The Western Balkans region is affected by the changing climate and has already seen the severe consequences of climate change. This region is one of the most affected by climate change in Europe with estimated temperature increases of 1.7 – 4.0°C, and even predicted to exceed 5.0°C by the end of this century, depending on the global effort in greenhouse gases emissions reduction. Main sources of greenhouse gas emissions in the region are the energy and transport sectors, encompassing two thirds of overall share. The Transport sector represented 12 per cent share of these emissions in 1990 and it’s share increased to 16 per cent in 2018. There is still an increasing trend for emission levels caused by transport, tourism, as well as other economic sectors in the Western Balkans and in the European Union (EU). Five subcategories contribute to the emissions in transport: Road Transportation, Railways, Aviation, Maritime, and Inland Waterway transportation. The overall share of transport emissions has been dominated by the share of CO2 emissions from road transport (above 90 per cent in Regional Parties), mostly evident in the larger urban areas in the region, which suffer from extremely high pollution.

Due to the ongoing COVID-19 pandemic, these challenges are even more magnified. The COVID-19 pandemic has caused a decline of the national economies in the region, in particular GDP and unemployment rates. As highlighted in the Economic and Investment Plan for the Western Balkans in tackling COVID-19 and the post-pandemic recovery, the COVID-19 pandemic has brought to the forefront the high level of market integration and the inter-dependence between the EU and the Western Balkans economies, as well as amongst the latter themselves. Hence, the post-pandemic recovery should consider the premises for a smart, green, safe, and affordable transport system for the future, similar to the system in the EU which strives towards a fundamental transport transformation to become more resilient to future crises.

The purpose of developing the Transport Community Permanent Secretariat’s (TCPS) Sustainable and Smart Mobility Strategy for the Western Balkans is to mirror the European Union’s Sustainable and Smart Mobility Strategy and to adjust goals, milestones, and actions of the EU to the realities in the Western Balkans region in addition to providing the region with a roadmap for decarbonisation and digitalisation of its transport sector.

There are three underlying reasons that justify taking European Union’s Sustainable and Smart Mobility Strategy as a basis for the Western Balkan’s strategy as well:

1. Pollution does not know borders, therefore milestones for the EU will require that the Western Balkans work towards the same goals and milestones to ensure that the entire Europe reaches its climate objectives.
II. Milestones as described in the strategy presented by the European Commission are set for 2030, 2035, and 2050. With a clear EU perspective for the entire Western Balkans region, it can therefore be expected that most or all the Regional Parties will become part of the European Union by these dates. Therefore, this implies that the ambitions that have been set by the EU for milestones already take into consideration the Regional Parties in the Western Balkans region.

III. All legislative acts that will be introduced or revised following the European Commission’s strategy will become integral part of the Transport Community Treaty as stipulated in Annex I of the Treaty.

Additionally, this Strategy reflects on the policies and priorities described in the Economic and Investment Plan for the Western Balkans and Green Agenda goals. The Regional Parties currently lack a common strategy to deal with decarbonisation of transport. National strategies have only sporadically tackled this issue. Therefore, this Strategy will serve the region by setting common objectives and a harmonised approach in making transport greener, sustainable, and healthier for citizens of the Western Balkans and will assist them by strengthening their National Strategies.

The first introductory chapter gives a general overview of the main issues related to greenhouse gases and air pollution in transport as well as key policy initiatives. Chapter 2 defines the vision for greening transport in Western Balkans and the region’s response to the EU’s Sustainable and Smart Mobility Strategy. Chapter 3 defines the regional objectives and provides a set of measures to promote the greening of transport as per Flagships. Annex of this document contains the roadmap with a list of measures to guide transformation towards sustainable and smart mobility in the Western Balkans. Furthermore, actions proposed in this document are based on the needs identified the Gap analysis, which was conducted specifically for this Strategy.

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11 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Enhancing the accession process - A credible EU perspective for the Western Balkans, COM(2020) 57 final
12 Following Article 294 TFEU (European Union legislative procedure)
13 Following regular process of revision of the Annex I of the Transport Community Treaty
14 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: An Economic and Investment Plan for the Western Balkans, COM(2020) 641 final
15 Sofia Declaration on the Green Agenda for the Western Balkans: https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-
16 Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
Making transport in the Western Balkans cleaner, safer, smarter, greener, resilient, competitive, and sustainable.

The Transport Community Permanent Secretariat’s strategic vision is to assist the Regional Parties to make transport in the Western Balkans cleaner, safer, smarter, greener, resilient, competitive, and sustainable. The vision for cleaner, safer, smarter, greener, resilient, competitive, and sustainable transport has become one of the key drivers of transport policy in both the European Union and Western Balkans region. On the EU level, it represents a centrepiece of the agreed EU Green Deal and EU Sustainable and Smart Mobility Strategy published in December 2020, while on the regional level – it is part of the Green Agenda for the Western Balkans (endorsed by the Sofia Summit’s Declaration) and the European Commission’s Economic and Investment Plan for the Western Balkans.

This political guidance should be reinforced with a streamlined strategic framework, with a clear pathway based on which the institutional support, as well as the administrative, human, and financial resources for implementation will be built.

The core of the Transport Community Permanent Secretariat’s Sustainable and Smart Mobility Strategy for the Western Balkans remains part of the Transport Community’s progressive integration of transport markets of the Western Balkans Regional Parties into the EU transport market based on the relevant acquis, including the areas of technical standards, interoperability, safety, security, traffic management, social policy, public procurement, and environment and, the development of the Trans-European Transport Network (TEN-T).

The specific measures proposed by this Strategy is to complement the existing Action Plans and scale them up against the vision for climate neutrality by 2050\(^\text{17}\), and for the transformation of the overall transport system so they will be able to cope with the ever changing economic, climate and health environments. The inter-institutional coordination among all the Regional Parties, EU institutions, international financial institutions (IFIs), and other partners will play an important role in achieving the Strategy’s aims and milestones.

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\(^{17}\) Sofia Declaration on the Green Agenda for the Western Balkans: https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-rn
In practical terms, sustainable, smart, and resilient mobility in Western Balkans by 2050 means:

- zero-emission vehicles and available alternative fuels infrastructure on Western Balkans roads, railways, ports, and airports.
- more travellers using fast railway connections between regional urban areas across a wider region.
- integrated multimodal climate neutral solutions in the cities.
- efficient, punctual, and competitive rail and waterborne freight transportation.
- More reliable information to users and decision makers on the environmental impact of transport.
- seamless travel across the region using sustainable mobility choices, including single tickets for multimodal transport.
- Digitally connected supply chains balanced across modes, and electronic data exchange without delays.
- Safe and fast travel, and a quality network ensured by TEN-T standards and services, enabling resilience to climate change effects (such as floods).
- a single interoperable transport market without physical and non-physical barriers for doing business and travel.
- a workforce adjusted to the changing digital environment with high level of protection of worker’s rights.

Objectives, measures, and milestones described in the following chapters demonstrate how these will be possible.
3.1. SUSTAINABLE MOBILITY

The Green agenda for Western Balkans\textsuperscript{18} aims at mirroring the EU Green Deal and presents tailored solutions for bringing the region one step closer to climate neutrality by 2050. The Green agenda for Western Balkans sets strategic objectives towards a clean transport that is a fit for a green and digital future, with sustainable mobility and a greening infrastructure as essential elements. To address the challenges of sustainable mobility, the Western Balkans should take actions focusing on: a) boosting sustainability across all modes of transport; b) enhancing efforts so that sustainable alternatives are present and reachable to all and c) ensuring a unified approach to putting the right incentives in place to drive the desired transition.

FLAGSHIP 1 – BOOSTING THE UPTAKE OF ZERO-EMISSION VEHICLES, RENEWABLE & LOW-CARBON FUELS AND RELATED INFRASTRUCTURE

The uptake of electrical and hybrid road vehicles in the Western Balkans is low, counting less than 1 per cent of the road vehicles fleet\textsuperscript{19}, while the EU share for only passenger electrical vehicles registered until 2019 is 1.9 per cent\textsuperscript{20}. This is due to the low demand for sustainable fuels and vehicles, the lack of incentives, and the lack of a refuelling/recharging network. While the motorisation rate in the EU was estimated at 519 passenger cars per 1 000 inhabitants in 2018, in the Western Balkans the estimated average is 233 passenger cars per 1 000 inhabitants (with Montenegro being in the lead with 332 passenger cars per 1 000 inhabitants)\textsuperscript{21}. The motorisation demand is continuously growing and providing an opportunity for the policy making in the region to introduce the right incentives to boost zero-emission cars purchase and to build the needed charging infrastructure.

