

Chapter 7.

Transport in South East Europe

Transport moves people and goods and links regions and countries, thereby integrating them into the global economy. The recently adopted Connectivity Agenda for the Western Balkans further commits SEE economies to prioritising regional transport projects to link them to EU markets. This chapter on the Transport Dimension begins with an analysis of overall performance and usage in road, railway, air, inland waterway and maritime transport. Three sub-dimensions investigate policy development. The Infrastructure Sub-Dimension examines: the scope of transport infrastructure strategies; the use of cost-benefit analysis and project prioritisation; strategies to reduce bottlenecks and non-physical trade barriers; transport telematics strategies. The Governance and Regulation Sub-Dimension assesses road safety strategies, railway sector liberalisation and alignment with the Single European Sky policy. The Sustainability Sub-Dimension describes co-modal transport optimisation strategies and policies to measure and monitor the environmental footprint of transport.

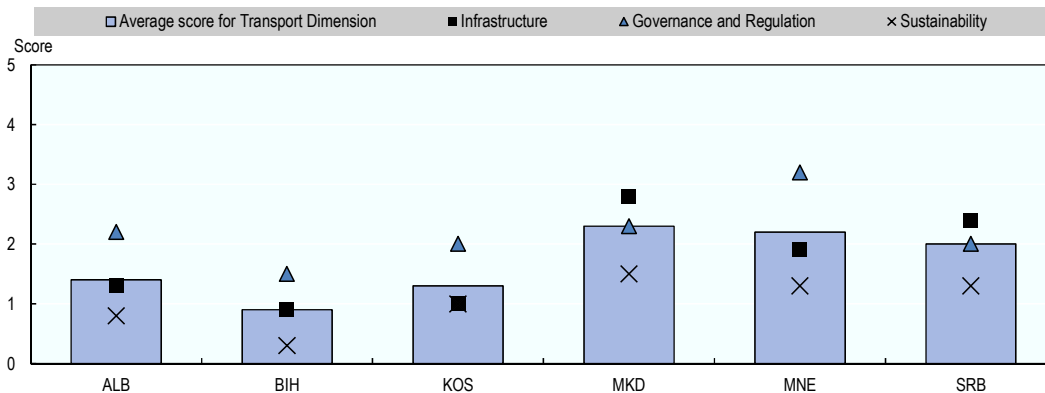
Main findings

Transport moves people and goods and links regions and countries, thereby integrating them into the global economy. Just as the liberalisation of trade can open new markets for developing countries, efficient transport systems and routes can lower costs and increase volumes of trade and movements of workers. Improved regional connectivity plays an important role in fostering economic integration and growth, which includes helping firms integrate into global value chains.

Inland infrastructure has developed significantly in the South East Europe (SEE) region over the past 20 years, boosted by high levels of infrastructure investment that has reduced transportation costs. For example, the cost of importing and exporting one 20-foot container fell by 4% between 2012 and 2015.

Transport policy initiatives have been developed in SEE, but their scope and level of implementation varies from one economy to another. Governments have made the most progress in the areas of governance and regulation followed by infrastructure. However, transport sustainability policies are still to be developed and implemented. Although progress measured by individual indicators in the three sub-dimensions varies greatly, the Former Yugoslav Republic of Macedonia, Montenegro and Serbia score higher overall than their regional peers.

Figure 7.1. **Transport Policy: Dimension and Sub-Dimension average scores**



Source: OECD assessment conducted in SEE economies (2015); see methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

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Achievements

The SEE economies have made progress in national and regional infrastructure connectivity.

SEE economies have taken action to improve physical infrastructure and reduce bottlenecks. Transport infrastructure has been upgraded, especially in Montenegro, Serbia and the Former Yugoslav Republic of Macedonia.

SEE economies have increasingly aligned infrastructure projects with SEE regional and European transport network objectives. The South East Europe Transport Observatory (SEETO) Comprehensive Network, recently defined as the Trans-European Transport Networks (TEN-T) Comprehensive Network in South East

Europe, supports the Core Network Corridors and the Regional Core Network. Prioritising and implementing the SEETO Comprehensive Network's infrastructure projects further integrates the SEE region into European and international transport networks and facilitates the transport of goods and people between the East and West.

SEE economies have improved their transport regulations and governance. The SEE economies have continued their integration into the EU's Single European Sky (SES) initiative.

SEE economies have introduced road safety strategies and governments have made considerable efforts to implement them, particularly in Albania, Montenegro and the Former Yugoslav Republic of Macedonia.

Challenges

Despite their achievements, the SEE economies still face a number of challenges in developing transport infrastructure to facilitate the flow of goods and people.

Implementation of national transport strategy co-modal transport solutions is still a challenge. Albania, the Former Yugoslav Republic of Macedonia and Serbia have defined concrete multi-modal transportation nodes, but have not implemented them to date. The share of alternative transport modes in South East Europe – rail lines and inland waterways in particular – is still low compared to OECD countries.

Transport infrastructure maintenance remains one of the major challenges. Although transport infrastructure on the major transportation routes has improved, secondary infrastructure, e.g. roads and railways to smaller villages, has deteriorated. Road and railway maintenance and its relative cost per kilometre are still a serious concern.

Railway network access to private operators is limited. Although railway liberalisation reform has seen limited progress, Kosovo, Montenegro, the Former Yugoslav Republic of Macedonia and Serbia have made efforts to develop and adopt strategies relating to the EU Railway Packages. In practice, however, the railway market in the region is still closed.

Transport sustainability practices are not yet widespread. Sustainability strategies – e.g. the reduction of energy consumption, greater use of electric vehicles and the optimisation of public transport solutions in urban areas – are not yet common in the region and are still to be mainstreamed into infrastructure development plans.

Non-physical barriers to the movement of goods and passengers persist. Barriers such as border-crossing procedures, administrative obstacles and regulatory procedures could be further addressed.

Recommendations

Measures that address the challenges identified can help the SEE economies in their efforts to build more comprehensive regional and global transport networks.

Modernise and improve the efficiency of existing infrastructure. The SEE economies widely see the diversification and extension of their transport networks as key to improving competitiveness. The bulk of necessary transport infrastructure is already in place, however. As they seek to improve transport infrastructure, governments should maintain their focus on developing the SEETO Comprehensive Network, modernising it and further improving its efficiency. Inland waterways, rail freight and modern

multi-modal transportation nodes would make regional transport networks more attractive propositions for carrying goods and passengers.

Prioritise maintenance of the infrastructure network. SEE governments could consider using performance-based maintenance contracts to ensure better quality and improved lifecycle costs. Additionally, assessments of existing maintenance systems and unified best practice proposals for improvement could help increase maintenance efficiency.

Promote long-term thinking to prioritise strategic action. Governments could consider promoting long-term strategic thinking on transport infrastructure projects and implementing cost-benefit analyses to compare transport infrastructure projects. Ideally, such strategic thinking would take into account other policy areas.

Make transport sustainability an integral part of national transport strategies. Governments could focus more on developing a well-balanced transport system which incorporates the competitive advantages of the different modes of transport, environmental concerns and, through inter-modal nodes, usability. Governments could consider integrating into their strategies more outcome indicators to measure, for example, energy consumption, greenhouse gas emissions, the use of renewable energies and modal shifts from road to rail and waterways.

Facilitate high-quality logistics services and international shipments. Although international shipments and the quality of logistics services do not come directly within the public policy ambit, governments play an important role in promoting economic efficiency in the freight transportation sector – by reducing the length and variability of clearance times at borders through simplified procedures and better co-ordination. National logistics capacity plays an increasingly important role in attracting businesses and FDI.

Overview

Transport moves people and goods and links regions and countries, so integrating them into the global economy. Transport policies are necessary because of the extreme importance of transport in virtually every aspect of countries' economic, social and political activities. Transport policy refers to the development of a set of constructs and propositions that are established to achieve particular objectives. Those objectives relate to social, economic and environmental development, and to the functioning and performance of the transport system (Rodrigue, Comtois and Slack; 2013). For the purpose of this publication, modes of transport are confined to road, rail, air, inland waterways and the sea.

The OECD/ECMT paper, *Transport Infrastructure Investment and Economic Productivity* (2007), points to two important consequences of improvements in transport systems. The first is that the new EU member states are better connected to the rest of the EU and that manufacturing bases relocate to lower-wage regions, so aiding their growth. The second is improved transport systems in new member states which further in-country co-operation, mobility, and flows of goods and passengers.

The Prime Ministers of the Western Balkan economies and European Union representatives met at the Western Balkans 6 summit in Vienna in 2015 within the framework of the “Berlin Process”. They committed to improving the connectivity within the Western Balkans as well as between the Western Balkans and the European Union. “Within the revision process of the TEN-T network, the SEETO Comprehensive Network

maps were included in the TEN-T Guidelines, where they appeared as indicative, and moreover, the SEETO Comprehensive Network was defined as the TEN-T Comprehensive Network in South East Europe, and interlinks were determined” (South East Europe Transport Observatory, 2015). For the purpose of this publication, the TEN-T Comprehensive Network in South East Europe is referred to as the SEETO Comprehensive Network.

The Transport Dimension is closely linked with other policy areas which support intra-regional trade assessed in this publication.

- **Chapter 2. Trade policy and facilitation** is enabled by efficient transport systems and routes which can increase volumes of trade and movement of workers. The quality and coverage of transport networks influence the costs of input, production, distribution and, thereby, national competitiveness (Aoki and Roberts, 2006). Improved regional connectivity plays a valuable role in fostering economic integration and growth, which includes helping firms to become more integrated parts of global value chains (OECD, 2015a). It has been estimated that a 10% increase in transport costs reduces the volume of trade by 25% (Limao and Venables, 2001).
- **Chapter 1. Investment policy and promotion**, in particular foreign direct investment, is drawn to areas with efficient transport (Saidi and Hammami, 2011).

Box 7.1. Transport Dimension in the SEE 2020 Strategy

The Transport Dimension is part of the Sustainable Growth Pillar of the South East Europe 2020 Strategy (SEE 2020). The Pillar’s central objective is to boost growth and jobs by supporting a strong, diversified and competitive economic base that is better connected, more sustainable and more resource-efficient. The pillar seeks to support a 12% rise in the creation of new businesses and to more than double per capita export. Transport is set to play an important role in overall regional competitiveness as governments seek to improve connectivity and infrastructure and push for greater rates of use.

