility in rural areas by maintaining and building municipal road infrastructure.

The Regional Development Programme for the period 2021-2027 envisage steps to replace the high-emission cars with electric ones, which will complement the investments under PTC for construction of infrastructure for alternative fuels along the main directions of the national road network.

The programmes for cross-border cooperation through projects for interregional, cross-border and / or transnational cooperation will also contribute to the improvement of the transport connection between Bulgaria and its neighbouring countries. The projects within the scope of the PTC will contribute to this type of cooperation through the development of the Trans-European Transport Network on the territory of the country and through the projects for improvement of the navigation along Danube River. In order to improve local and regional cross-border mobility and connectivity between Bulgaria and Romania, support to operations of strategic importance under PO 3 is foreseen under the Romania-Bulgaria Cross-Border Cooperation Programme 2021-2027.

The Maritime, Fisheries and Aquaculture Programme envisages fisheries, aquaculture and sustainable blue economy projects in line with the EU's common policy in the field, which are outside the scope of the TCP. The two programs do not overlap with investments and measures.

Recovery and Resilience Plan

The main objective of the transport component is to reduce the carbon footprint of the transport sector through investments in the modernization and digitization of the railway segment. The expected effects of the interventions envisage a contribution to the green and digital transition, an increase in safety, as well as to the territorial balance of growth.

The envisaged reforms include:

* Updating the strategic framework of the transport sector - decarbonisation of road transport, preparation and prioritization of investments and results of state-owned companies in transport, opening of the railway services market and conclusion of a new Public Service Contract;
* Conceptual new management of road traffic safety in a single integrated strategic framework for the period 2021-2030 - new national strategy for traffic safety for the period 2021-2030 and Action Plan for it 2021-2023; Implementation of an Action Plan;
* Reform for sustainable urban mobility - adopted Integrated Territorial Development Strategies for NUTS 2 planning areas, including elements of sustainable urban mobility; adopted Plans for integrated development of municipalities with plans for sustainable urban mobility included in them;
* Ensuring effective access to integrated public transport - adoption of a Law on public transport of passengers, which will regulate the assignment, operation and management of public transport in the country as a single system consisting of multiple components and types of transport, united in a single National Transport scheme and Standard for the development of public transport and regional integration; adoption of and by-law regulatory framework;
* Electric mobility - the reform will accelerate the construction of charging infrastructure and the electrification of vehicles and will bring Bulgaria closer to the European long-term goals of reducing greenhouse gas emissions, the successful green economic transformation, reducing air pollution and urban noise through the introduction of low-emission zones in central parts, increasing energy efficiency and phasing out polluting internal combustion engine vehicles through changes in legislation and comprehensive planning, regulation and development of transport and its electrification.

In support of the reforms, investments are envisaged under the Recovery and Resilience Mechanism. It is envisaged to purchase new rolling stock. The plan also includes measures to digitize and achieve interoperability with the infrastructure network by installing ETCS rolling stock equipment. The component aims to achieve interoperability of rolling stock operating in a network equipped with ERTMS rail systems. PTC will complement the investments through large scale railway projects mainly along the Baltic Sea-Black Sea-Aegean Sea corridor and Western Balkans – Eastern Mediterranean corridor.. The purchase of additional rolling stock for the needs of rail passenger transport in the country is also planned.