In all the Regional Parties oil and petroleum products are the dominant type of fuel and the main pollutant in transport is the road sector. \textbf{There is a need for a unified approach on setting the emissions standard for combustion road vehicles in the Western Balkans}, as it currently ranges from EURO 3 as the lowest to EURO 6. As a cross cutting sectorial issue, it should be \textit{addressed jointly by Ministries in charge of Transport, Economy, Environment, and other relevant institutions}. The Western Balkans should strive towards adopting the same approach as the EU, enforcing more stringent air pollutant emissions standards\textsuperscript{22} that will ensure the renovation of a road vehicles fleet with low to zero pollution vehicles. Additionally, the roadworthiness legislative framework should be adjusted to reflect the transition towards low and zero emission vehicles to ensure its lifetime compliance with emissions and safety standards.

The network of alternative fuels infrastructure is either limited (L-CNG) along corridors or patchy (e-charging stations) and located only in the largest cities\textsuperscript{23} of the Western Balkans region. To address the uncoordinated approach on establishing a network of recharging and refuelling infrastructure actions are encouraged to ensure that a \textit{comprehensive network, based on the EU standards and interoperability, is built across the region to fully enable the uptake of low and zero emission vehicles}. To achieve

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\textsuperscript{18} Commission Staff Working Document, Guidelines for the Implementation of the Green Agenda for the Western Balkans, Accompanying the Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: An Economic and Investment Plan for the Western Balkans, SWD (2020) 223 final
\textsuperscript{19} Statistical offices of Regional Parties, 2019 statistics
\textsuperscript{20} Source: https://www.eafo.eu/vehicles-and-fleet/m1
\textsuperscript{21} Source: https://ec.europa.eu/eurostat/statistics-explained/index.php/Enlargement_countries_-_transport_statistics
\textsuperscript{22} To be addressed during the revision of Annex 1 of Transport Community Treaty
\textsuperscript{23} Such as Belgrade, Podgorica, Pristina, Sarajevo, Skopje, Tirana
this, it is necessary to make use of different sources of financing from private, public funds, Public Private Partnership (PPP), and possible EU grants.

For the railway systems, efforts are required to retrofit traction rolling stock for the usage of low carbon fuels. These vehicles can be used whenever the electrification of the network is not feasible. Still, this remains a step that needs to be further developed. Electrification of the rail network is still the best possible option for decarbonisation. In waterborne transportation, riparian Regional Parties (Bosnia and Herzegovina, Serbia) as well as maritime ones (Albania, Montenegro) should explore possibilities for renewal and retrofitting of fleet along with its modernisation to contribute toward lowering the greenhouse gases emissions in the future. At the same time, progress in the development of digitalisation and automation in waterborne transport should also be closely followed by the Regional Parties.

Generally, the implementation of any regulation in relation to the installation of alternative fuels is still missing. Furthermore, efforts should continue keeping pace with the transposition of EU Directives such as the upcoming revision of the Directive on the Alternative Fuels Infrastructure, and the Regulation on Trans-European Transport Network (TEN-T) among other policy instruments such as the Recast of the Renewable Energy Directive.

FLAGSHIP 2 – CREATING ZERO-EMISSION AIRPORTS AND PORTS

Ports and airports are key for international connectivity and for the Western Balkans economy. To achieve sustainability, they have been encouraged to start transitioning to zero-emission nodes, the best practices followed by the most sustainable airports and ports should become the new normal and enable more sustainable forms of connectivity.

The alternative fuels infrastructure in both inland waterways core network ports (Brcko, Samac, Novi Sad, and Belgrade) and maritime core network ports (Bar, and Durres) are currently non-existent. Compliance with the TEN-T standards on availability of clean fuels in ports should be a medium-term mandatory objective for both maritime and inland ports of the Western Balkans.

Following the best practice examples from European Ports, to spearhead the green transition processes, the Western Balkans maritime ports of Bar in Montenegro and Durres in Albania should also strive to become multimodal mobility and transport hubs, linking all the relevant modes. Joining already existing initiatives such as the EcoPorts developed by the European Sea Ports Organisation (ESPO) will enable the Western Balkans Ports to be up to date with the latest developments on the European level through cooperation and sharing of knowledge between ports. The Transport Community Permanent Secretariat will facilitate this process and encourage its progress through the implementation of the forthcoming Action plan for Waterborne transport and Multimodality.

Another possibility for setting the irreversible shift towards the greening of ports is joining future calls under the Horizon Europe Programme and implementing projects which could capitalise on the already achieved deliverables of INTERREG projects, for example. Relevant Western Balkans Regional Parties could be involved as observers in following the development of NAIDES III upon its presentation and strive to complement the proposed actions in the inland waterway sector and ports.

Through the work of the Transport Community, the Action plan for Waterborne transport and Multimodality will be developed, in which particular attention will be given to developing concepts and planning documents for the future availability of alternative clean fuel supply facilities in inland waterways.

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24 Private owners of service facilities (e.g., gas stations), car manufacturers (e.g., Tesla in Norway) etc.
25 To be endorsed at the Transport Community Ministerial Council in July 2021
core ports of the Western Balkans, including shore side electricity supply facilities. The development of Masterplans for greening inland waterways ports is also one way to potentially include inland waterways ports to the Green Deal and the Smart and Sustainable Mobility Strategy.

Transport Community Treaty provisions exclude air transport however, they include airport infrastructure and improvement of the same. The European Commission is preparing measures and legislations to make airports clean, by incentivising the deployment of renewable and low-carbon fuels and feeding aircrafts with renewable power instead of fossil energy, incentivising the development and use of new, cleaner, and quieter aircrafts, revising airport charges, greening ground movements at airports, and through a wider use of smart traffic management\textsuperscript{26}. Regional Parties are encouraged to closely follow activities of the EU in this field and make timely changes to their legislation and infrastructure, so the Western Balkans airports become zero-emission nodes.

1) By 2030, at least 10 per cent of cars and 5 per cent of lorries in operation, to be zero-emission

2) By 2050, 90 per cent of all cars, vans, buses as well as new heavy-duty vehicles to be zero-emission.

3) From 2022, all newly constructed railway lines to be electrified.

4) By 2050, greenhouse gases emissions from waterborne transport to be largely eliminated and airports to be made zero-emission nodes.

**FLAGSHIP 3 – MAKING INTERURBAN AND URBAN MOBILITY MORE SUSTAINABLE AND HEALTHIER**

According to the Sustainable and Smart Mobility Strategy, by 2030, the European Commission will work towards creating and enabling conditions for transport operators to offer travellers carbon-neutral choices for scheduled collective travel below 500 km within the EU\textsuperscript{27}. The Western Balkans region has been encouraged to follow the EU’s approach, given that the distance between Western Balkans capitals is approximately 500 km\textsuperscript{28} - a viable distance for competitive rail transport.

With the implementation of the Fourth Railway Package as an obligation derived from the Transport Community Treaty\textsuperscript{29}, and with the rail market opening to competition, railway operators will become more responsive to customers’ needs, and improve the quality of their services and their cost-effectiveness. A harmonised Transport Community (Regional Parties and the EU) vehicle approval will also reduce costs for cross-border trains. The improvement of the Core and Comprehensive Network will provide better connections along the main corridors. Improving passengers’ awareness about their rights and ensuring non-discriminatory provision of travel information, including through-ticket offers, will further boost the attractiveness for rail travel for customers. At the same time, actions should be envisaged for an overall transport system where investments, State aid, rules for capacity allocation and public service obligations (PSOs) will be geared towards fulfilling mobility needs and incentivising different multimodal options.

\textsuperscript{26} Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the Regions: Sustainable and Smart Mobility Strategy – putting European transport on track for the future, COM(2020) 789 final.

\textsuperscript{27} Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the Regions: Sustainable and Smart Mobility Strategy – putting European transport on track for the future, COM(2020) 789 final.

\textsuperscript{28} Only Tirana to Belgrade with road distance of 617 km is more than 500 km.

\textsuperscript{29} Treaty establishing the Transport Community, Official Journal of the European Union, 2017
In 2021, Transport Community Permanent Secretariat will support the Regional Parties in the commencement to develop a plan to boost long-distance and cross-border passenger rail services between capitals in the Western Balkans. This plan will build on efforts by Regional Parties to make key connections between cities faster by better-managed capacity, coordinated timetabling, pools for rolling stock and targeted infrastructure improvements to boost re-established train services, including at night. Pilot services on some lines involving all interested stakeholders will be supported, and a combination of public service contracts and open access services could test different models for new connections and services.30

Achieving smart, sustainable, and resilient mobility in urban environment. For many years, in over 25 cities located in the Regional Parties, limit values for one or more pollutants harmful to human health has been exceeded with significant consequences for public health and the economy.31 The Transport Community Treaty does not entail provisions related to urban transport as this is usually under the responsibility of the local government. However, transport policies and financial support should also reflect the importance of urban mobility for the overall functioning of the TEN-T, with provisions for first/last mile solutions. There are several regional initiatives dealing with the greening of Western Balkans cities (such as the EBRD green cities action plans, World Bank urban mobility projects or the GIZ project to develop Sustainable Urban Mobility Plans - SUMP), which are either purely related to transport or contain a transport component. Local governments of the Western Balkans have been urged to develop and implement SUMPs and regularly advise and implement the EU Urban Mobility Package and its guidelines to enable the transition towards transport emissions free cities and to cooperate with Ministries in charge of Transport on cross-cutting issues. The Transport Community Permanent Secretariat will support the Regional Parties32 to further advance the greening of their transport and assist, if needed, in the creation of sustainable urban mobility plans.