The SEE 2020 sets ambitious transport targets:

- reduce the cost of transport per unit of transport service by 20% and bring down TEU¹ transport costs to the EU average
- improve transport infrastructure rates of use to over 40% of designed capacity
- increase energy efficiency through a 20% reduction in energy consumption per unit of transport service
- increase the share of railway and waterborne transport so that they meet the specific targets set out in national action plans
- facilitate air transport.

The official SEE 2020 Strategy Co-ordinator for the Transport Dimension is the South East Europe Transport Observatory (SEETO). SEETO aims to promote regional co-ordination in developing the multimodal SEETO Comprehensive Network and to build local capacity for implementing investment programmes.

In 2015, the SEETO Comprehensive Network was defined as the TEN-T Comprehensive Network in the South East Europe.

Note: 1. TEU stands for twenty-foot equivalent unit of measure. It refers to a cargo volume that is equivalent to that of a standard 20-foot-long container.

Source: RCC (2013), *South East Europe 2020: Jobs and prosperity in a European perspective*, www.rcc.int/files/user/docs/reports/SEE_2020-Strategy.pdf.

Transport Dimension assessment framework

This chapter assesses the Transport Dimension in the Integrated Growth Pillar of the SEE 2020 Strategy. It does not seek to be exhaustive, but to offer insight into three broad sub-dimensions and measure their progress against the objectives of the SEE 2020 Strategy:

- **Infrastructure**
Are transport infrastructure strategies comprehensive and do they factor in cost-benefit analysis? Does policy improve physical infrastructure and reduce bottlenecks and does it reduce non-physical trade barriers? Do the SEE economies prioritise projects in accordance with SEETO objectives? Are they introducing intelligent transport systems?
- **Governance and Regulation**
Do policies meet the need for harmonisation with the EU's transport *acquis*? Do they optimise efficiency and value for money? Is the private sector involved and are freight and passenger networks open to competition?
- **Sustainability**
Are strategies in place to promote and optimise the use of co-modal transport? Does policy measure and monitor the environmental footprint of transport?

Figure 7.2 illustrates how the whole assessment framework is constructed.

Performance in the three sub-dimensions is measured by qualitative and quantitative indicators. The South East Europe Transport Observatory (SEETO), with the support of the OECD, collected qualitative and quantitative data for the indicators.

Quantitative indicators are based on national or international statistics. Qualitative indicator scores rate performance in ascending order on a scale of 0 to 5.¹

Transport performance in SEE economies

An efficient, regionally connected logistics system is the cornerstone of a prosperous economy and an attractive foreign investment environment. The SEE economies adopted the Connectivity Agenda in August 2015 to further commit to co-ordinated regional infrastructure investment project and soft measure prioritisation, management and financing. Five main modes of transport are examined individually in this chapter – road, railway, air, inland waterway and maritime.

The World Bank's Logistics Performance Index (LPI) is a multi-dimensional international benchmarking tool for measuring countries' trade and transport facilitation friendliness. It analyses countries' performances against six areas of logistics – customs, infrastructure, ease of arranging shipments, quality of logistics services, tracking and tracing, and timeliness. They are measured on an ascending scale of 1 to 5 (very good). Foreign businesses use the LPI to identify challenges and opportunities related to the receiving country's transport infrastructure, logistics competence and availability of efficient supply chains. Korinek and Sourdin (2011) find improvements in the general quality of logistics have a stronger trade-enhancing effect on exports than on imports. They estimate that a 10% increase in a typical exporter's overall LPI score increases bilateral exports by more than 69% on average (all other trade determinants being equal).

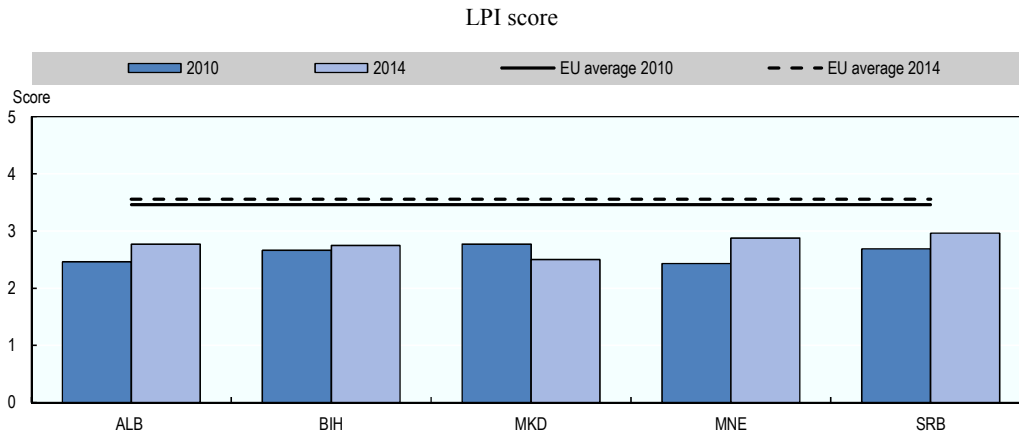
Figure 7.2. Transport Dimension assessment framework

Transport Dimension		
<p>SEE 2020 headline targets</p> <ul style="list-style-type: none"> • Increase net enterprise creation • Increase per capita exports in goods and services <p>Outcome indicators</p> <ul style="list-style-type: none"> • Logistics Performance Index and timeliness indicator • Transport cost of 20-foot container and domestic fuel • Share of companies citing transport as a major constraint • Road transport of goods • Rail transport of passengers and goods • Air transport of passengers and goods • Inland waterways cargo freight • Container port traffic (TEU) • Liner Shipping Connectivity Index 		
Sub-Dimension 1 Infrastructure	Sub-Dimension 2 Governance and Regulation	Sub-Dimension 3 Sustainability
<p>Qualitative indicators</p> <ol style="list-style-type: none"> 1. Physical infrastructure strategy 2. Overcoming non-physical barriers to infrastructure strategy 3. Infrastructure project prioritisation 4. Transport telematics strategy 	<p>Qualitative indicators</p> <ol style="list-style-type: none"> 5. Railway sector liberalisation strategy 6. Road safety strategy 7. Single European Sky progress 	<p>Qualitative indicators</p> <ol style="list-style-type: none"> 8. Co-modal freight transport solutions strategy 9. Transport sustainability strategy
<p>Quantitative indicators</p> <ol style="list-style-type: none"> 1. Total inland transport infrastructure investment (% of GDP) 2. Logistics Performance Index infrastructure component 3. Road density per 1 000 inhabitants 4. Railway density per 1 000 inhabitants 5. Length of road network 6. Length of rail network 7. Airport density index 8. Daily aircraft departures 9. Number of documents required to export and import 	<p>Quantitative indicators</p> <ol style="list-style-type: none"> 10. Number of injured 11. Number of fatalities 	<p>Quantitative indicators</p> <ol style="list-style-type: none"> 12. CO₂ emissions from transport 13. Number of passenger cars over 10 years old

Between 2010 and 2014, the SEE economies improved their overall LPI (with the exception of the Former Yugoslav Republic of Macedonia). The median performance rose from 2.66 in 2010 to 2.82 in 2014. Overall, the SEE economies perform below the EU average and their global rankings in 2014 ranged between 63 (Serbia) and 117 (the Former Yugoslav Republic of Macedonia).

The LPI's timeliness quantitative indicator (Figure 7.4) estimates how often shipments reach the consignee within the scheduled or expected time (Arvis et al., 2014). Almost all SEE economies have improved their timeliness performance apart from the Former Yugoslav Republic of Macedonia. Nevertheless, the region still lags behind the average timeliness scores of the EU.

Figure 7.3. Overall Logistics Performance Index (LPI), 2010 and 2014

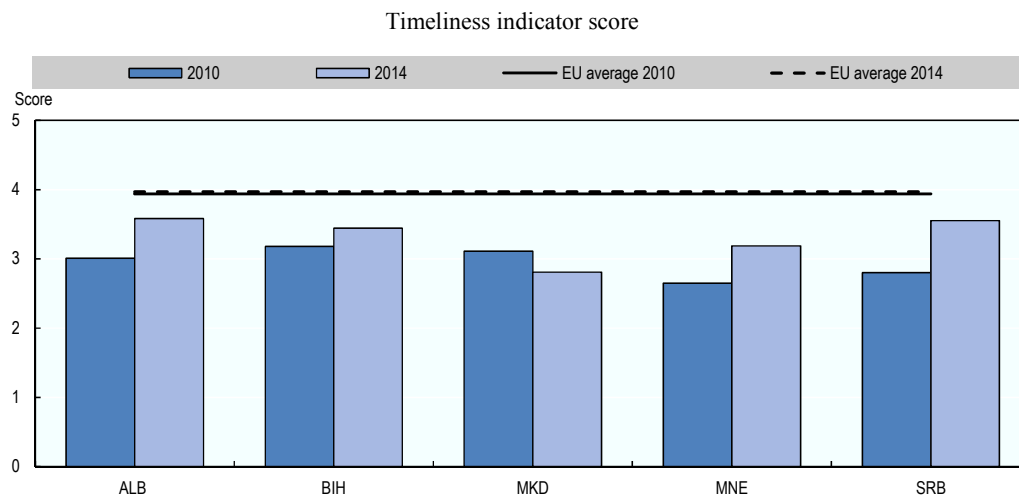


Note: LPI scores range between 1 (lowest possible score) and 5 (highest possible score). Data for Albania for the year 2014 as of 2012. Data for Kosovo not available.

Source: World Bank (2015a), *Logistics Performance Index* (database), <http://lpi.worldbank.org>.

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Figure 7.4. Logistics Performance Index (LPI) – Timeliness indicator, 2010 and 2014



Note: LPI scores range between 1 (lowest possible score) and 5 (highest possible score). Data for Albania for the year 2014 as of 2012. Data for Kosovo not available.

Source: World Bank (2015a), *Logistics Performance Index* (database), <http://lpi.worldbank.org>.