The specific objective of the investment 5 “Improving road safety in the Republic of Bulgaria by creating conditions for sustainable road safety management” of the Recovery and Resilience Plan is to reduce the risk of road traffic accidents through targeted impact on key processes of road safety management. Measures will be taken to optimize the safety management activities of the national and municipal roads, including development and integration of software applications for management and prioritization of road safety activities, establishment of a national electronic system for reporting and processing of road infrastructure safety related signals, procurement of equipment for current repairs and maintenance of the national roads. Specialized equipment will be provided for the assessment on the state of road safety of roads (such as surface performance and their functional condition). It is also planned to improve the traffic conditions at border crossing points by introducing a system for managing the cross-border heavy goods traffic through a specialized mobile application designed for road users. Under the Priority 2 of the Programme “Transport Connectivity” the following projects in road infrastructure will be developed: Struma Motorway Lot 3.2; Ruse – Veliko Tarnovo Motorway (Ruse – Byala section and Byala bypass), bypass of the town of Gabrovo, including a tunnel under Shipka Peak, as well as the completion of Europa Motorway, Phase 2. These projects will contribute to road safety improvement. Intelligent transport systems with priority for high-speed infrastructure (included under Priority 3 of the PTC) are necessary to be built. Thus, drivers will be informed in time about traffic conditions and accidents or other conditions that impede free and safe movement. To take measures, both for motorways and for high-emergency sections, to limit the possibility of allowing speeds higher than the allowable one, by taking joint actions with the Ministry of Interior and building systems for monitoring medium speed and automatic indication of an accident (included under Priority 3). The visibility of road elements and drivers’ orientation on motorways are also very important. They should be increased by upgrading the existing restrictive systems and their reflective elements (included under Priority 3). The rest of the road network is not excluded from safety management procedures. All roads or sections of roads that will be included in the investment plans and the repair program of the Agency, financed from the state budget, will be subject to at least one road safety procedure. All routes of the national road network are subject to periodic inspections, and those with increased accidents are inspected in a timely manner and safety measures are applied. The purpose of the impact assessment is to increase the size and capacity of the site, which will contribute to ensuring and improving traffic safety. With regard to the policy for management and increase of safety, in 2021 the Ministry of Regional Development and Public Works approved the Sectoral Strategy for Traffic Safety on the Republic Roads. The strategy includes a number of measures, including intelligent transport systems, to increase road safety. In pursuance of the Strategy, in 2022 a budget was allocated only for the implementation of road safety measures and for activities to eliminate multi-year Blackspots and high-accident areas, which are not yet categorized as blackspots. Modern solutions to improve the connection between the road and the driver, a comprehensive vision and concept for their safety are part of the measures.

Funds for ongoing repair and maintenance are provided by the state budget.

RRP envisages an investment “Green Mobility” – a pilot scheme to support sustainable urban mobility through measures to develop green, safe, functional and energy efficient transport systems, which includes the construction of 27 charging stations serving public transport vehicles. The pilot scheme supports the sustainable urban mobility reform, which for the first time introduces a requirement for compliance of urban transport development measures (including rural areas) in municipalities with sustainable urban mobility plans developed as part of integrated municipal development plans. It aims to encourage the formation of partnerships to implement measures implementing the Sustainable Urban Mobility Plans, thus facilitating the preparation and implementation of similar projects to be financed from the 2021-2027 Development of Regions Programme. The indicative financial resource for the pilot scheme is EUR 51.13 million, of which EUR 49,575 million is European funding (grants) under the Recovery and Resilience Facility and 1.56 million from the national budget to cover non-recoverable VAT for beneficiaries. Nearly 78% of the total financial resource provided for the implementation of the pilot scheme is dedicated to the purchase of buses/trolleybuses and charging stations.

The investment under the RRP envisages the delivery of 68 electric buses for urban/interurban public transport, the implementation of ITS and/or other measures for digitalisation of transport, road safety measures and the construction of bicycle lanes in 10 municipalities. As this investment will precede the implementation of the measures under the Development of the Regions Programme 2021-2027, it will serve as a way of gaining experience and a basis that will be built on a larger scale with investments under the Development of the Regions Programme 2021-2027, which will also have a wider scope than foreseen under the RRPs, such as measures to promote cycling, urban transport contact network, promotion of public transport instead of private cars, etc.

Charging infrastructure under the Development of the Regions Programme 2021-2027 will be funded both in the framework of integrated projects to promote sustainable mobility and in the implementation of energy efficiency measures for buildings (to enable building users to charge their cars/in order to enable the users of buildings to charge their cars) or in the construction of road infrastructure from the national road network – I to III class or municipal roads. The measures under the “Development of the Regions” Programme, which will finance charging infrastructure on the territory of cities and roads from I to III class and on municipal roads, will complement each other with the measures under the Programme “Transport Connectivity”, which will promote the development of charging infrastructure on the roads of the TEN-T network.

PTC will complement the investments with charging infrastructure along the TEN-T and BG ports. Under the Programme “Transport Connectivity” 2021-2027, funding of EUR 47 million (with national co-financing) is foreseen for the construction of 160 charging stations on the first-class road network (under the core and comprehensive TEN-T), as well as for the construction of 4 onshore electricity installations at sea and inland waterway ports for public transport located along the core and comprehensive TEN-T. A study is envisaged in order to be elaborated a concrete scheme for funding and implementation of activities. The program will also finance the supply of equipment and technical means to ensure traceability of measurements and control of alternative fuel charging stations, as well as the provision of control laboratories.