**FLAGSHIP 4 – GREENING FREIGHT TRANSPORT**

According to the European Green Deal, a substantial part of the 75 per cent of inland freight carried today by road, needs to be shifted to rail and inland waterways.33 In the Western Balkans region, multimodal transport is in an early stage of development, and it is a crucial segment for the expected shift to rail. The region still needs to develop its policy, institutions and, legal and regulatory framework in this area. The Transposing Combined Transport Directive would help regulate this sector. To improve the greening of cargo transport in the region, the existing framework for multimodal transport could be more effective. The option of introducing adequate economic incentives for both operations and infrastructure should be investigated to promote multimodality. The Transport Community Permanent Secretariat will facilitate this process and encourage its progress through the work of its technical committees and bring these to the attention of policy makers in high level fora.34

Multimodal infrastructure should be further developed to remove all missing links. Ensuring road/rail connectivity with all ports/airports/terminals in the region and developing modern inland terminals and transhipment serving the market needs are key prerequisites for developing this sector. Additionally, removing bottlenecks for intermodal transport on specific sections should be addressed.35

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30 Dedication on railway, Western Balkans Rail Summit, 2021 – to be endorsed by Transport Community Ministerial Council in September 2021
32 Ministries in charge of Transport and local communities
33 Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: The European Green Deal, COM(2019) 640 final
34 Such as Western Balkans Rail Summit 2021
35 Transport Community Permanent Secretariat, “Action plan for Waterborne transport and Multimodality”, 2021 - to be discussed and endorsed on the Transport Community Regional Steering Committee meeting in May 2021
The EU review of the **State aid rules for railways** has already provided a flexible framework to publicly fund the move to rail transport and multimodality. This approach has been encouraged to be transposed and improved on the regional level as well. Furthermore, in the Western Balkans only 19 per cent of the Rail Core and 12 per cent of the Rail Comprehensive network is compliant with the TEN-T operating speed compliance indicator (100km/h), directly influencing quality and efficiency of rail freight transport.\(^{36}\)

**Interventions are required to increase railway capacity and enable more competitive rail services.** These interventions will not always relate to new construction but on focused interventions\(^ {37}\) in bottlenecks. It should also be noted that less costly interventions (such as the implementation of modern signalling and managing train heterogeneity) should be considered first and could typically lead to significant increases in capacity. Regional Parties need to focus on eliminating these operational and infrastructural bottlenecks and enable seamless flow on the Comprehensive and Core Network. **The Transport Community Permanent Secretariat will facilitate this process, drive its progress through the work of its technical committees and, bring these to the attention of policy makers in high level fora.**\(^ {38}\)

There is an **evident gap of modern and efficient rail fleet** which can accommodate the required shift to rail since most of the traction and wagon capacities in the Western Balkans are almost outdated and not aligned with the current economic needs. To enable the move to rail and support the greening of transport, the Regional Parties need to ensure the renewal of the rail fleet. This goal can also be achieved by adopting the Rail Protocol to the Cape Town Convention on International Interests in Mobile Equipment.\(^ {39}\) This Protocol will make it easier for the private sector to finance railway rolling stock worldwide (from trains to trams).

**Rail Freight Corridors (RFCs) represent a key initiative of the European Commission to revitalise the European rail freight system by achieving a smooth path allocation process, ensuring sufficient capacity for freight trains, monitoring corridor traffic performance and coordinating investments and maintenance works.** Within the Regulation there are provisions regarding the possible inclusion of third countries, if there is an interest from the EU Member States and certain conditions are met. **Transport Community Permanent Secretariat will coordinate between Regional Parties and neighbouring EU Member States, along with the European Commission, to check the possibility of including the Regional Parties in the RFC and its structures.**\(^ {40}\)

An **enhanced cooperation with the European Coordinator for Motorways of the Sea** could be established and **participation of core maritime ports of the Western Balkans to future calls and projects under CEF II could be explored and promoted.** The Transport Community Permanent Secretariat will facilitate this process and encourage its progress.

Several factors influence the competitiveness of inland waterway transport such as: lack of reliability of the waterway infrastructure and existing bottlenecks, outdated fleet, and infrastructure in mooring places or at locks, on top of necessary legislative changes.\(^ {41}\) In terms of increasing the share of inland waterways and short sea shipping, currently there are several ongoing and planned projects which will contribute to the long-term competitiveness of the waterborne sector. These ambitions should be shared by the respective **Western Balkans Regional Parties through reforms of the current legislative systems and promotion of combined transport.**

\(^{36}\) Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021

\(^{37}\) Such as adding auxiliary tracks at crossing stations; managing network effects; managing track structure and speed limits; managing train heterogeneity; and implementing modern signaling

\(^{38}\) Such as Western Balkans Rail Summit 2021


\(^{40}\) Currently only Serbia is a part of Western Balkans Railway Corridor, which connects Austria, Slovenia, Croatia, Serbia, Bulgaria and goes towards Turkey

\(^{41}\) Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
5) By 2023, InterCity Rail transport between capitals in the Western Balkans, on existing connections, to be re-established.

6) By 2025, the Regional Rail Market to be opened.

7) By 2030, rail freight traffic to increase by 20 percent. This to double by 2050.

8) By 2030, transport by inland waterways and short sea shipping to increase by 15 per cent. This to increase by 30 percent by 2050.

9) By 2035, scheduled collective travel under 500 km, within the Western Balkans, to be carbon-neutral.

10) By 2035, the Core Rail Network to be compliant with TEN-T standards.

11) By 2035, regional capitals and major urban nodes to be transport emission free.

12) By 2035, rail and waterborne-based intermodal transport to compete on equal footing with road-only transport in the Western Balkans.

**FLAGSHIP 5 – PRICING CARBON AND PROVIDING BETTER INCENTIVES FOR USERS**

Currently, individuals planning a trip or shippers/logistics operators organising a delivery do not have easily accessible information to help them make sustainable and green choices. In the Western Balkans region, several companies have started the practice of measuring and informing on the carbon footprint of travel/transport options, however these measurement frameworks are not coordinated. The EU has recognised these challenges and plans to develop a harmonised framework to establish a fair benchmarking tool for companies and customers wishing to procure more sustainable services. With adequate information on the environmental footprint and a more systematic opportunity for consumers to voluntarily offset their travel, consumers and businesses will be empowered to make more sustainable transport and delivery choices. The Regional Parties have been urged to adopt the same framework to enable customers to make sustainable mobility choices. This activity covers more actors and will require interdisciplinary consultation with thought to social dimension.

In order to comply with the obligations of the Transport Community Treaty, a Transport Observatory will be established to serve as the main information repository in relation with the TEN-T indicative extensions in the Western Balkans, by providing a solid analytical basis for technical decision-making processes that will ultimately strengthen the regional dimension of transport strategic planning, as well as incorporating the necessary data to monitor the Sustainable and Smart Mobility Strategy for the Western Balkans. The Transport Observatory will include an environmental component and measure the progress and trends of environmental indicators, thereby helping the decision-making process of the policy makers and placing more focus on green elements.

Albania, Bosnia and Herzegovina, North Macedonia and Serbia have started introducing tolls on their roads, Montenegro has a tolled tunnel and Kosovo is assessing toll introduction in its road network.

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42 Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
43 Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the Regions: Sustainable and Smart Mobility Strategy – putting European transport on track for the future, COM(2020) 789 final
44 Treaty establishing the Transport Community, Official Journal of the European Union, 2017
All the systems already in place, while different, are distance-based and potentially interoperable. The need to ensure electronic tolling interoperability in the region is identified in the Road Action Plan\textsuperscript{45}, and in the Regional Cooperation Council (RCC) led Common Regional Market Action Plan\textsuperscript{46}. The introduction of the European Electronic Toll Service does not aim at replacing any national tolling systems and schemes in place in the Western Balkans, however it involves the need for technical interoperability\textsuperscript{47} related to on-board equipment including positioning and communication technology.