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Improved transport infrastructure seeks to bring down costs. The cost of transport has two components: money and time. Financial cost is determined largely by the price of fuel, tolls, vehicles and vehicle taxes. Time, however, can cost business more dearly. Late delivery may lose transport companies customers and future opportunities – a much higher cost than money wasted on carrying goods and people from point A to point B.

The cost of importing and exporting one 20-foot container has dropped by 4% since 2012. Costs have been falling in all SEE economies since 2009. Nevertheless, there are considerable differences between economies – some are land-locked, some larger than

their peers with longer distances between borders (which increases transport costs) and some have under-developed inter-modal transportation nodes.

The price of petrol in SEE is generally some 15 to 20% lower than in the EU, which yields a competitive advantage. And the wide use of natural gas as the fuel of choice, particularly by taxis, makes the region even more competitive. Diesel prices, though, are comparable with the average EU level.

Indeed, transport is not currently considered a major constraint in the region, according to the World Bank's 2015 Enterprise Survey (World Bank, 2015b). Only 4% of companies across the region considered it a serious impediment to business growth in 2013.

Demand for transport infrastructure in SEE economies is growing as passenger and freight activity has increased over the last two decades. Transport utilisation rates are key outcome indicators of public investment, infrastructure and logistics systems.

Passenger and goods road transport on the rise, despite variations between the SEE economies

Road transport is the most widely used mode for carrying both people and freight over short and medium distances. Two key factors in its success are its cost/quality ratio and the ability to ensure last-mile deliveries. In the SEE economies, though, road transport is generally the only viable option – other modes being underdeveloped – and region-wide demand is clearly on the increase.

The demand is driven by motor vehicle passengers, whose numbers have risen in recent years, and by hauliers. There was an overall increase in goods carried by road from 11 555 million tonnes per kilometre in 2009 to 16 512 in 2013. However, the picture varies from one economy to another, some seeing rises and others falls (Figure 7.5), with the most impressive increases coming in the Former Yugoslav Republic of Macedonia. However, anecdotal evidence suggests that road haulage in Serbia should show considerably higher growth. Figures should, therefore, be seen as expressing a trend rather than an economy's performance. Moreover, methods of collecting data vary from one economy to another.

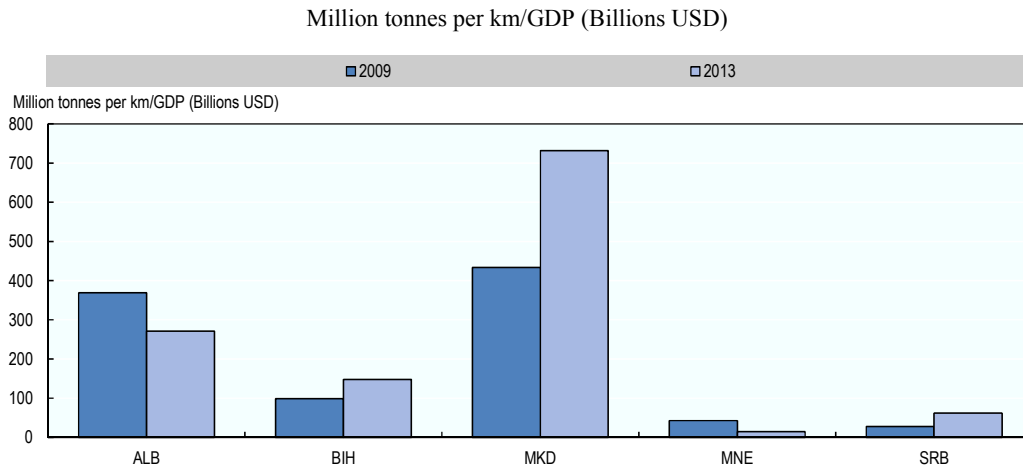
Railway passenger and freight transport continues to decline

Train passenger numbers have declined over the last 25 years in South East Europe. Since the year 2000, they have fallen per passenger kilometre by over a half and by over 17% since 2010 (Figure 7.6).

If the million km-passenger ridership unit is normalised as a ratio of the millions of inhabitants in each economy, it emerges that people in Montenegro, the Former Yugoslav Republic of Macedonia and Serbia use the railways comparatively more than in Albania and Bosnia and Herzegovina. Only Serbia has seen a steady increase in the million km-passenger indicator since 2010. Compared to the EU, railway ridership is extremely low – even in Montenegro and Serbia.

SEETO ascribes falling passenger numbers mainly to longer travel times, insufficient maintenance and lower speeds. Another factor is the continued development of highway infrastructure, especially routes that run parallel to rail lines, prompting travellers and commuters to switch to cars.

Figure 7.5. Distance and tonnage of road-transported goods, 2009 and 2013

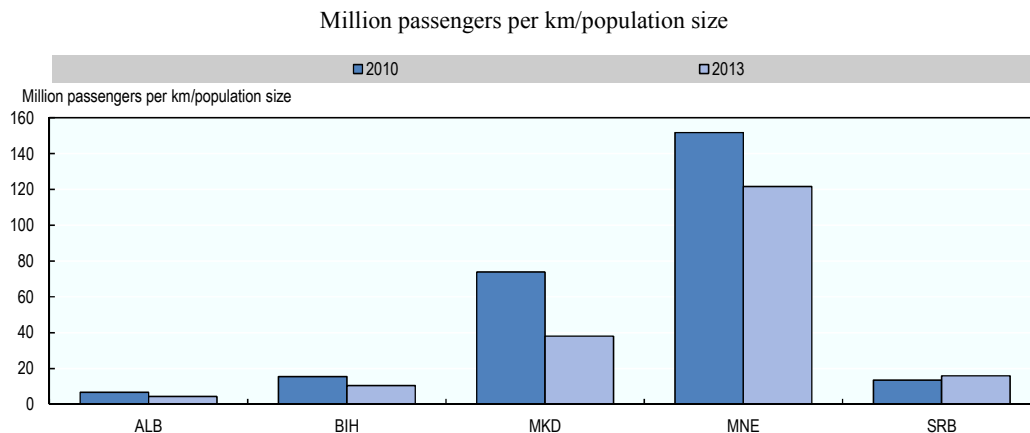


Note: Data for Kosovo not available.

Source: Adapted from OECD (2015b), *OECD.Stat* (database), <http://stats.oecd.org>; World Bank (2015c), *World Development Indicators* (database), <http://data.worldbank.org/data-catalog/world-development-indicators>.

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Figure 7.6. Rail passengers, 2010 and 2013



Note: Data for Kosovo not available.

Source: Adapted from OECD (2015b), *OECD.Stat* (database), <http://stats.oecd.org>; World Bank (2015c), *World Development Indicators* (database), <http://data.worldbank.org/data-catalog/world-development-indicators>.

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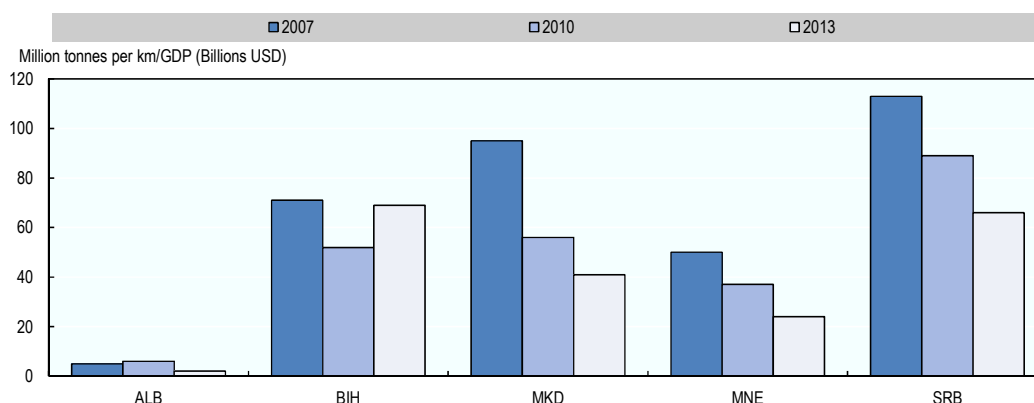
As for railway freight traffic, total tonnage has also declined in the last few years, attributable in part to the drop in heavy industry output (such as steel aluminium works) in the wake of the financial crisis.

Of the SEE economies in 2013, railway freight traffic is highest in Serbia and Bosnia and Herzegovina (Figure 7.7). It is expected that increased exports by automaker FIAT from its production plant in Kragujevac in Serbia through the port of Bar in Albania will revive rail freight volumes.

SEETO (2013a) estimates that Pan-European Corridor X is by far the busiest rail route in the region, accounting for 41% of freight and 67% of passenger traffic volumes in 2012.

Figure 7.7. Rail freight, 2007, 2010 and 2013

Million tonnes per km/GDP (Billions USD)



Note: Data for Kosovo not available.

Source: Adapted from OECD (2015b), *OECD.Stat* (database), <http://stats.oecd.org>; World Bank (2015c), *World Development Indicators* (database), <http://data.worldbank.org/data-catalog/world-development-indicators>.

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Air transport, chiefly for business trips, is growing, but interconnections are inefficient

Air transport contributes to the global integration of an economy especially for the international business community and tourism. Volumes of freight carried by air may not be huge, but in value they are significant. Air travel's value proposition is based on time: it is to save time that travellers and freight companies agree to air fares. Easy, rapid access to airports and their intermodal connectivity are as important as point-to-point air route density and airline performance.

From 2009 to 2012, the total number of passengers transiting through the 10 SEE airports rose from 7 to 9.4 million passengers, a 33% increase. Capital city airports saw the largest increases. For example, in just four years, passengers rose from 2.4 to 3.4 million at the Belgrade Airport (SEETO, 2013a).

Although the number of incoming and outgoing flights is growing in SEE airports (apart from Belgrade), they are still not well connected to most European cities. In 2015, Belgrade was the busiest airport with 71 departures per day, while there were between 12 and 24 departures on an average day from the region's other main airports (FlightStats, 2015). There are direct flights to cities like Vienna, Istanbul, Rome and some German and Swiss airports, generally locations with a strong SEE diaspora. The frequency of flights is likewise low, particularly to the major financial and business centres. Business travel and the development of tourism are constrained as a result.