The RRP envisages the implementation of reform 5 “Electric mobility”, which aims to accelerate the construction of charging infrastructure and the electrification of vehicles. The main focus of the reform is the construction of the missing charging infrastructure, and by mid-2026, at least 10,000 public charging points for electric vehicles located on the interurban road network should be built in the central parts of the 50 major Bulgarian cities and in the apartment areas of these cities. This includes the construction of at least 30 hubs for fast charging stations on the highways and at least 325 fast charging stations at the entrances and exits of cities, on municipal territory or in private sites such as shopping centres, gas stations, etc.
This will also lead to an increase in the number of purchased electric vehicles. The reform will lead to future upgrade and development of the infrastructure integrity of the charging network, covering the appropriate high and medium voltage grid points and transformer substations suitable to transport infrastructure, including those of railway stations and their adjacent public parking and car charging infrastructure.

RRP envisages to ensure sustainable transport connectivity through the construction of sections of Line 3 of the metro in Sofia, as well as the supply of new environmentally friendly rolling stock and vehicles for public transport, construction of charging stations and implementation of infrastructural measures for safe urban mobility***.*** PTC will complement the investments in sustainable urban mobility developing city railways in Plovdiv and Burgas.

***1.3***

**Maintenance of transport infrastructure**

In the field of railway transport, in accordance with the provisions of the Railway Transport Act, Art. 26, para 1, the financing of the activities for the current maintenance and operation of the railway infrastructure shall be carried out by the state budget, revenues from infrastructure charges collected by the carriers, revenues from the business activities of the infrastructure manager, credits and revenues from services by price list. The procedure for planning and spending the costs includes all aspects of maintenance, planning, design, construction, rehabilitation and other activities related to ensuring the normal operation of the railway infrastructure. To this end, the Railway Infrastructure Manager (NRIC) signs a long-term five-year contract with the State, represented by the Minister of Transport and Communications and the Minister of Finance. In this contract, the funds for maintenance and operation required by the State Budget are planned through the three-year budgetary framework in accordance with the State Budget Act, and the allocation of the funds for the respective year is stipulated in the State Budget Act for the respective year. The amount of the charges shall be determined by the infrastructure manager in accordance with a methodology for calculating the infrastructure charges collected by the infrastructure manager adopted by the Council of Ministers on a proposal from the Minister of Transport and Communications. The revenue from infrastructure charges shall be entirely spent on the maintenance of the railway infrastructure, covering part of the costs of the infrastructure manager incurred in operating the services of the railway undertakings. Carriers shall pay to the infrastructure manager a price for the distribution of traction electricity on the rail distribution networks approved by the Energy and Water Regulatory Commission.

According to the Roads Act, Art. 44, para 1, the sources for financing of the Road Infrastructure Agency are subsidies from the state budget and transfers provided annually in the State Budget Act of the Republic of Bulgaria for the respective year, charges, interest, donations, aids and other funds attracted by local and foreign natural and legal persons or designated by law or by an act of the Council of Ministers. In para. 2 it is stated that they are spent on the construction of new road infrastructure, for the operation, maintenance, repair and reconstruction of the Republican roads and for administrative and economic and other expenses. A mixed system of charging different categories of vehicles and charges based on time and distance travelled is introduced for the passage over the paid road network. A vignette fee for vehicles with a total technically permissible maximum mass of up to or equal to 3.5 tonnes entitles one road vehicle to use the paid road network for a fixed period. The charge for distance travelled - toll charge for vehicles with a total technically permissible maximum mass of over 3.5 tonnes entitles to a certain distance between two points of the relevant road or road section. The distance charge shall be determined according to the technical characteristics of the road or road section, the distance traveled, the category of vehicle, the number of axles and its environmental characteristics and shall be determined for each individual road or road section.