Substantial progress is required on effective charging for infrastructure, mainly in road transport. This is the key to not only internalising the cost of damage to the infrastructure, but also imperative to addressing the cost of pollution and congestion on society\textsuperscript{48}. The Western Balkans should transpose the Directive on the interoperability of electronic toll\textsuperscript{49} systems and facilitate the cross-border exchange of toll non-payment information.

13) By 2050, All external costs of transport within the Western Balkans to be covered by the transport users.

3.2. SMART MOBILITY

Passengers should be able to travel without disruption across the region using sustainable mobility choices and different modes of transport. Businesses and logistics operators should experience fewer delays caused by excessive bureaucracy and paper trails. This increased multimodality should be led through digitalisation and automation, supported by innovation. To achieve seamless travel, which is sustainable, the region should focus on: a) multimodal passenger ticketing, b) digitalised freight transport, c) intelligent transport deployment solutions for all modes, d) digital data exchange at borders and e) innovation.

**FLAGSHIP 6 – MAKING CONNECTED AND AUTOMATED MULTIMODAL MOBILITY A REALITY**

**Enabling multimodal passenger ticketing.** Currently, travellers are mostly unable to plan and book their trips online.\textsuperscript{50} From a passenger’s perspective, each transport mode currently still operates as a mostly isolated system. Currently, there is no digital connection or interface between international passenger transport and urban transportation through systems such as Mobility as a Service\textsuperscript{51}. The ITS Directive and the delegated regulation on multimodal travel information services regulates this area. Considering the inclusion of the revised EU legislation into the Transport Community Treaty Annex I and its consequent transposition by the Ministries in charge of Transport would be the first step towards achieving multimodal ticketing in the Western Balkans region.

**Digitalising the freight transport.** In the Western Balkans as in the EU, there is a lack of a uniform legal framework requiring authorities to accept freight transport information in electronic form. Additionally, fragmented IT environment is an obstacle to the simplification and better efficiency of communication between transport operators\textsuperscript{52}. The Regulation on electronic freight transport information aims to encourage digitalising freight transport and logistics to reduce administrative costs and enhance the

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\textsuperscript{45} Transport Community Permanent Secretariat, “Road Action Plan”, 2020
\textsuperscript{46} Source: https://www.rcc.int/docs/543/common-regional-market-action-plan
\textsuperscript{47} As prioritised in the Transport Community Treaty, Annex I
\textsuperscript{48} Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the Regions: Sustainable and Smart Mobility Strategy – putting European transport on track for the future, COM(2020) 789 final
\textsuperscript{50} For example, rail passenger tickets in Albania, Bosnia and Herzegovina, North Macedonia and Montenegro
\textsuperscript{51} Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
\textsuperscript{52} Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
efficiency and sustainability of transport. Next to the transposition of the legislation, Ministries in charge of Transport, public authorities with Transport Community Permanent Secretariat’s support are being encouraged to investigate piloting and deploying digital solutions such as Mobility as Service for freight to enable sharing information among the first-last mile actors such as ports and inland terminals.

River Information Services have been deployed on the Danube and partly on the Sava River in Serbia and a legal framework has been set up. A Vessel Traffic Monitoring Information System has been partly implemented in Montenegro, with upgrades planned. Additional efforts are to be placed on implementation of RIS along the TEN-T Core Network and VTMIS in Core ports.

Currently, there is no ERTMS in operation in the entire network of Regional Parties. The rail automation and traffic management should become a reality on main lines. This can be made possible with the installation of new technologies such as 5G and satellite data. This is also required so that the ERTMS can be at the heart of a digital rail system. Alignment of the national law with the EU provisions for Technical Specifications for Interoperability is the main and basic principle on which any further technical development will be based.

The deployment of ITS on the road network across the region is patchy and none of the Western Balkans’ authorities have yet fully transposed the EU ITS Directive 2010/40/EU, as well as the EU architecture framework and its respective standards. Full compliance with the EU ITS Directive and CEN standards is encouraged on the existing and new ITS deployment in Western Balkans that will contribute to ensure regional interoperability.

Functional and interoperable systems for efficient data exchange at the intra-Western Balkans as well as the EU-Western Balkans Border/Common Crossing Points could be established as envisaged in the Transport Community’s Transport Facilitation Action Plan. The inconsistent deployment of various systems for electronic exchange between neighbouring customs and different border agencies should be gradually extended/unified for all Regional Parties and their neighbours to support and further enable sustainable and smart transport and trade development (SEED+ and NCTS). A future National Single Window (NSW) will lead to simplifying import, export, and transit procedures for the traders in addition to cost saving, greater efficiency, and transparency.

**FLAGSHIP 7 – INNOVATION, DATA AND ARTIFICIAL INTELLIGENCE FOR SMARTER MOBILITY**

Achieving Green Deal and Green Agenda objectives in the field of mobility and utilising digital solutions cannot happen without research and innovation. Innovative capacity has been significantly improved in some areas, however in others such as cooperation among stakeholders on a regional level and innovative capacity in public companies, there is still more to be done. Challenges persist to order to achieve full innovation cycle from a policy-based need for research to market deployment.

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53 Railway companies, road agencies, ports etc.
54 Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
55 Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
56 Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
The Transport Community Permanent Secretariat will promote research and innovation by increasing regional cooperation\(^59\) in this area, establishing new partnerships with the EU innovative agencies/initiative, building human capacity, and supporting the establishment of innovative transport centres in the Regional Parties. Such actions are important when it comes to developing and implementing a shared, coherent, and long-term Western Balkans research and innovation agenda. The utilisation of available innovation funds such as Horizon Europe, Danube and ADRION, implementing green innovative projects and cooperating with Joint Undertakings like Shift2Rail could set the region towards the course of greening transport.

Data represent the basic element for digital transformation. Enabling seamless exchange of data across modes for both freight and passenger transport will allow for integrated planning, ticketing, online purchasing, improved capacity utilisation, optimised costs, energy consumption and environmental impact. Interoperability is a precondition for successfully linking data flows and distribution systems across sectors, borders/crossings, and transport modes. The European Commission is considering different regulatory options to enable sharing of data within and across sectors without distorting competition and respecting privacy issues\(^56\). Once the regulatory framework is set by the EU, the Regional Parties will be encouraged to focus on a fast transposition of legislation and relevant EU standards, as key enablers for a wider spread of digital solutions in the transport sector. The Transport Community Permanent Secretariat will work with the Regional Parties to identify common priorities and facilitate the transposition of necessary legislation.

Regional innovative frameworks should be improved to adopt high potential new technologies currently being piloted faster, such as Artificial Intelligence, 5G corridors, connected and automated vehicles and drone usage. Transposing and implementing a proper legislative framework, facilitating the process of implementing new technologies as well as creating an environment for the private sector to invest, will be one of the key challenges for the region to improve innovation and consequently help achieve climate neutrality.

The emergence of new mobile radio communication systems such as 5G and its vertical application to the automotive and transport sectors can act as a catalyst to accelerate the way towards multi-service mobility and transport ecosystems. Deployment of 5G does not lie within the remit of the Transport Community and Ministries in charge of Transport, but it is an important precondition for faster digitalisation of transport. Under the Regional Cooperation Council and Common Regional Market, focus has been placed on creating a regional digital area. One of the tools to achieve this regional digital area is the development of a 5G roadmap for the Western Balkans by 2023 and covering at least one main regional corridor with 5G by the end of 2025\(^61\). The key enabler to achieving a multimodal, digital, and connected single transport market is implementing commitments from the Common Regional Market related to 5G and subsequent deployment of 5G along main corridors.

14) By 2035, seamless multimodal passenger transport to be facilitated by integrated electronic ticketing and freight transport to be fully digitalised.

15) By 2040, automated mobility to be deployed on a large scale.

\(^{59}\) Through Transport Community’s events, such as summer school, yearly summit, technical committees, etc.  
\(^{60}\) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the Regions: Sustainable and Smart Mobility Strategy – putting European transport on track for the future, COM(2020) 789 final.  
\(^{61}\) Common Regional Market (CRM) 2021-2024 Action Plan: https://www.rcc.int/docs/543/common-regional-market-action-plan
3.3. RESILIENT MOBILITY

The COVID-19 pandemic has highly impacted regional transport and connectivity and has shown the importance of having a resilient transport system in place\textsuperscript{62}. According to the OECD notes\textsuperscript{63}, transport is amongst the most affected sectors in the region. This chapter looks at: a) market challenges, b) social aspects and c) safety and security issues, and to propose measures to help the sector recover from this crisis and become resilient and sustainable.

FLAGSHIP 8 – WORKING TOWARDS THE SINGLE MARKET

Establishing a single market across all modes of transport requires actions to address the infrastructure, legislative and institutional bottlenecks, non-physical barriers as along with closing the compliance gap with the TEN-T standards, but at the same time improving the network’s resilience both financially and with climate proofing.