Air transport is only marginally used to carry goods. Despite the 17% rise between 2009 and 2012 from 14 236 to 16 701 tonnes, total tonnage is negligible compared to other countries. For example, Brussels Airport, the EU's tenth busiest, handles

378 000 tonnes of freight annually. Air transport also has potential for carrying high-value products.

Inland waterways traffic has freight transport potential, but needs better intermodal links

Inland waterways are an efficient mode of transport which could play a greater role if they were better linked to other modes. For example, intermodal terminals could connect IWW ports to railways and roads.

Only Bosnia and Herzegovina and Serbia use inland waterways to carry goods and people. In 2012 two Serbian ports on the Danube accounted for 92% of all SEE waterborne freight with 1.4 million tonnes. Novi Sad Port handled high volumes of agricultural produce, while only 23% transited through Belgrade which handled five times more passengers (61 037) than Novi Sad.

According to SEETO (2013a), better navigating conditions, the use of RIS systems and a degree of recovery from the economic crisis have increased passenger and freight traffic through the river ports in the SEETO Comprehensive Network. Novi Sad, for example, reported an 81% increase in tonnage over 2011.

Maritime port traffic continues upward trend, but intermodal connections are still poor

The international shipping industry carries over 90% of the world trade tonnage and has been constantly growing over the last two decades. It is the most competitive mode of transport for large volumes of goods over long distances (International Chamber of Shipping, 2015). The containerisation of trade and access to containerised transport services are important determinants of countries' trade competitiveness.

The port of Durres in Albania is the busiest cargo-handling seaport in the SEETO Comprehensive Network. Together with Bar in Montenegro, it is the only container port in the SEE region. Container traffic at Durres grew 4% between 2011 and 2012 to 95 500 TEU, while Bar accounted for approximately half that. The trend is set to continue, particularly since Albania granted a 35-year operating concession for the Durres container terminal to a joint venture bringing together Turkish steel maker Kurum and Maltese sea operator Mariner.

Demand in the SEETO Comprehensive Network Seaports dropped slightly between 2010 and 2012. While Durres performed well, cargo handled at Vlora Port in Albania fell, so lowering the overall tonnage of the three ports by 4% from 3.82 to 3.68 metric tonnes.

The Liner Shipping Connectivity Index (LSCI), published by UNCTAD since the mid-2000s, captures how well countries are connected to global shipping networks. It measures the quality of service provided by the liner shipping companies.

The LSCI assigns fairly low scores to the SEE region, which suggests that Albania and Montenegro do not have good connectivity between liner shipping and other modes of transport. Between 2010 and 2014, Albania's score fell slightly from 4.34 to 4.11. Although Montenegro's score in 2014 was lower at 2.89, it was up from 2.48 in 2010. One of the reasons for the poor index score is the low volume of containerised trade in the region and the poor connectivity of liner shipping to other modes of transport. Montenegro's lower score is chiefly due to limited containerised shipment handling.

By comparison, Croatia has shown impressive progress in recent years, with its LSCI score climbing from 8.97 in 2010 to 23.47 in 2014. Its performance is due mainly to improved infrastructure and its seaports' better intermodal connections facilities.

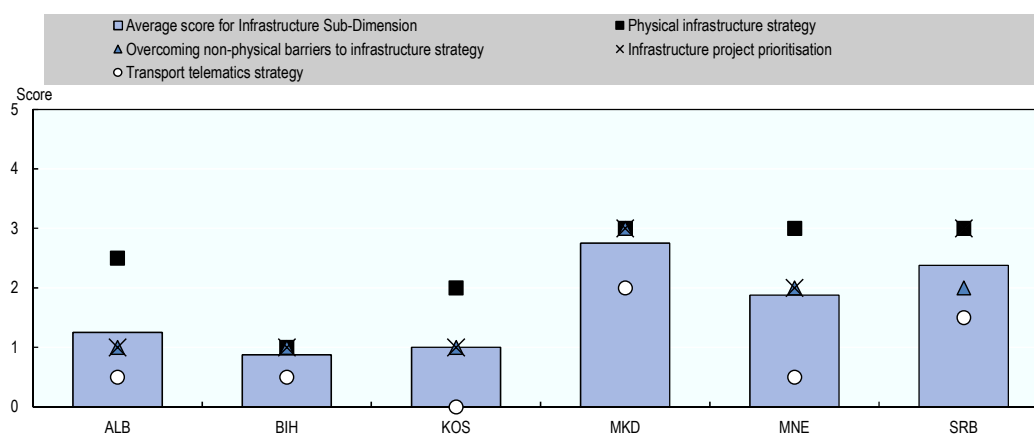
Infrastructure Sub-Dimension

Transport infrastructure has a significant impact on the productivity and the cost structure of businesses (Haughwout, 2001). Better port and hinterland connections, for example, can reduce expenditure on building distribution networks that carry raw materials.

However, transport infrastructure projects are resource-intensive and governments often have to choose between, for example, building a road bridge, an airport extension and creating additional railways link. A comprehensive transport infrastructure strategy that factored in cost-benefit analysis would help make the right investment choices.

This section looks at the Infrastructure Sub-Dimension. Accordingly, it examines what SEE economies are doing to develop strong, efficient transport infrastructure and assesses measures that improve transport systems' rates of utilisation and their costs. To that end, it uses four qualitative indicators (Figure 7.8) and nine quantitative indicators applied to modes of transport.

Figure 7.8. **Infrastructure: Sub-Dimension average scores and indicator scores**



Source: OECD assessment conducted in SEE economies (2015); see methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

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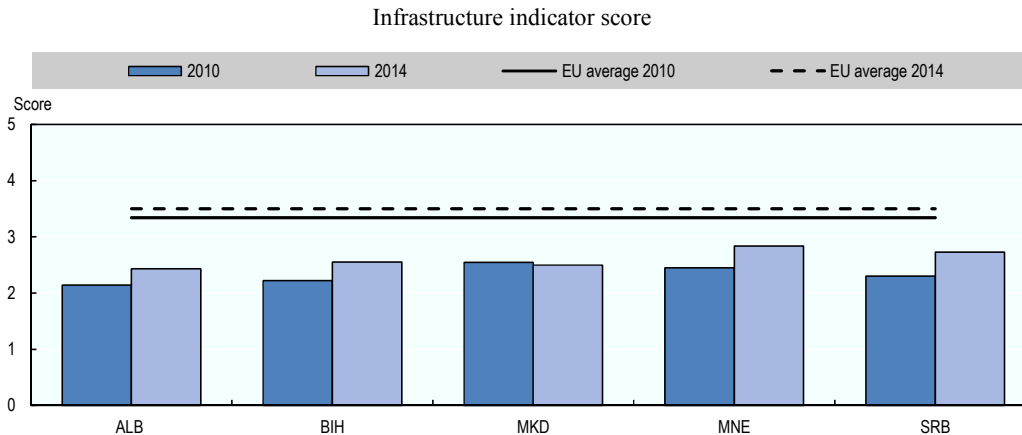
The regional average score in the Infrastructure Sub-Dimension is 1.7. It indicates that most of the economies have adopted strategies to improve the physical infrastructure and remove bottlenecks, but with varying degrees of success.

Two groups are to be distinguished: the Former Yugoslav Republic of Macedonia, Montenegro and Serbia, which score highest, and Albania, Kosovo, and Bosnia and Herzegovina which score below the regional average. All, however, perform poorly when it comes to the transport telematics indicator, possibly because telematics strategies have emerged only recently as a part of transport policy.

Physical infrastructure strategies are largely in place

Physical infrastructure is foundational in transportation. The LPI's infrastructure indicator represents the overall quality of trade- and transport-related infrastructure. All SEE economies increased their score from 2010 to 2014 except for the Former Yugoslav Republic of Macedonia which is almost unchanged (Figure 7.9). Montenegro and Serbia lead the region. On average, SEE economies score about 75% of the EU average value in 2014.

Figure 7.9. **Logistics Performance Index (LPI) – Infrastructure indicator 2010 and 2014**



Note: LPI scores range between 1 (lowest possible score) and 5 (highest possible score). Data for Albania for the year 2014 as of 2012. Data for Kosovo not available.

Source: World Bank (2015a), *Logistics Performance Index* (database), <http://lpi.worldbank.org>.

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The level of funding dedicated to physical infrastructure development is a critical factor in the ability to implement such strategies and the quality of existing infrastructure. Total inland infrastructure investment as the percentage of GDP in the region has increased since 2004 (Figure 7.10). The rise stems from the need to build and upgrade transport infrastructure, particularly in Albania as it has the lowest LPI infrastructure indicator score in the region. Average investment in infrastructure has actually outstripped the OECD average.

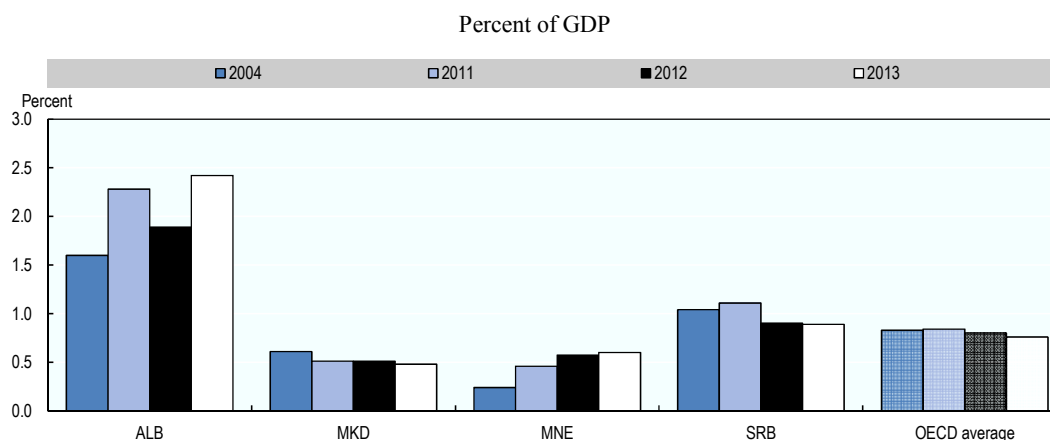
The magnitude of investment ranged widely from less than 0.6% of GDP in Montenegro to over 2% in Albania in 2013. Albania has extended its highway network over the past decade, while Montenegro has not, or only very little. Albania's investment in inland transport infrastructure is over four times the EU average, Serbia has slightly higher levels than the EU average, while the Former Yugoslav Republic of Macedonia and Montenegro have the lowest levels of expenditure (Figure 7.10).