In the field of inland waterway transport, ongoing maintenance of the shipping route, incl. The navigation and traffic situation along the Danube River is carried out by the Executive Agency for exploration and maintenance of the Danube river (EAEMD) under the rules of the Convention Regarding the Regime of Navigation (SG 112/1949) and the Agreement between the Governments of the Republic of Bulgaria and Romania since 1955 pursuant to Art. 39 of the Convention and under Art. Art. 77, 82 and 83, para 2 of the Law on the maritime spaces, inland waterways and ports of the Republic of Bulgaria. The convention does not set any fees for ship transit, with maintenance costs being funded by the Republican budget.

**Annex 1.4**

**Recommendations to the country**

The recommendations state that the current corridor of the trans-European transport network for rail and road transport in Bulgaria is not yet complete, especially in Northern Bulgaria. In the area of ​​rail transport, further development is needed and road sections need improvement through an intelligent transport system. Therefore, high priority investment needs are identified in order to build a stable, climate-resilient, smart, secure and intermodal trans-European transport network, and in particular:

 the construction of railways and roads in the core and wide-ranging networks forming part of the Trans-European Transport Network, including cross-border sections, in order to remove areas with insufficient capacity and missing connections in the trans-European transport network, to liaise with neighboring networks and also thus aligning the national sections of the network to EU standards - the planned investments for development of railway infrastructure along the „core“ and „comprehensive“ Trans-European transport network and for development of road infrastructure along the „core“ Trans-European transport network will contribute for implementation of the recommendation;

 the creation of an intelligent transport and road traffic system designed for efficient and optimized use of infrastructure, including electronic road toll systems – the planned investments for transport innovations including modernized systems for traffic management and transport security and safety improvement will contribute for implementation of the recommendation;

 improving the conditions for navigation on the Danube River, introducing river information services and implementing environmental protection measures along the corridor in cooperation with Member States in the Danube Region – the planned investments for transport innovations including modernized systems for traffic management and transport security and safety improvement will contribute for implementation of the recommendation;

Rail connections with wideranging networks and the construction of intermodal terminals with road and rail connections with the "core" network of the Trans-European Transport Network are essential for improving the safety of less emissions and less pollution in passenger and freight transport. Therefore, high priority investment needs are identified in order to create stable, climate-resilient, smart and intermodal national, regional and local mobility, including better access to the trans-European transport network and better cross-border mobility, and more -special:

 development of multimodality and intermodal terminals improving the connectivity of the various sustainable modes of transport – the planned investments for improvement of intermodality will contribute for implementation of the recommendation;

 reducing the current negative secondary effects of transport (congestion, emissions, etc.) and improving access to the networks of the Trans-European Transport Network where a positive impact on regional development can be demonstrated – the planned investments under the programme aim to optimize the traffic and reduce the negative impact of transport; investments to improve intermodality will contribute to improve the access to transport networks; in addition to the investments under PTC for construction of charging infrastructure for alternative fuels in the ports for public transport and along the main directions of the national road network, the regional programme for the period 2021-2027 as well as the Recovery and Resilience Plan also envisaged steps for replacement of high-emission cars with electric, which will complement the investment in PTC.

 undertaking safety measures (in particular the necessary updates and control measures to reduce road accident deaths), energy efficiency, the introduction of clean fuels and other environmental issues in all modes of transport – the investments envisaged under the programme are aimed at improving transport safety; investments in development of road infrastructure and the deployment of intelligent transport systems, as well as the envisaged "soft" measures, will contribute to the reduction of road accidents; investments are planned to encourage the use of alternative fuels.

 improving cross-border connectivity by providing additional transport connections across the Danube by building new bridges or improving ferry connections – the planned investments for improvement of the navigation and development of transport connections toward the Danube River and the already built bridges and port terminals will contribute to the implementation of the recommendation.

The recommendations further state that the need for more sustainable urban transport and high dependency on cars is a problem in most major cities and their surrounding areas, which calls for sustainable urban mobility plans. Therefore, priority investment needs have been identified to promote sustainable multimodal urban mobility, and in particular:

 building sustainable multimodal urban transport systems based on sustainable urban mobility plans (which are preferably part of integrated territorial development strategies) to reduce car dependency and facilitate the transition to cleaner public transport and active modes of mobility – investments under PRD 2021-2027 for integrated urban transport, as well as for improving the connectivity of the urban network will contribute to fulfil the recommendation. Investments for sustainable urban mobility under the PRD 2021-2027 include improvement of the links between integrated urban transport, intercity bus, rail, air, inland waterway and sea transport, as part of the intermodal transport; the planned investments for improvement of intermodality under PTC will also contribute for implementation of the recommendation;

 promoting sustainable and accessible urban and suburban transport and increasing the share of renewable energy in transport - the planned investments under PRD will contribute to the fulfilment of the recommendation as well as the investments under PTC for improvement of intermodality.