Railway reforms. Restructuring railway companies and making them more competitive has been a focus of the regional policy for more than a decade, however several issues hindering a single railway market in the Western Balkans persist. The Transport Community Treaty’s Signatories have approved the Rail Action Plan for developing a regional rail strategy in the Western Balkans. This Rail Action Plan covers the period 2020-2023 and has been developed to tackle single market issues such as opening of the rail market, establishing necessary institutions and railway authorities, establishing better cooperation between infrastructure managers, etc. One of the main preconditions for establishing a single market on a regional level is mutual recognition of licences, safety certificates, drivers’ licenses and vehicle permits as identified during ERA-TCT workshops\textsuperscript{64}. The Regional Parties working together with support of the Transport Community Permanent Secretariat have been encouraged to proactively work on achieving measures set up by the Rail Action Plan according to the agreed timeline\textsuperscript{65}. By doing so, the rail market will be more independent and resilient to technological and economical threats.

Also, to enable competitive markets and to boost the attractiveness of rail, it is necessary to assess the current rules on track access charges and analyse incentives to increase the volume of rail transportation. Furthermore, to address the gap of reliable high-performance rolling stock in the region, there is a need to make public funds for fleet renewal available for public and private railway undertakings.

Removing non-physical barriers for the single market related to border-crossing operations. To move forward, a strong political and administrative commitment is needed for both physical and administrative improvements at the border crossing points as well as cross border cooperation between neighbouring Regional Parties in managing cross-border traffic. Both the Transport Community and CEFTA Secretariats have engaged in a coordinated manner to assist the region in implementing the Green Lanes\textsuperscript{66} concept intra Western Balkans, and between the Western Balkans and the EU Member States, as well as in reaching the most advanced models of integrated border management through a system of one-stop controls. Further investments for improving the border crossing points infrastructure, as well as in new technologies, equipment, and human capacities, are needed to enable greater mobility and inter-connectivity within the region and with the EU.

\textsuperscript{62} Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
\textsuperscript{63} OECD, “COVID-19 crisis response in South East European economies”, 2020
\textsuperscript{64} ERA - TCT workshops have been held during 2020
\textsuperscript{65} Events such as Western Balkans Rail Summit 2021 are an opportunity to advance rail policy agenda and ensure dialogue on main rail policy issues
Currently, sustainability and the greening of transport have been sporadically mentioned in several national strategic documents, starting from climate strategies, energy strategies, local plans for national transport strategies and specific projects dealing with this issue. However, so far, the region has not systematically dealt with the issue of lowering greenhouse gases emissions in transport and almost no impact assessment of the green measures proposed within national strategic documents has been made. There is a need to upgrade national transport strategies with green elements, develop a regional cost effectiveness analysis of the measures proposed in this strategy and evaluate their impact. The Transport Community could potentially consider establishing a monitoring structure in the form of a technical group for the implementation of the strategy and the greening of transport. Additionally, a regional Technical Guidance on the Climate Proofing of Infrastructure should be explored.

In all modes, the infrastructure in the region is not fully compliant with TEN-T standards. To achieve a single market, and decrease travel and logistics costs, the TEN-T Core and Comprehensive Network along with the Flagship projects identified in the Economic and Investment Plan should be upgraded to TEN-T standards. According to the Connectivity Networks Gap Analysis Update, for the upgrade of the Core Corridors in the Western Balkans, there is an estimated investment need for €5.2 billion and, €15.9 billion for 23 rail and 31 road projects, respectively. An additional €272 million is needed to improve inland waterways and ports. ITS deployment in the region is still in its infancy, with an estimated approx. €775 million in implementation costs, and an annual need of €25 million for operation and maintenance costs. The annual expected benefits are projected at approx. €223 million from saving travel time for road and rail. According to the Economic and Investment Plan for the Western Balkans, up to €9 billion of funding will be mobilised to boost economic growth and support reforms. A significant amount will be concentrated on upscaling transport and energy connectivity, on the green transition – in particular decarbonisation – and digital transformation. The Regional Parties have been encouraged to prioritise green elements when applying for the EU grant funds, to enable the sustainable and smart transformation of the Western Balkans transport system. Assessing of how different projects have contributed to decarbonisation efforts has also become an essential part of assessing projects by international financial institutions such as the European Investment Bank (EIB) and the European Bank for Reconstruction and Development (EBRD).

**FLAGSHIP 9 – MAKING MOBILITY FAIR AND JUST FOR ALL**

Article 5 of the Treaty establishing the Transport Community – on social issues – stipulates that the Regional Parties should implement relevant social acquis regarding transport as set out in Annex I. In respect to the general social issues in transport in the Western Balkans, there is a lack of implementation of existing legislation in the field of: working conditions, healthy and safe working environments, passenger rights and equal opportunities. The Transport Community Permanent Secretariat should reinforce and promote social dialogue and social dimension through the reference to the acquis in social matters, the workers’ fundamental rights and the involvement of the European Economic and Social Committee and the national and European social partners acting in the transport sector, specifically within the already established Social Forum.

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67 Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
68 Experts Group – Supporting Green transition in the Western Balkans through WBIF Investments
69 Transport Community Permanent Secretariat, “GAP Analysis - STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS”, 2021
70 WBIF, “Western Balkans Investment Facility Infrastructure Project Facility Technical Assistance 5 (IPF 5) - Connectivity Networks Gap Analysis Update Final Report”, 2020
71 CONNECTA, “Final Report on Strategic Framework for Deployment of ITS in Western Balkans”, 2018
73 Transport Community Permanent Secretariat, “Conclusions of the first and second Social Forum of the Transport Community”, 2020 and 2021
74 More information on the Transport Community Social Forum can be found on the following link: https://www.transport-community.org/social-forum/
The success of transport largely depends on the availability of a skilled workforce. There is a risk of skills mismatch for certain transport sectors already today and the workforce will need to keep pace with its changing skill requirements caused by automation and digitalisation as well as by the transition to a more sustainable mobility. Furthermore, the transport sector often suffers from difficult working conditions. These include atypical hours, and long periods away from home had led to a general lack of attractiveness of jobs in the transport sector. New people in the transport and mobility sector are needed as new challenges and new solutions require people with a different skill sets and mind-sets as decarbonisation and digitalisation will bring about profound changes to our transport systems. Improving gender balance in the transport and mobility sectors should be high on the agenda as well.

In addition, Public Service Obligations could be even more targeted and efficient and, where possible, serve the shift to a multimodal system. To guarantee the best use of public money and support, national and local authorities should be able to utilise PSOs to improve connectivity and to reflect specific policy objectives. The Introduction of a multimodal PSOs system is an option to be further investigated and considered, notably with a view to allow all transport modes to compete on an equal footing to fulfil relevant transport needs.

**FLAGSHIP 10 – ENHANCING TRANSPORT SAFETY AND SECURITY**

Safety and security of the transport system is paramount and should not be compromised. Continuous efforts with international, national authorities, stakeholders, and citizens are key to meeting the Western Balkans region goal of zero fatalities from mobility.

**ROAD SAFETY**

The Regional Parties are encouraged to adopt the new national Road Safety Strategies in line with the goals set for the Second Decade of Action for 2021-2030 and Transport Community’s Road Safety Action Plan. The National Road Safety Strategies based on the Safe System approach are the key to improving road safety. This involves a holistic view of the road transport system and interactions among roads and roadsides, travel speeds, vehicles, and road users. A multi sectoral approach and good coordination mechanism among Ministries in charge of Transport, Police, Health, and Education are necessary to implement a Safe System approach. A global plan of action to be launched during the UN Global Road Safety Week in May 2021 should provide guidance for Regional Parties developing their national strategies. The Strategies should also consider the Road Safety Action Plan of the Transport Community to ensure that all the actions therein are fully implemented. Additionally, Regional Parties have been urged to adopt Road Traffic Safety Laws and bylaws to create a legal framework for improving infrastructure measures, road safety users’ behaviour and preventing serious injuries on the roads.

Road users in the Western Balkans have the right to safe roads and to live in safe environments. Identifying high-risk road sections and carrying out Road Safety Inspections and Road Safety Audits in a periodically manner will highly improve the conditions and safety on the roads. The adoption of a three-year plan for road safety inspections, road safety audits, national budgeting and making available programmes for financing the high-risk road sections is necessary. The lack of quality data remains a challenge in the region and the difference between national figures.