Assessment of investment by mode of transport reveals that roads claim the lion's share – 75% of investment in the region over the period 2010–11. As for individual economies, road infrastructure accounts for over 90% of total transport investment in Albania and Kosovo.

The **physical infrastructure strategy** indicator assesses strategic policy development and implementation in physical infrastructure for all modes of transport including road, rail, air, inland waterways and seaports. All economies except Bosnia and Herzegovina

have a strategy in place. The Former Yugoslav Republic of Macedonia, Montenegro and Serbia are implementing their strategies (Table 7.1).

Figure 7.10. Total inland transport infrastructure investment, 2004 and 2011-13



Note: Data for 2012 and 2013 are OECD estimates. Data for Bosnia and Herzegovina and Kosovo not available.

Source: OECD (2015b), *OECD.Stat* (database), <http://stats.oecd.org>.

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Table 7.1. Infrastructure Sub-Dimension: Physical infrastructure strategy indicator scores

	ALB	BIH	KOS	MKD	MNE	SRB
Physical infrastructure strategy	2.5	1.0	2.0	3.0	3.0	3.0

Source: OECD assessment conducted in SEE economies (2015); see methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

StatLink  <http://dx.doi.org/10.1787/888933323268>

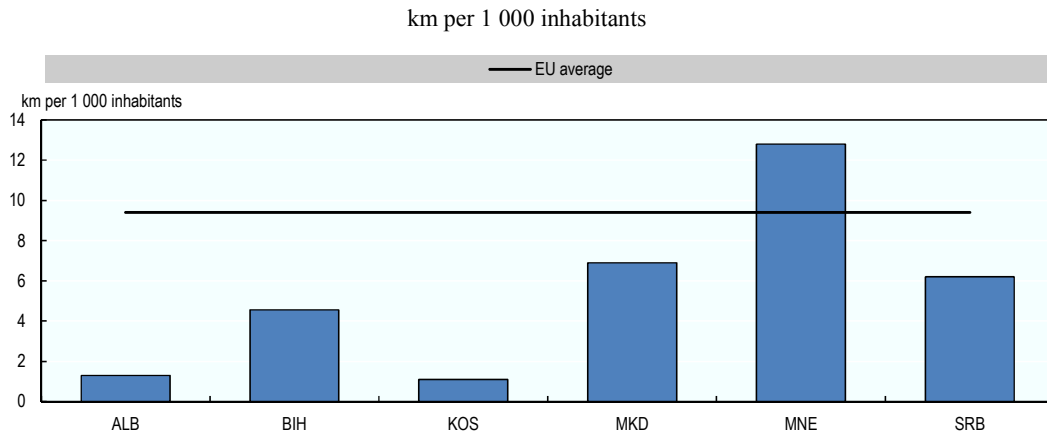
Road infrastructure is not keeping pace with density

Road infrastructure is crucial to an economy's competitiveness and trade. Continent-wide, most freight and passengers are carried by road, widely recognised as the most flexible mode of point-to-point transportation. Depending on the number of journeys and distances travelled, it is often also the most economical.

There is growing demand for roads from passenger vehicles, as automobile registrations rise fast in the SEE region. The total length of roads and motorways combined grew between 2003 and 2013 by an average of 16%. In Kosovo, the rise was over 60% and in Albania almost 50%. As for the Former Yugoslav Republic of Macedonia, the total length (in kilometres) of its motorways grew by 20% between 2005 and 20% (Eurostat).

However, road infrastructure is still not as developed as it is in the EU, as the road density index shows (Figure 7.11). There is considerable room for improvement in Albania and Kosovo and, to a lesser extent, Bosnia and Herzegovina where, though data relate to 2008, the situation has not substantially changed.

Figure 7.11. Road density (excl. motorways), 2013



Note: Data for Bosnia and Herzegovina calculated by OECD analysts based on the data from the World Bank for the period of 2008.

Source: Adapted from European Commission (2015a), *Enlargement countries – transport statistics* (webpage), www.ec.europa.eu/eurostat/statistics-explained/index.php/Enlargement_countries_-_transport_statistics#Transport_networks; World Bank (2015c), *World Development Indicators* (database), <http://data.worldbank.org/data-catalog/world-development-indicators>.

StatLink  <http://dx.doi.org/10.1787/888933321921>

For years the underfunding of maintenance work has produced roads, especially secondary roads, in a state of disrepair. If poor maintenance continues, it could jeopardise current efforts to rehabilitate and build of new roads, which would affect the SEE economies' competitiveness.

There are little reliable data on road maintenance costs and the criteria, procedures and performance indicators for financing maintenance need to be clarified. A SEETO Comprehensive Network Development Plan 2014 highlights disparities between countries in the cost per kilometre of road maintenance. One reason is the differences in definitions and standards of maintenance.

Currently, maintenance contracts are awarded on a demand-driven basis through open calls to tender or framework contracts. OECD research suggests that maintenance contracts should be performance-based in order to achieve the best value for money rather than simply the lowest price. The result would be better long-term results and lifecycle costs (OECD, 2015c). An EU-funded project is currently underway to provide technical assistance to the public enterprise, Roads of Serbia, in modern road maintenance systems governed by performance-based maintenance contracts (PBMC). A World Bank road rehabilitation programme in Albania, the Former Yugoslav Republic of Macedonia and Serbia includes assistance in the management of roads and maintenance systems.

Rail infrastructure suffers from low investment and poor maintenance

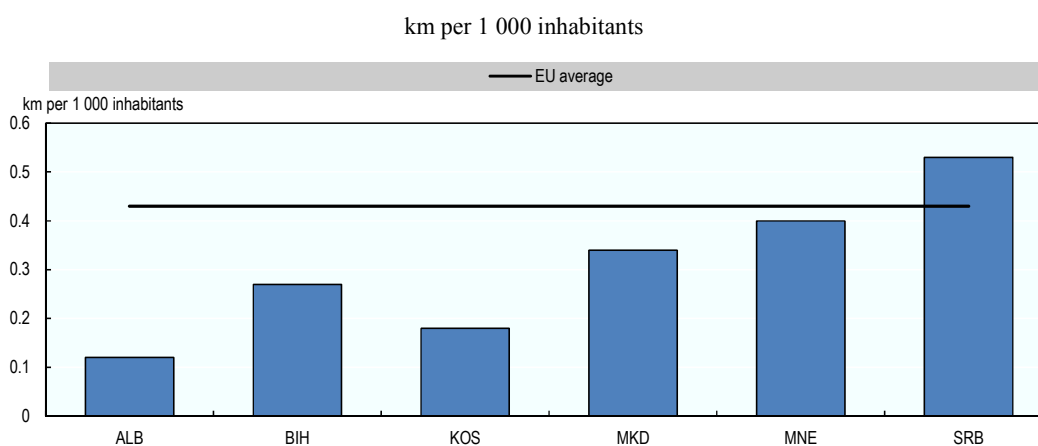
Although rail freight has a better environmental profile than trucking and is cheaper per tonne per kilometre (tonne-km), the rail network in any country is far less well developed than its road network. Many governments have plans to switch traffic from road to rail in order to curb the negative externalities of road traffic such as congestion, accidents and the environmental footprint. To do so, though, countries should have a dense railway network and good multi-modal platforms for trans-shipping. Railways

themselves should also be modern to be able to serve as a complementary mode of transport whenever it makes economic sense.

The SEE region's total railway network did not grow between 2003 and 2013. In fact, it shrank by 74 kilometres. Overall, though, SEE railway density (Figure 7.12) is in line with the EU average – with the exception of Albania, Bosnia and Herzegovina, and Kosovo – and in Serbia it is even higher.

The effectiveness and efficiency of the railway network across the region have paid the price of years of maintenance spending cuts. Reliability, punctuality and journey times have all suffered. According to SEETO (2013a) poor maintenance – which meets 11% of yearly needs – has caused extensive speed restrictions on Serbian rail network, with speeds on approximately half of its lines not exceeding 60 km/h.

Figure 7.12. **Railway density, 2013**



Source: Adapted from European Commission (2015a), *Enlargement countries – transport statistics* (webpage), www.ec.europa.eu/eurostat/statistics-explained/index.php/Enlargement_countries_-_transport_statistics#Transport_networks; World Bank (2015c), *World Development Indicators* (database), <http://data.worldbank.org/data-catalog/world-development-indicators>.

StatLink  <http://dx.doi.org/10.1787/888933321935>

Users have turned to roads which, in turn, have further contributed to neglect of the railway network. Its infrastructure has aged and deteriorated to a point where it requires immediate, costly upgrading. SEETO (2013b) reports that only 4% of the region's railway network was in very good condition, with significant differences between the economies in maintenance expenditure per kilometre.

Multi-annual performance-based contracts could contribute to the proper maintenance of SEE's railway networks. Governments would pay contractors according to how well they were deemed to have complied with a contract's performance specifications and not on the strength of the quantity of works and services performed.

Air transport infrastructure is developing

SEETO distinguishes the following ten airports in six SEE economies that form part of the SEETO Comprehensive Network: Banja Luka, Belgrade, Nis, Podgorica, Pristina, Sarajevo, Skopje, Tirana, Tivat and Ohrid. Until recently, the terminal buildings were relatively small and their technical equipment needed to be upgraded. Major

reconstruction and modernisation work is now underway to build capacity that meets market demand. Skopje, Ohrid, Pristina, Podgorica and Belgrade airports have gone through major refurbishment and are up to the highest international standards.

A country's airport density index measures the number of airports that were the point of departure of at least one scheduled passenger flight per million inhabitants. The index helps to analyse cross-border infrastructure. The SEE economies' scores in 2012 ranged from Serbia's 0.3 to 3.17 for Montenegro whose high score may be explained by its small population. The SEE region boasts a higher airport density index than most other parts of the world, a possible asset for further integration into the global economy.