**Annex 1.5**

**„Lessons learned“**

In investment planning, it is appropriate to have a higher maturity criterion for the project's maturity. Project implementation timelines should take into account the potential risks associated with the conciliation and procurement procedures. In order to minimize the risks for the successful absorption of the funds, it is appropriate to have a larger number of projects within the scope of the programme with budgets in correspondence to the amount of the funds allocated under the programme.

Alternative projects need to be prepared that are eligible for CF and ERDF funding and contribute to the achievement of national and European policy objectives in the sector.

Among the good practices is the Environmental Impact Assessment (EIA), used as a preventive tool to identify possible impacts on the environment and human health as a result of construction and operation of investment proposals for development of transport infrastructure, at an early stage of their research and development, before a decision is made for their implementation in a specific place with the relevant technology, method of construction, etc. The results of the EIA are taken into account in the design, construction and operation of investment proposals. The transport infrastructure will be built in compliance with the principle of non-significant damage /DNSH principle/, ensuring the limitation of the negative effects on the environment and the climate. Plans, programmes, projects and investment proposals arising from the programme, falling within the scope of Annex 1 and Annex 2 to the EPA or outside them and falling under the provisions of Art. 31 of the BBA, are subject to assessment for their compatibility with the subject and objectives of protection of protected areas and can be approved only after a positive decision /opinion on EIA / EA / CA for approval / coordination and in compliance with the recommendations in the assessments, as and the conditions, requirements and measures set out in the decision / opinion. The implementation of measures for protection, maintenance and restoration of ecosystems and their characteristic biodiversity will continue in the programming period 2021-2027.

There is also a need for streamlining procedures and reducing the administrative burden for the Managing Authority and the beneficiaries, including by expanding the use of information systems and reducing paper-based correspondence.

It is good practice to use JASPERS advisory assistance in preparing application forms for infrastructure projects.

It is necessary to continue the implementation of projects to strengthen the administrative capacity of the Managing Authority and the beneficiaries.

**Annex 1.6 Operations of Strategic Importance**

**The planned operations of strategic importance under the PTC are:**

**1. Construction and modernization of railway sections along Baltic Sea – Black Sea – Aegean Sea corridor and Western Balkans – Eastern Mediterranean corridor under priority 1**

**2. Improving of road connectivity between Rhine - Danube corridor and Baltic Sea – Black Sea – Aegean Sea corridor in the North-South direction under priority 2**

**3. Purchase of rolling stock for the needs of railway passenger transport**

**Priority 1„Development of the railway infrastructure along the 'core' and 'comprehensive' Trans-European Transport Network“, operation of strategic importance “Construction and modernization of railway sections along Baltic Sea – Black Sea – Aegean Sea corridor and Western Balkans – Eastern Mediterranean corridor ”**

Planned projects in the scope of the operation of strategic importance under the priority contribute to effective connectivity, the removal of bottlenecks, the promotion of efficient and sustainable use of railway infrastructure, the enhancement of its capacity, the improvement of safety, security, quality of services and the continuity of rail traffic. Through the implementation of the projects, the interoperability of the Trans-European Transport Network will be promoted and better conditions will be created for operators and for the redirection of freight and passenger transport from road to rail, which will help to reduce greenhouse gas emissions from automobile transport. The implementation of the projects will contribute to the specific objective "Developing a sustainable, climate resilient, intelligent, secure and intermodal TEN-T" under Policy Objective 3 - "A more connected Europe by enhancing mobility and regional ICT connectivity".

**1. Modernization of the Sofia - Plovdiv railway line: railway section Elin Pelin-Kostenets, phase 2**

With the completion of the project "Modernization of the Sofia - Plovdiv railway line: Elin Pelin - Kostenets railway section", the railway section will be aligned with the requirements for the railway infrastructure of the "core" TEN-T. The implementation of the project will contribute to the development of the Western Balkans – Eastern Mediterranean corridor as well as to Baltic Sea – Black Sea – Aegean Sea.