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75 Transport Community Permanent Secretariat, “Conclusions of the second Social Forum of the Transport Community”, 2021
76 Part of Transport Community Treaty Annex 1
77 Transport Community Permanent Secretariat, “Road Safety Action Plan”, 2020
and World Health Organisation (WHO) reporting is considerable\textsuperscript{79}. Improving the data collection process, harmonising the data with (mini)CADAS protocol, linking with databases of the Health Sector, and training Traffic Police for collecting data is necessary for evidence-based policy making on road safety and preventing road safety injuries. Addressing the human factor\textsuperscript{80} is also essential to ensure safe and secure transport. On the technical level, the revised Vehicle General Safety Regulation will introduce driver drowsiness and distraction warning technology to be installed in vehicles on a mandatory basis, to assess the driver’s alertness, and warn the driver if needed.

The \textit{2020 Stockholm Declaration}\textsuperscript{81}, adopted by most Regional Parties, calls for a focus on liveable streets and speed management where vulnerable road users and vehicles mix. The Transport Community Permanent Secretariat will support the Western Balkans region in joining the Global Initiative by organising regional events to discuss the challenges as well as advocate and promote speed management.

The region needs a tailored solution, needs to set, and monitor regional road safety targets and needs better and harmonise regional data. All the above-mentioned needs will be satisfied by the \textbf{Regional Road Safety Observatory} which is expected to be established by the beginning of July 2021. This is one of the actions in the Road Safety Action Plan of the Transport Community and will help the Transport Community Permanent Secretariat and the Regional Parties to:

- Monitor safety performance across the region and progress towards targets.
- Support decision-making and the effectiveness of policy measures.
- Develop closer cooperation and alignment with the EU.

\textbf{RAIL SAFETY}

Considering rail safety, the level-crossings are critical points of rail traffic accidents as identified in the Transport Community’s Rail Action Plan\textsuperscript{82}. Therefore, the region has been urged to implement “soft” and “hard” measures. Soft measures should include public awareness campaigns, educational campaigns, legal framework changes and law enforcement focus. The hard measures should include procurement and the installation of safety equipment for increasing the level of safety on level crossings\textsuperscript{83}.

\textbf{TRANSPORT OF DANGEROUS GOODS}

A broad government approach which stimulates cooperation between different institutions and actors is necessary in the transport of dangerous goods. This should result in long-term strategies for making transport of dangerous goods greener and more sustainable at the level of each Regional Party. The Authorities’ cooperation with the industry, i.e., transport operators, producers of dangerous goods, producers of packaging, tanks and other specialised means of containment and the academia is essential in achieving these results. All aspects related to soft law instruments, i.e., standards, accreditation, activities of inspection bodies and surveillance by competent authorities, should be carefully reviewed at national and cooperation schemes should be put in place to cover gaps where national competences are missing. The industry should be stimulated to opt for green solutions in terms of its choice of fleets and modes of transport.

\textsuperscript{79} Some of Regional Parties (such as Albania and Bosnia and Herzegovina) do not have registered death certificates which results in underreporting data.

\textsuperscript{80} Consumption of drugs or alcohol, distraction when driving or speed, etc.

\textsuperscript{81} Source: https://www.roadsafetysweden.com/contentassets/b370951e837443eb9661668d5be439e/stockholm-declaration-english.pdf

\textsuperscript{82} Transport Community Permanent Secretariat, “Railways Action Plan”, 2020

\textsuperscript{83} Transport Community Permanent Secretariat has engaged activities together with JASPERS and all Regional Parties on safety improvement on level crossings, and should identify all critical level crossings with proposal for upgrade and subsequently have implementing projects
Communication, enforcement, and preparedness in the field of transport of dangerous goods should be enhanced. To this end, particular attention is to be paid to ensure that the legal framework facilitating the application of international legislation is coherent, that all actors know the rules and safety procedures and that there is a common understanding of the legislation and of its risks. The Transport Community Permanent Secretariat will assist the Regional Parties with the implementation of this policy area and will continue its efforts to facilitate cooperation with the EU Member States to ensure the safe, eco-friendly, and more sustainable transport of dangerous goods for further development of upstream and downstream industries, in line with the latest developments in the relevant international fora.

16) By 2035, A multimodal Trans-European Transport Network equipped for sustainable and smart transport with high-speed connectivity to be operational for the core network, and, by 2050 for the comprehensive network.

17) By 2050, the death toll for all modes of transport in the Western Balkans to be close to zero.

18) By 2050, all process related to transport of dangerous goods (production, packing), as well as transport per se to be safe, eco-friendly, and more sustainable.

84 E.g., the United Nations and the Intergovernmental Organisation for International Carriage by Rail
STRATEGY FOR SUSTAINABLE AND SMART MOBILITY IN THE WESTERN BALKANS
The TCPS Sustainable and Smart Mobility Strategy Western Balkans Perspective mirrors the EU Strategy and strives to put the region on the path to achieving green mobility. This strategy outlines how the Western Balkans transport system can achieve its green and digital transformation and become more resilient to future crises. The result is predicted to substantially cut transport emissions by 2050 and contribute to the EU goal of climate neutrality, delivered by a smart, competitive, safe, accessible, and affordable transport system. This is also in line with policy initiatives indicated in the Western Balkans Green Agenda and Economic and Investment Plan for the Western Balkans.

To facilitate this transition, this document proposes a set of measures framed in a roadmap to help the region move towards a sustainable, smart, and resilient mobility system and to direct it to the structural changes required to achieve climate neutrality and its Green Agenda goals as stated in the Sofia Declaration signed by the Western Balkans leaders in November 2020\textsuperscript{85}.

The roadmap contains list of actions per each flagship aiming at jumpstarting the process of making transport sustainable and smart in the region. It has been envisaged as a guiding document for the region in the preparation of the national strategies and proposed deadlines are only indicative.

Some of the actions touch upon the jurisdictions of other areas (environment, economy, social etc) and go beyond the mandate of the Transport Community. However, these actions present an important precondition for greening the transport sector and have been placed here as a reference point to demonstrate their significance in achieving the goals of this strategy. Ministries in charge of Transport have been encouraged to use this document as a tool to facilitate the drafting of and/or reinforce their own national strategies and to form strong partnerships with other relevant Ministries to advance specific actions and to progress in achieving sustainable and smart mobility goals. The Transport Community Permanent Secretariat will facilitate and support this process and assist the Regional Parties in achieving sustainable and smart mobility.

The implementation of some of the measures requires a strong financial component. To implement the proposed actions in the proposed timeline, external financial assistance will be necessary. According to the Economic and Investment Plan for the Western Balkans, up to €9 billion of funding will be mobilised to boost economic growth and support reforms. A significant amount will be concentrated on upscaling transport and energy connectivity, on the green transition – in particular, the decarbonisation – and on digital transformation, which the region should fully utilise to make its transport smarter and more sustainable.

\textsuperscript{85} Source: https://www.rcc.int/docs/546/sofia-declaration-on-the-green-agenda-for-the-western-balkans-rn
ANNEX - ROADMAP

The roadmap has been envisaged as a guiding document for the region in preparation for national strategies. The proposed deadlines are only indicative. Interventions are designed to address infrastructure or deployment of software solutions (I), legislative changes (L), analytical research and studies (S), capacity building and training (T) and policy interventions (P).