Inland waterway infrastructure's high cargo-carrying potential is impeded by poor maintenance

Inland water-borne transport infrastructure consists of waterways with associated buildings, navigation machinery, ports and quays. Inland waterways (IWWs) have very attractive commercial potential for carrying large shipments of goods.

In Europe, the ideal IWW navigation system is the Rhine's. It links large economic centres along its course and has a dense canal network in its low-flow stretches, navigable tributaries and several connection points with other large IWWs. The volume of goods it carries, the density of its network and the density of centres with extremely high economic activity provide the economic base for navigation.

Two great rivers in South East Europe could be used as cargo-carrying IWWs. They are the Danube and Sava. The Sava flows through Slovenia, Croatia, Bosnia and Herzegovina and Serbia into the Danube at Belgrade. As for the River Danube, is an international waterway that crosses 10 countries – including Germany, Romania, Hungary, Serbia, Austria, Bulgaria and Croatia. Both rivers have much transport potential.

However, IWWs in the SEE economies are far less developed, with bottlenecks caused by poor maintenance, wrecks, and even unexploded ordnance on river beds and along the banks. Vessels navigating inland waterway in Pan-European Transport Corridor VII, along the 180-kilometre Serbian stretch of the Danube, have contend to with 24 critical bottlenecks. One example is at Apatin on the Croatian border where the fairway is too narrow. Considerable investment would be needed to remove such bottlenecks.

Particularities of the IWW system in the SEE economies are that it provides no cross-links to other important industrial areas, has a low level of inter-modal connectivity and includes no extensive canal systems at any of its sections. Inland waterways could claim a larger share of the transport services market if they could be integrated into the inter-modal transport network. Further gains could be secured by dredging, improving navigability, and building multimodal hubs for transshipment between water, rail and road.

Waterway navigation safety at the EU level benefits from automated River Information Services (RIS) and particularly the vessel tracking system (VTS). Internal waterways are reliable to the degree to which they meet the minimum requirements necessary for cost-effective navigation.

Seaports need to improve intermodal connections to compete internationally

Although three economies have coasts, the SEETO Comprehensive Network includes seaports only in Albania (Durrës and Vlora) and Montenegro (Bar). Most Bosnia and Herzegovina freight transits through the Croatian port of Ploče, which has a direct railway connection to Sarajevo and the rest of Bosnia and Herzegovina.

Durrës is the busiest seaport in the SEETO Comprehensive Network and its importance is growing steadily. Work to upgrade it is continuing after the recent overhaul of the terminal building. The port is especially important as it lies on Pan-European Transport Corridor VIII. Currently (2015), it is 25% cheaper, 300 kilometres shorter and saves 10 hours in travel time to travel from Skopje (the capital city of the Former Yugoslav Republic of Macedonia) from the Italian port of Bari through Durrës rather than through Igoumenitsa in Greece. Yet most shippers prefer the route through Greece. To make Durrës more attractive, the Albanian government is planning action a set of measures. They include improving multi-modal connections and logistics, which are key to making the port more competitive and smoother-functioning.

Durrës and Bar (in Montenegro) are the only ports in the six economies of the SEE region that can take container ships. Any plans to develop them should factor in hinterland connection capacity, since poor links are often cited as bottlenecks that hamper the movement of goods in and out of ports.

SEETO (2013a) calls on the SEE economies to modernise and upgrade their ports in order to attract global cargo flows and compete with Mediterranean and other Adriatic ports. To boost growth and gear port activities to the market economy, the Albanian government has formed partnership with private operators as an alternative way of managing the Durrës and Vlora oil terminals and Durrës Container Port.

SEE economies support regional infrastructure project priorities

Defining strategic priorities is the first step in the process of planning, enabling and funding infrastructure projects. As public finances are increasingly squeezed, prioritising and delivering projects in the right order is critical to meeting economic and social demands. Accordingly, the SEETO Comprehensive Network has set regional targets and infrastructure priorities for regional growth and increased competitiveness. The qualitative indicator, **infrastructure project prioritisation**, assesses whether governments are setting and prioritising projects in line with SEETO as established strategic practice.

Table 7.2. **Infrastructure Sub-Dimension: Infrastructure project prioritisation indicator scores**

	ALB	BIH	KOS	MKD	MNE	SRB
Infrastructure project prioritisation	1.0	1.0	1.0	3.0	2.0	3.0

Source: OECD assessment conducted in SEE economies (2015); see methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

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All SEE economies do, in fact, prioritise their transport infrastructure investment projects in accordance with the objectives of the SEETO Comprehensive Network and the TEN-T priority areas. Albania, Bosnia and Herzegovina, and Kosovo have yet to set up formal systems (Table 7.2).

Transport telematics does not appear to feature strongly in infrastructure strategies

Transport telematics applies information and communication technologies (ICT) to transport to make it cleaner, more efficient, safer and more secure, and to facilitate interaction between users, infrastructure and transport modes (EC, 2007). Intelligent transport systems (ITS) are being developed for applications like road traffic tolling, signalling and interoperability on the railways, air-traffic control and on-board telephony in aviation, and maritime navigation and communication. Furthermore, such technological updates optimise safety and transport as outlined by SEE 2020 commitments. The **transport telematics strategy** indicator assesses the roll-out, if any, of telematics to manage transport infrastructure more cost-efficiently.

Table 7.3. **Infrastructure Sub-Dimension: Transport telematics strategy indicator scores**

	ALB	BIH	KOS	MKD	MNE	SRB
Transport telematics strategy	0.5	0.5	0.0	2.0	0.5	1.5

Source: OECD assessment conducted in SEE economies (2015); see methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

StatLink  <http://dx.doi.org/10.1787/888933323283>

Transport telematics strategy and use are nascent across the region (Table 7.3). Serbia has just developed a draft strategy and action plan for deploying telematics and approved 134 intelligent transport system technical standards. Its national strategy for 2008-15 explicitly includes the use of transport telematics and ITS for monitoring transport parameters like flows and speed. The Former Yugoslav Republic of Macedonia and Montenegro also have telematics strategies in place. Albania, Bosnia and Herzegovina and Kosovo would benefit from taking their first measures to introduce transport telematics.

The way forward in removing physical barriers, prioritising and increasing the use of telematics in infrastructure policy

As the SEE economies look to the future, they could give thought to interventions that would improve their transport infrastructure and availability of multi-modal nodes. They could continue implementing their strategies. Initially, they could identify priority projects in the SEETO Comprehensive Network and ensure sufficient funding is available. They could prioritise maintenance over new extensions. They could consider carrying out comparative impact analyses when faced with the dilemma of prioritising transport infrastructure investment options.

Albania, Bosnia and Herzegovina, and Kosovo would all benefit from adopting a formal strategy or methodology incorporating SEETO prioritisation.

All SEE economies would benefit from developing and adopting holistic transport telematics strategies.

Box 7.2. Some principles behind public governance of public-private partnerships

A. Establish a clear, predictable and legitimate institutional framework supported by competent and well-resourced authorities.

- The political leadership should ensure public awareness of the relative costs, benefits and risks of public-private partnerships and conventional procurement. Popular understanding of public-private partnerships requires active consultation and engagement with stakeholders as well as involving end-users in defining the project and subsequently in monitoring service quality.
- Key institutional roles and responsibilities should be maintained. This requires that procuring authorities, public-private partnerships units, the central budget authority, the supreme audit institution and sector regulators are entrusted with clear mandates and sufficient resources to ensure a prudent procurement process and clear lines of accountability.
- Ensure that all significant regulation affecting the operation of public-private partnerships is clear, transparent and enforced. Red tape should be minimised and new and existing regulations should be carefully evaluated.

B. Ground the selection of public-private partnerships in value for money.

- All investment projects should be prioritised at senior political level. As there are many competing investment priorities, it is the responsibility of government to define and pursue strategic goals. The decision to invest should be based on a whole of government perspective and be separate from how to procure and finance the project. There should be no institutional, procedural or accounting bias either in favour of or against public-private partnerships.
- Carefully investigate which investment method is likely to yield most value for money. Key risk factors and characteristics of specific projects should be evaluated by conducting a procurement option pre-test. A procurement option pre-test should enable the government to decide on whether it is prudent to investigate a public-private partnerships option further.
- Transfer the risks to those that manage them best. Risk should be defined, identified and measured and carried by the party for whom it costs the least to prevent the risk from realising or for whom realised risk costs the least.
- The procuring authorities should be prepared for the operational phase of the public-private partnerships. Securing value for money requires vigilance and effort of the same intensity as that necessary during the pre-operational phase. Particular care should be taken when switching to the operational phase of the public-private partnerships, as the actors on the public side are liable to change.
- Value for money should be maintained when renegotiating. Only if conditions change due to discretionary public policy actions should the government consider compensating the private sector. Any re-negotiation should be made transparently and subject to the ordinary procedures of public-private partnership approval. Clear, predictable and transparent rules for dispute resolution should be in place.
- Government should ensure there is sufficient competition in the market by a competitive tender process and by possibly structuring the public-private partnerships programme so that there is an on-going functional market. Where market operators are few, governments should ensure a level playing field in the tendering process so that non-incumbent operators can enter the market.

Box 7.2. Some principles behind public governance of public-private partnerships
(continued)

C. Use the budgetary process transparently to minimise fiscal risks and ensure the integrity of the procurement process.

- In line with the government’s fiscal policy, the central budget authority should ensure that the project is affordable and the overall investment envelope is sustainable.
- The project should be treated transparently in the budget process. The budget documentation should disclose all costs and contingent liabilities. Special care should be taken to ensure that budget transparency of public-private partnerships covers the whole public sector.
- Government should guard against waste and corruption by ensuring the integrity of the procurement process. The necessary procurement skills and powers should be made available to the relevant authorities.

Source: OECD (2012a), *Recommendations of the Council on the Principles for Public Governance of Public-Private Partnerships*, www.oecd.org/governance/budgeting/PPP-Recommendation.pdf.