**2. Construction of railway connection between Bulgaria and North Macedonia**

The railway line Gueshevo - border with the Republic of North Macedonia is part of the Western Balkans – Eastern Mediterranean corridor. Constructing the missing section to the border with Republic of North Macedonia, the part of the cross-border tunnel Deve Bair and security systems will remove existing limitations and will ensure interoperability.

**3. Modernization of the railway line Sofia - Dragoman - Serbian border: railway section Volujak-Dragoman, phase 2**: will contribute to the development of the Western Balkans – Eastern Mediterranean corridor and to the cross-border connectivity; the Sofia-Voluyak section is under implementation with CEF funding; section "Voluyak - Dragoman" is divided into two phases - phase I /in the scope of OPTTI 2014-2020 / covers modernization of the railway line with all physical works concerning the route and design parameters and phase II /under PTC 2021-2027/ - completion of construction and development and implementation of signalling activities, which include the implementation of ERTMS.

**4. Rehabilitation of the Plovdiv-Burgas railway line, phase 2, Stage 2:** the railway line will be brought into line with the railway infrastructure requirements of the "core" TEN-T and will contribute to the development of the Western Balkans – Eastern Mediterranean corridor as well as to Baltic Sea – Black Sea – Aegean Sea corridor..

Multicriteria analysis was performed to select the projects. The criteria are grouped into two categories - eligibility and sustainability of the project. The project readiness, contribution to the development of the TEN-T network and sectoral policies, social, economic, financial and environmental aspects of the projects were examined.

In addition, project "Completion of the facilities on the Karnobat-Sindel railway line", doubling and electrification of the Lozarevo - Prilep railway section will be implemented: part of the "comprehensive" TEN-T network. Completion of the project will contribute to the connection of the two largest ports in Bulgaria (Bourgas and Varna) and will promote intermodality.

**Priority 2 “Development of the road infrastructure along the 'core' Trans-European Transport Network and road connections“, operation of strategic importance “Improving of road connectivity between Rhine - Danube corridor and Baltic Sea – Black Sea – Aegean Sea corridor in the North-South direction under priority 2”**

Planned projects in the scope of the operation of strategic importance under the priority contribute to the effective connectivity, the elimination of "bottlenecks", the promotion of efficient and sustainable use of road infrastructure, the enhancement of its capacity, the improvement of road safety and security. Through the implementation of the projects, it will contribute to improving the road infrastructure on the Trans-European Transport Network. With the removal of traffic from the settlements and with the improved operational characteristics of the road network, congestion will be avoided and noise and harmful emissions from road transport will be reduced. The implementation of the projects will contribute to the specific objective "Developing a sustainable, climate resilient, smart, secure and intermodal TEN-T" under Policy Objective 3 - "A more connected Europe by enhancing mobility and regional ICT connectivity".

The planned operation of strategic importance by priority is:

**Construction of Ruse-Veliko Tarnovo Highway**

The route of the project for the construction of the Ruse-Veliko Tarnovo Highway is part of the "core" Trans-European transport network on the territory of the country. The implementation of the project will contribute to building the connection between the Rhine - Danube and the Baltic Sea – Black Sea – Aegean Sea corridor transport corridors in the North - South direction.

In addition, the project for the construction of the "Europa" Motorway, phase 2, will be completed. Additional projects are also envisaged - Struma Highway, lot 3.2 and the Bypass of the town of Gabrovo, including a tunnel under Shipka Peak.

Multicriteria analysis was performed to select the abovementioned projects. The criteria are grouped into two categories - eligibility and sustainability of the project. The project readiness, contribution to the development of the TEN-T network and sectoral policies, social, economic, financial and environmental aspects of the projects were examined.

**Priority 3 "Improvement of intermodality, innovations, modernized traffic management systems, improving transport safety and security"**

The planned operation of strategic importance - Purchase of rolling stock for the needs of railway passenger transport will contribute to the development of railway transport in the country, improving safety and quality of service. It is planned that the trains will be used mainly on busy routes in northern Bulgaria. The operation of strategic importance contributes to sectoral policies, social, economic, financial and environmental aspects in the transport sector.