<table>
<thead>
<tr>
<th>FLAGSHIP 1 - BOOSTING UPTAKE OF ZERO-EMISSION VEHICLES, RENEWABLE &amp; LOW-CARBON FUELS AND RELATED INFRASTRUCTURE</th>
<th>Type of intervention</th>
<th>Responsible authority</th>
<th>Indicative Timetable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transposition of alternative fuel directive</td>
<td>L</td>
<td>MoT⁸⁶, TCT Secretariat support</td>
<td>Within 2 years from the date of application of EU legislation</td>
</tr>
<tr>
<td>Deployment of e charging stations on the busiest corridors</td>
<td>S, L</td>
<td>S - TCT Secretariat with Technical Committee I - Road authorities</td>
<td>2024 – 2026</td>
</tr>
<tr>
<td>Undertake feasibility study on the use of hydrogen on trucks along the busiest corridors</td>
<td>S</td>
<td>TCT Secretariat to cooperate with Energy Community Secretariat</td>
<td>2025 – 2026</td>
</tr>
<tr>
<td>Aligning the emission standards across the region, by setting the minimum standard for new cars at EURO6</td>
<td>P, L</td>
<td>P – MoT, Ministries in charge of Economy, Ministries in charge of Environment, Ministries in charge of Finance and other relevant institutions</td>
<td>2024-2025</td>
</tr>
<tr>
<td>Encouraging the introduction of incentives for zero-emission vehicles</td>
<td>L</td>
<td>MoT, MoEc., MoEnv, MoF and other relevant institutions</td>
<td>2023 - 2025</td>
</tr>
<tr>
<td>Improve emission testing in roadworthiness checks</td>
<td>L</td>
<td>MoT, MoEc., MoEnv, MoF and other relevant institutions</td>
<td>2023</td>
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<table>
<thead>
<tr>
<th>FLAGSHIP 2 - CREATING ZERO-EMISSION AIRPORTS AND PORTS</th>
<th>Type of intervention</th>
<th>Responsible authority</th>
<th>Indicative Timetable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follow up on deliverables of INTERREG projects regarding Action Plans for Greening of the Ports of Bar and Durres</td>
<td>I</td>
<td>TCT Secretariat to coordinate</td>
<td>2021-2023</td>
</tr>
<tr>
<td>Setting the foundation for deployment of alternative fuels infrastructure through transposition of relevant EU acquis in the air and waterborne sectors</td>
<td>L</td>
<td>MoT, TCT Secretariat support for waterborne</td>
<td>2022 – 2024</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>FLAGSHIP 3 - MAKING INTERURBAN AND URBAN MOBILITY MORE SUSTAINABLE AND HEALTHY</th>
<th>Type of intervention</th>
<th>Responsible authority</th>
<th>Indicative Timetable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage regional capitals and assist in defining sustainable urban mobility solutions for the major urban nodes along the core network (last mile solutions)</td>
<td>P, I, T</td>
<td>P, T – local government, MoT, TCT support</td>
<td>2022-2025</td>
</tr>
<tr>
<td>Introduction of regionally aligned Public Service Obligation for international passenger rail transport.</td>
<td>P, I</td>
<td>MoT, RU’s</td>
<td>2023</td>
</tr>
</tbody>
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⁸⁶ Ministries in charge of Transport
<table>
<thead>
<tr>
<th>Description</th>
<th>Responsible Parties</th>
<th>Support</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better manage and coordinate international rail traffic, including if necessary, through revised rules for capacity allocation and infrastructure charging in rail</td>
<td>P, I, T</td>
<td>P, T– local government, MoT, TCT support I – Local governments, MoT</td>
<td>2022-2025</td>
</tr>
<tr>
<td>Introduction of regionally aligned Public Service Obligation for international passenger rail transport.</td>
<td>P, I</td>
<td>MoT, RU’s</td>
<td>2023</td>
</tr>
<tr>
<td>Better manage and coordinate international rail traffic, including if necessary, through revised rules for capacity allocation and infrastructure charging in rail</td>
<td>L, P</td>
<td>MoT, IM’s</td>
<td>2022</td>
</tr>
<tr>
<td>Transposition of the Provisions of the Fourth Railway Package.</td>
<td>L</td>
<td>MoT</td>
<td>2022</td>
</tr>
</tbody>
</table>

**FLAGSHIP 4 - GREENING FREIGHT TRANSPORT**

<table>
<thead>
<tr>
<th>Description</th>
<th>Responsible Parties</th>
<th>Support</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving multimodality through transposition of intermodal/multimodal legislative framework</td>
<td>L</td>
<td>L- MoT, TCT Secretariat support</td>
<td>2025</td>
</tr>
<tr>
<td>Assessment of bottlenecks in modal interconnections and the current incentive system in place</td>
<td>S</td>
<td>S - TCT Secretariat</td>
<td>2023</td>
</tr>
<tr>
<td>Ensuring road/rail connections to TEN-T ports/airports, freight terminals, and removing bottlenecks for intermodal transport</td>
<td>S, I</td>
<td>MoT</td>
<td>2025</td>
</tr>
<tr>
<td>Construction of intermodal terminals and purchase of related equipment</td>
<td>S, I</td>
<td>MoT</td>
<td>2025</td>
</tr>
<tr>
<td>Participation in the NAIADIES III Programme as observers, potential participation in Inland waterway and MoS Projects through CEF II</td>
<td>P, I, S</td>
<td>MoT, TCT Secretariat coordination</td>
<td>2021 - 2027</td>
</tr>
<tr>
<td>Rail Corridor Initiative – Western Balkans to join the Rail Freight Corridors.</td>
<td>L, P</td>
<td>MoT, IM’s</td>
<td>2022 - 2027</td>
</tr>
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**FLAGSHIP 5 - PRICING CARBON AND PROVIDING BETTER INCENTIVES FOR USERS**

<table>
<thead>
<tr>
<th>Description</th>
<th>Responsible Parties</th>
<th>Support</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Establish EU framework for harmonised measurement of transport and logistics emissions</td>
<td>L, P</td>
<td>MoT, TCT Secretariat support</td>
<td>Within 2 years from the date of application of EU legislation</td>
</tr>
<tr>
<td>Adopt and implement guidelines for operators and platforms to inform passengers about the carbon footprint of their trip and to enable passengers to voluntarily offset it, and for wider use of eco-routing for (in-built) navigation software</td>
<td>L, P</td>
<td>MoT, TCT Secretariat support</td>
<td>Within 2 years from the date of application of EU legislation</td>
</tr>
<tr>
<td>Deployment of e-tolling and achieving interoperability of electronic road toll systems and facilitating cross-border exchange of information</td>
<td>L</td>
<td>MoT, TCT Secretariat support</td>
<td>2022 - 2024</td>
</tr>
<tr>
<td>Establish Transport Community Transport Observatory Database and Information System (TODIS)</td>
<td>I</td>
<td>TCT Secretariat</td>
<td>2021 - 2023</td>
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</tbody>
</table>

**SMART MOBILITY**

<table>
<thead>
<tr>
<th>Description</th>
<th>Responsible Parties</th>
<th>Support</th>
<th>Timeframe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable B2A multimodal data exchange through implementation of the e-FTI Regulation and Maritime Single Window environment</td>
<td>L</td>
<td>MoT, TCT Secretariat coordination</td>
<td>2025</td>
</tr>
<tr>
<td>Use of modern software at border crossing points/common crossing points (such as e-qms, NCTS, SEED, NSW, Galileo app)</td>
<td>I</td>
<td>CEFTA partly MoT, Customs administrations TCT Secretariat in coordination with CEFTA</td>
<td>2022-2025</td>
</tr>
<tr>
<td>Flagship 7 - Innovation, Data and AI for Smart Mobility</td>
<td>L, S, I</td>
<td>MoT, Infrastructure managers, TCT Secretariat support</td>
<td>2022-2025</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>--------</td>
<td>--------------------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Initiation of deployment of ERTMS through transposition of EU directives, TSIs, preparation of project documentation and deployment</td>
<td>L, S, I</td>
<td>MoT, road authorities, TCT Secretariat coordination and prioritisation</td>
<td>2022 - 2025</td>
</tr>
<tr>
<td>Initiation of deployment of VTMIS and e maritime services through transposition of EU directives, standards, preparation of project documentation and deployment</td>
<td>L, S, I</td>
<td>MoT, Maritime agencies, Port authorities, TCT Secretariat support</td>
<td>2025</td>
</tr>
<tr>
<td>Development of ITS through transposition of EU directives, standards, preparation of project documentation and deployment</td>
<td>L, S, I</td>
<td>MoT, Inland Waterway agencies, Port authorities, TCT Secretariat coordination and prioritisation</td>
<td>2025</td>
</tr>
<tr>
<td>Deployment of Mobility as a Service (pax and freight) applications and digital transport corridors, smart mobility solutions and multimodal travel information services</td>
<td>S, I</td>
<td>S - TCT with external help I - MoT, port operators, rail operators, road operators, TCT Secretariat support, border agencies</td>
<td>2022-2026</td>
</tr>
<tr>
<td>Deployment of Mobility as a Service (pax and freight) applications and digital transport corridors, smart mobility solutions and multimodal travel information services</td>
<td>P, I</td>
<td>P-RCC, Ministry in charge of telecommunications, in coordination with MoT I - Ministry in charge of telecommunications, in coordination with MoT</td>
<td>2022-2026</td>
</tr>
<tr>
<td>Enable environment for multimodal ticketing in passenger transport and transpose relevant legislation.</td>
<td>L</td>
<td>MoT, TCT Secretariat support</td>
<td>To be considered under review of TCT Annex 1</td>
</tr>
<tr>
<td>Assess the needs for setting up agencies or other bodies to support safe, smart and sustainable road transport operations</td>
<td>S</td>
<td>TCT Secretariat with MoT</td>
<td>2022 – 2023</td>
</tr>
<tr>
<td>Transpose the EU legal framework on the approval of connected and automated vehicles</td>
<td>L</td>
<td>MoT, TCT Secretariat support, in cooperation with the Ministry of telecommunications</td>
<td>To be considered under review of TCT Annex 1</td>
</tr>
<tr>
<td>Develop R&amp;I partnerships within the region and with EU bodies</td>
<td>P</td>
<td>TCT Secretariat, MoT</td>
<td>2021-2025</td>
</tr>
<tr>
<td>Encourage public companies/institutions/universities to establish innovation centres</td>
<td>P, T</td>
<td>TCT Secretariat</td>
<td>2022-2023</td>
</tr>
<tr>
<td>Improve coordination between public authorities, universities, NGOs on regional to encourage interdisciplinary research in green and digital mobility</td>
<td>P, T</td>
<td>TCT Secretariat coordination</td>
<td>2022-2023</td>
</tr>
<tr>
<td>Increase the awareness and educate young leaders, officials, and other relevant stakeholders on greening of transport</td>
<td>P, T</td>
<td>TCT Secretariat coordination</td>
<td>2022-2023</td>
</tr>
<tr>
<td>Establish national access point under ITS Directive and join European mobility data space</td>
<td>L</td>
<td>MoT, TCT Secretariat support</td>
<td>Within 2 years from the date of application of EU legislation</td>
</tr>
<tr>
<td>Adopt rules on a trusted environment for corridor data exchange to support collaborative logistics</td>
<td>L</td>
<td>TCT RSC, TCT Secretariat support</td>
<td>To be considered under review of TCT Annex 1</td>
</tr>
</tbody>
</table>