Policy development in addressing non-physical barriers in infrastructure vary

Ten years ago, transport infrastructure was one of the chief barriers to trade and the flow of goods through South East Europe. However, recent interviews have revealed that, in the wake of numerous infrastructure investment projects, only 4% of respondents still believe it is. Today, non-physical barriers like regulatory, institutional and administrative formalities are much more of an impediment to the performance of the regional transport network than physical barriers. They can take the form of required customs physical or documentary inspections, the absence of cross-border electronic data exchange, or even out-of-date national customs websites and IT systems at border crossings. Non-physical barriers might also be poor private-sector involvement and a lack of competition, or fees and charges on imports and exports, all of which increases transport costs. Furthermore, “variability is one of the main factors of efficiency of the customs and border clearance” (Ojala and Çelebi, 2015). Unpredictability and variability in clearance times are issues for international shippers and deter them from using certain routes. They prefer established, predictable procedures, even if they are lengthy, because they are able to plan accordingly.

Although progress has been made in recent years, there is still room for improvement. According to the World Bank report, *Doing Business 2014*, SEE economies require six to eight documents per shipment to export goods. The high-income OECD countries require 3.8 on average. There is a similar pattern in import documents – between five and eight in contrast to 4.3.

With the objective of further identifying and analysing physical and non-physical barriers to efficient operation of its Comprehensive Network, SEETO commissioned the *Regional Balkans Infrastructure Study* (REBIS) in 2013. It also plans to produce transport demand, forecasting and transport planning models for the region. It will then draw up a priority action plan to address the study’s findings. It will include time and cost estimates for any interventions that are required. National strategies and measures should build on those findings and similarly adopt action plans regarding investment in new infrastructure and maintenance of old infrastructure.

The **overcoming non-physical barriers to infrastructure strategy** indicator measures progress in reducing non-physical trade barriers – i.e. administrative documentation, customs procedures and fees – to cut transport costs and facilitate trade. The indicator considers a range of non-physical barriers and focuses on integrated border management strategies. For a complementary analysis on barriers to trade, please see Chapter 2 in this publication.

Table 7.4. **Infrastructure Sub-Dimension: Overcoming non-physical barriers to infrastructure strategy indicator scores**

	ALB	BIH	KOS	MKD	MNE	SRB
Overcoming non-physical barriers to infrastructure strategy	1.0	1.0	1.0	3.0	2.0	2.0

Source: OECD assessment conducted in SEE economies (2015); see methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

StatLink  <http://dx.doi.org/10.1787/888933323291>

All SEE economies have taken some action in border formalities in accordance with SEETO's 2012-14 Strategic Work Programme. Similarly, they have all, to varying degrees, addressed integrated border management strategies. Although all the economies have taken measures to address non-physical barriers, they are individual initiatives rather than part of a coherent regional strategy, which explains the difference in scores Table 7.4. Individual measures include setting up one-stop shops across the region to promote swift border crossings for road traffic.

The Former Yugoslav Republic of Macedonia has made the most headway with an integrated border management strategy in place since 2003. It has also adopted further strategies and action plans, such as the Customs Administration Interoperability Implementation Strategy, the Customs Administration ICT Strategy, and Strategy for the Implementation of a New Computerised Transit System.

Kosovo has signed one-stop shop border agreements with Albania, Montenegro, the Former Yugoslav Republic of Macedonia and Serbia. And it is currently in negotiation with Italy over scrapping the tax on trucks from Albania that transit through the port of Durrës. As for Serbia, it has developed a strategy to remove non-physical barriers and bottlenecks in its inland waterways.

The way forward for removing non-physical trade barriers

As the SEE economies look ahead, they could consider a number of interventions to reduce non-physical trade barriers. Albania, Bosnia and Herzegovina, and Kosovo could develop a coherent strategy or action plan to tackle key non-physical bottlenecks in accordance with the recommendations of SEETO and the Central European Free Trade Agreement (CEFTA). Montenegro, the Former Yugoslav Republic of Macedonia and Serbia could further advance the implementation and monitoring of measures to reduce non-physical barriers.

Governments could not only progress with regulation and legislation, but also pay special attention to the managerial aspects of clearance. For example, customs procedures could be simplified and automated to increase productivity gains due to improved IT capability and improved management and human resources.

All the SEE economies could take timely action to prevent the new requirements of the EU's transport *acquis* from initially generating non-physical barriers, such as new truck and train licences and special permits.

In addition, the SEETO Flagship axes initiative, through an EC Technical Assistance, could create an Action Plan for addressing targeted non-physical barriers on selected corridors and routes from the SEETO Comprehensive Network.

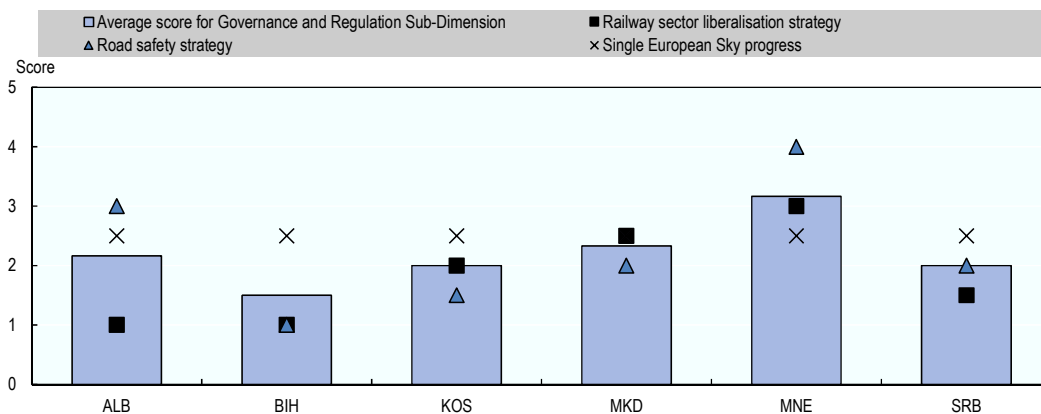
Governance and Regulation Sub-Dimension

Good governance in transport is critical to sustaining its development and economic growth, which makes it important to regional competitiveness. The challenge of improving transport infrastructure in response to growing activity and demand can be met by optimising the sector's efficiency and getting the most out of constrained government budgets. Efficiency in road and railway construction can be gained by reducing cost and time overruns on civil works contracts, reducing over-engineering in road and rail design, and inviting the private sector to participate in infrastructure financing. Regulation includes ensuring competition in passenger and freight carrier markets in all modes of transport and delivering a safe, sustainable transport sector.

The Governance and Regulation Sub-Dimension examines how well transport infrastructure and networks are regulated and operated. In the SEE context, it relates in particular to harmonisation with the EU transport *acquis communautaires* as part of the effort to create market conditions common to the EU and South East Europe. Harmonisation with the EU regulatory framework is a prerequisite for full integration into the common market.

This section assesses the policy sub-dimension as of June 2015 through two quantitative indicators and three qualitative indicators, which are: railway liberalisation strategy, road safety strategy and Single European Sky (SES) progress.

Figure 7.13. **Governance and Regulation: Sub-Dimension average scores and indicator scores**



Source: OECD assessment conducted in SEE economies (2015); see methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

StatLink  <http://dx.doi.org/10.1787/888933321943>

With a regional average of 2.2, the SEE economies score highest in the Governance and Regulation Sub-Dimension with varying scores by indicator (Table 7.5). Most of the governments already have strategies in place and are implementing them. Some, like

Montenegro's Road Safety Strategy, are well advanced in implementation and are now monitoring and integrating findings.

Table 7.5. **Governance and Regulation Sub-Dimension: Indicator scores**

	ALB	BIH	KOS	MKD	MNE	SRB
Railway sector liberalisation strategy	1.0	1.0	2.0	2.5	3.0	1.5
Road safety strategy	3.0	1.0	1.5	2.0	4.0	2.0
Single European Sky progress	2.5	2.5	2.5	2.5	2.5	2.5

Source: OECD assessment conducted in SEE economies (2015); see methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

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Railway liberalisation is at different stages in the region, but still remains a closed shop

Although all economies have started out on the path to railway liberalisation, there is a still long way ahead. The SEE 2020 Strategy emphasises liberalisation in railway services and opening up the rail market to competition as key strategic action. However, as SEETO points out, railway reform is an area where most economies have so far achieved little (SEETO, 2013a).

Railway liberalisation is a slow process (see Box 7.3 on the German experience) and SEE is no exception. Nevertheless, there has been progress in the transposition and implementation of EU legislation over recent years reflected in the **railway sector liberalisation strategy** indicator. Some SEE economies, for example, have drafted or extended safety and interoperability legislation to transpose the EU rail *acquis*. Still, the railway market remains closed. There have been virtually no new entrants in the region, so setting back what has been achieved in alignment with the *acquis* and detracting from efforts in institutional reform.

All SEE economies have started engaging with reform to liberalise their railways. They have all adopted legislation as part of harmonisation with the *acquis*. The sole exception is Albania, which is finalising the process and has not yet formally adopted a railway liberalisation strategy. By contrast, three economies – Montenegro, the Former Yugoslav Republic of Macedonia and Serbia – are further advanced in liberalisation than their peers.

Governments have made efforts to develop railway oversight. All, apart from Albania, have established regulatory, licensing and safety authorities. However, not all those bodies are fully independent, which decreases their indicator scores. It should also be noted that the economies with small rail sectors are seeking ways to reduce the financial burden of introducing and running all the railway regulatory bodies in EU rail provisions.

Montenegro has almost completed alignment with the EU rail *acquis*. Separate companies have run infrastructure (IM) and operations (RU) since June 2008 and independent operators have also taken charge of cargo and rolling stock maintenance.

Kosovo has made progress since 2011 when it adopted its new Railway Law. Since then it has vertically separated its railway company and in 2012 drew up a new institutional framework. It has created a regulatory authority with four separate units – the Licensing, Safety, Market Regulatory, and Interoperability and Notified body.

Serbia is prioritising implementation of the EU's Fourth Railway Package, intended to unbundle the ownership of infrastructure and the operation of passenger and freight. Implementation takes years, but Serbia has already completed the third EU railway package, designed to open up international passenger services to competition.