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87 Through Transport Community’s structures and coordination mechanisms such as upcoming summer school, technical committees, yearly conferences etc.
<table>
<thead>
<tr>
<th>Proposal</th>
<th>Responsible</th>
<th>Support</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopt the regulatory framework for drones and unmanned aircraft</td>
<td>L</td>
<td>TCT RSC, TCT Secretariat support</td>
<td>To be considered under review of TCT Annex 1</td>
</tr>
<tr>
<td>Adopt the EU type approval legislation to facilitate car data-based services including interaction with energy system</td>
<td>L</td>
<td>TCT RSC, TCT Secretariat support</td>
<td>To be considered under review of TCT Annex 1</td>
</tr>
<tr>
<td>Adopt regulatory framework to open access to car data to mobility services</td>
<td>L</td>
<td>TCT RSC, TCT Secretariat support</td>
<td>To be considered under review of TCT Annex 1</td>
</tr>
<tr>
<td>Undertake impact assessment and prepare roadmap for AI for mobility</td>
<td>S</td>
<td>TCT Secretariat</td>
<td>2023</td>
</tr>
</tbody>
</table>

**RENSILENT MOBILITY**

**FLAGSHIP 8 – WORKING TOWARDS THE SINGLE MARKET**

<table>
<thead>
<tr>
<th>Proposal</th>
<th>Responsible</th>
<th>Support</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revisiting national transport strategies and prioritising green elements</td>
<td>P, S</td>
<td>MoT, TCT Secretariat support</td>
<td>2023</td>
</tr>
<tr>
<td>Capacity building for administration on green and digital transformation of transport</td>
<td>T</td>
<td>TCT Secretariat organisation</td>
<td>2022-2024</td>
</tr>
<tr>
<td>Development of cost effectiveness analysis of the Sustainable and Smart Mobility Strategy Western Balkans Perspective and elaboration of detailed action plans per each Regional Party</td>
<td>S</td>
<td>TCT Secretariat</td>
<td>2022-2023</td>
</tr>
<tr>
<td>Adopt guidelines to assess climate change and natural hazards of road network</td>
<td>L</td>
<td>TCT Secretariat to support MoT</td>
<td>2022</td>
</tr>
<tr>
<td>Developing and implementing climate resilience plans for RPs transport networks</td>
<td>S</td>
<td>Ministries in charge of Transport, road authorities, rail infrastructure managers</td>
<td>2022-2024</td>
</tr>
<tr>
<td>Establishing efficient road maintenance through multiannual road maintenance plans and Road Asset Management Systems</td>
<td>L</td>
<td>TCT Secretariat coordinating role; MoT Road Authorities/ Public Enterprises</td>
<td>2022</td>
</tr>
<tr>
<td>Electrification of the rail core network and implementation of Flagship 1, 2, 3.</td>
<td>S, I</td>
<td>Ministry in charge of Transport, infrastructure managers</td>
<td>2022-2030</td>
</tr>
<tr>
<td>Improvement of road and rail border crossings / common crossings (removal of administrative bottlenecks, additional parking lanes, construction of joint BCPs/CCPs).</td>
<td>P, L, I</td>
<td>Ministry in charge of Transport, customs, police, infrastructure managers</td>
<td>2023-2024</td>
</tr>
<tr>
<td>Reforming the railway sector through transposition and implementation of Market opening, passenger rights, interoperability, border crossings/ common crossings legislation.</td>
<td>L</td>
<td>Ministry in charge of Transport, railway authorities, railway companies</td>
<td>2022-2023</td>
</tr>
<tr>
<td>Improving inland waterways through prioritisation of INLAND WATERWAYS projects and Implementation of economic investment plan Flagship 1 projects.</td>
<td>P, I</td>
<td>P-TCT Secretariat with TC I- MoT, Inland Waterway agency</td>
<td>2025</td>
</tr>
<tr>
<td>Review the transport relevant State aid rules.</td>
<td>P, I</td>
<td>MoT, TCT Secretariat and EU support</td>
<td>2022</td>
</tr>
<tr>
<td>Open Public Funds for Railway Fleet Renewal for Passenger and Freight transport.</td>
<td>P, I</td>
<td>MoT, MoF, TCT Secretariat and EU support</td>
<td>2025</td>
</tr>
</tbody>
</table>
### FLAGSHIP 9 - MAKING MOBILITY FAIR AND JUST FOR ALL

<table>
<thead>
<tr>
<th>Activity</th>
<th>Responsibility</th>
<th>Implementation</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting up a Platform for Change and removal of legal barriers to women’s economic empowerment</td>
<td>P, L</td>
<td>TCT</td>
<td>2023</td>
</tr>
<tr>
<td>Play an active role to assist regional institutions in removal of legal barriers to women’s economic empowerment opportunities</td>
<td>S, T</td>
<td>TCT</td>
<td>2021-2025</td>
</tr>
<tr>
<td>Encourage IFIs, Ministries in charge of transport and Transport Departments within the Universities across the region to develop grant schemes for women internships in transport sector</td>
<td>P</td>
<td>TCT</td>
<td>2021-2025</td>
</tr>
<tr>
<td>Prepare a Blueprint to tackle the challenges that come with the digitalisation and modernisation of the transport sector (ageing workforce, staff shortage and skills mismatch)</td>
<td>S</td>
<td>TCT</td>
<td>2025</td>
</tr>
<tr>
<td>Complete transposition and implementation of the relevant social policy legislation in the Transport Community Treaty</td>
<td>L</td>
<td>MoT</td>
<td>2030</td>
</tr>
<tr>
<td>Review of the guidelines on the Land PSO Regulation and provide guidance on freight PSOs.</td>
<td>P, I</td>
<td>MoT, TCT and EU support</td>
<td>2021, 2022</td>
</tr>
</tbody>
</table>

### FLAGSHIP 10 - ENHANCING TRANSPORT SAFETY AND SECURITY

<table>
<thead>
<tr>
<th>Activity</th>
<th>Responsibility</th>
<th>Implementation</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving road safety management, enabling safer infrastructure a better protection of road users</td>
<td>P</td>
<td>Ministries in charge of Transport, Road safety agencies, TCT coordinating role</td>
<td>2022</td>
</tr>
<tr>
<td>Prepare and adopt Road Safety National Strategy and set road safety targets for the next decade 2021-2030</td>
<td>P</td>
<td>Ministries in charge of Transport, Road safety agencies</td>
<td>2021</td>
</tr>
<tr>
<td>Improve domestic legislation transposing transport of dangerous goods Acquis</td>
<td>L, T, S</td>
<td>MoT &amp; other Ministries, TCT Secretariat and EU</td>
<td>2023</td>
</tr>
<tr>
<td>Enhance mechanisms for market surveillance, cooperation on standardisation</td>
<td>L, T, S</td>
<td>MoT &amp; other, TCT Secretariat and EU</td>
<td>2025</td>
</tr>
<tr>
<td>Enforcement procedures for transport of dangerous goods to be put in place for rail, road and inland waterways</td>
<td>L, T, S</td>
<td>MoT, TCT Secretariat and EU</td>
<td>2025</td>
</tr>
<tr>
<td>Enhance research on transport of dangerous goods</td>
<td>T</td>
<td>MoT, Academia WB6, TCT Secretariat and EU</td>
<td>2030</td>
</tr>
</tbody>
</table>
DISCLAIMER

The information and views set out in the present Strategy have been compiled through desk research and input from the Regional Parties and do not necessarily reflect the official opinion of the Transport Community. The opinions expressed and arguments employed herein do not necessarily reflect the official views of the Regional Parties or EU Member States. The Transport Community does not guarantee the accuracy of the data included in this strategy. Neither the Transport Community nor any person acting on its behalf may be held responsible for any potential use which may be made of the information contained herein.