Montenegro, the Former Yugoslav Republic of Macedonia, and Serbia have also adopted safety and interoperability legislation to bring their bodies of law increasingly into line with the EU's rail *acquis*. To tighten the safety of passengers and freight, the law in those economies will now further regulate driver licensing and certification, safety management systems, accident and incident investigation.

The SEE economies still have strides to make when it comes to implementing reform, particularly in the liberalisation of railway services, where there have still been virtually no new market entrants.

As they look to the future, the SEE economies could consider a number of directions in which to advance harmonisation once they have passed all key rail reforms. Albania could formally adopt a railway liberalisation strategy.

Bosnia and Herzegovina, Kosovo, Montenegro, the Former Yugoslav Republic of Macedonia, and Serbia could continue to develop regulatory, licensing and safety authorities through measures including adequate training and staff levels.

Box 7.3. The Deutsche Bahn experience

OECD experience shows the benefit of opening up the railway market to competition. In Germany for instance, reform has improved serviced and reduced subsidies and overall costs. It has also made the incumbent operator, Deutsche Bahn, which was loss-making 20 years ago, into a profitable firm today.

To take reform forward and organise competition in the railway market, the government could create a separate infrastructure entity that would charge trains for access. It could also liberalise the train operating market, awarding licences to new operators to run trains on existing tracks and pay a toll for access to infrastructure. Operators would compete on ticket prices, on-board services, rolling stock attractiveness and timetables.

However, railway liberalisation is a lengthy process and in Germany it took over 20 years.

Source: Deutsche Bahn (2012), *1994 to 1999: Years of change* (webpage), www.deutschebahn.com/en/group/history/chronology/1994_2000.html.

Road safety has improved, but casualties in traffic accidents are still high

Road safety in the region is still a major concern that calls for action. The SEE 2020 Strategy emphasises the importance of alignment with EU *acquis* in the area of road safety, where there is substantial room for progress across the SEE region.

It is a transport policy priority in the EU, whose white paper on transport envisions the harmonisation of road safety technology, improved roadworthiness tests, a comprehensive strategy of action on road injuries and emergency services, and promoting the use of safety equipment and policies to protect vulnerable transport users such as pedestrians, cyclists and motorcyclists (EC, 2011).

According to statistics collected by SEETO's GIS application, SEETIS III, 43 645 people were injured on the roads in 2012 in the six SEETO economies – a very high number, even though it constituted a drop of 8%.

However, when analysing the number of road fatalities per million of population, the regional trend is downward (Figure 7.14).

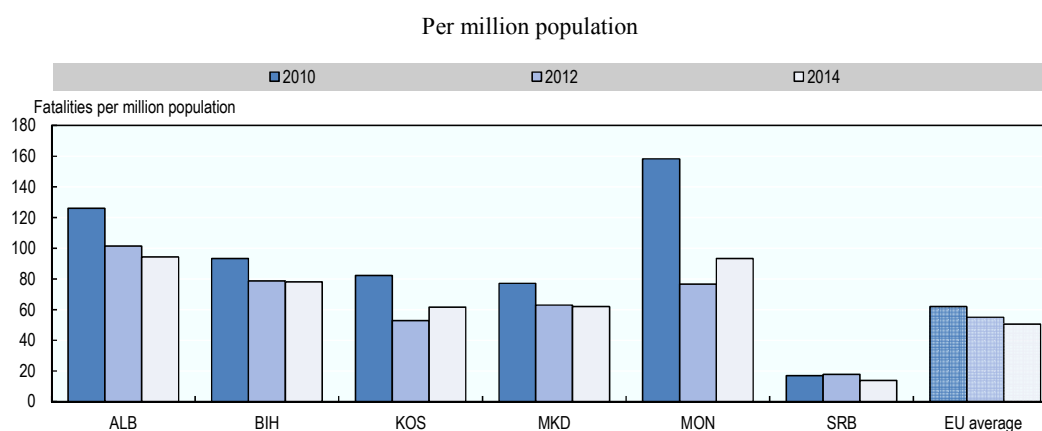
The qualitative indicator, **road safety strategy**, examines whether or not economies have comprehensive road safety strategies in place and how far they have taken implementation and alignment with EU regulatory policy.

Most economies in the region have made efforts to draw up, approve and implement strategies to improve road safety. It remains a grave concern, however, and the economies have generally laid solid foundations for improvement by adopting national road safety strategies or programmes.

The EU has given support to SEETO's Strategic Working Programme 2012-2015. It has drawn up new curricula and guidelines and provided training to road safety auditors from the SEE economies.

Road safety strategy should focus on impacts and involve all relevant stakeholders. It should not only list activities and strategic goals, but plan proper road safety budget allocations at national and regional levels. Finally, the economies should share regional good practices in order to promote effective approaches.

Figure 7.14. Number of road fatalities, 2010, 2012 and 2014



Source: European Commission (2015b), *How safe are your roads? Commission road safety statistics show small improvement for 2014* (press release), www.europa.eu/rapid/press-release_IP-15-4656_en.htm; South East Europe Transport Observatory (n.d), *SEETIS* (webpage), <http://webseetis.seetoint.org/seetis.home>; OECD/ITF (2015), *ITF Transport Outlook 2015*, <http://dx.doi.org/10.1787/9789282107782-en>; World Bank (2015c), *World Development Indicators* (database), <http://data.worldbank.org/data-catalog/world-development-indicators>.

StatLink  <http://dx.doi.org/10.1787/888933321954>

Montenegro has made great strides in road safety. It launched its National Strategy for Road Transport Safety Improvement in 2010 and is scheduled to run to 2019. It then followed up with the creation of a co-ordination body which monitors the implementation of strategy on a regular basis – a factor in Montenegro's high score. By 2013, 6 objectives had been fully achieved, 17 partially so and 6 not yet.

Albania, too, has made substantial progress. It is currently implementing its 2011-15 National Road Safety Strategy and Action Plan. It has established a number of bodies that are up and running to oversee different aspects of road safety. Examples are the Inter-ministerial Committee on Road Safety, the Albanian Road Authority and the Directorate of Road Traffic and Safety.

Serbia has approved a Road Traffic Safety Law and, more recently, launched its Road Safety Strategy covering the period 2015-20.

As the SEE economies look ahead, they could consider a number of interventions to further road safety. Bosnia and Herzegovina and Kosovo could adopt coherent domestic road safety strategies. The Former Yugoslav Republic of Macedonia and Serbia could intensify the implementation of domestic strategies. Albania and Montenegro could improve road safety monitoring mechanisms and adjust them to regional and EU best practices.

Single European Sky legislation transposition has begun

Single European Sky (SES) comprises two legislation packages: SES I and II. SES I, adopted in 2004, established the framework for creating the Single European Sky, the provision of air navigation services and the organisation and use of airspace. SES II extended the scope of the regulation in order to improve the performance and sustainability of the European aviation system. The programme, Implementation of a Single European Sky in South East Europe (ISIS), is funded by the European Commission which supports SES implementation in the region's economies.

ISIS I (2010-12) supported economies in transposing EU law into their domestic legislation and building the capacity of national supervisory authorities. ISIS II builds on that and seeks to facilitate and monitor implementation with special emphasis on the SES performance scheme and cross-border co-operation aspects.

The **Single European Sky progress** indicator thus measures SEE economies' progress towards full single sky implementation, as evaluated by ISIS I and II. The SEE economies' long-time commitment to putting SES in place accounts for their good scores in the Single European Sky progress indicator. Their rapidly developed aviation infrastructure has been matched by their adherence to international and EU regulations on navigation, safety, security and market liberalisation. The SES is an important element of the European Common Aviation Area Agreement (ECAA) signed in 2006. Under the terms of the ECAA, the SEE economies undertake to align their aviation legislation with the EU *acquis* – thereby gaining full access to one of the key areas of the common market and taking a step towards further economic integration.

However, economies did not score higher because the process of transposing SESII has only recently begun. One of the main institutional obligations in the air transport sector is the establishment and operation of accident and incident investigating bodies. In some cases, economies appoint a single institution for several modes of transport, as does Kosovo, where the Aeronautical and Railway Accident and Incident Investigation Commission answers to the Office of Prime Minister. Albania, for its part, has established a National Investigation Body, while in the Former Yugoslav Republic of Macedonia the Committee for Investigation of Aviation Accidents and Serious Incidents is independent.

All SEE economies have made headway in SES, transposing the SES I package into domestic legislation. The ISIS programme has proven an effective instrument to that end.

As they look ahead, all SEE economies should consider completing the transposition of the SES II regulations and implementing them. They could further improve the performance and capacities of the national supervisory authorities. They could further strengthen cross-border co-operation and share good practices.

Sustainability Sub-Dimension

The goals that the SEE 2020 Strategy pursues include lower energy consumption per unit of transport and the switch of freight from roads to rail and waterways. Meeting those goals would help cut overall transport costs and so boost exports and imports.

Transport intermodality and sustainability go hand in hand. In many OECD member countries, policy advice considers the promotion of intermodal practices as an important part and objective of sustainable transport strategies that often include modal shift action – i.e. measures to divert freight-carrying from road to rail and, where feasible, to coastal shipping and waterways.

Moreover, driven by environmental concerns and sustainability objectives, green transport policy is assuming greater importance in policy formulation in OECD countries (OECD, 2012b). They have set some ambitious targets for increasing the use of low-impact inland modes of transport. One example comes from the Port of Rotterdam which plans to use inland waterway for 45% of its transport needs by 2035, road for 35% and rail for 20% (OECD, 2010). Measured in total tonne-kilometres, roads accounted for 75%, inland waterways 6.9%; and rail 18.6% of freight transport across the EU in 2012. In order to achieve green transport targets, it is not enough to act on energy efficiency alone. Modes of transport that complement each other should be promoted, too.

Box 7.4. Regulatory Enforcement and Inspection, a valuable reference document from the OECD

The OECD publication, *Regulatory enforcement and inspection*, was developed to share good practices in governance and regulatory enforcement. It seeks to assist countries in reforming inspection practices and developing cross-cutting policies on regulatory enforcement. It sets out principles for building overarching frameworks that support better regulatory enforcement through inspections, making them more effective, efficient, less burdensome for those inspected and less resource-demanding for governments.

Regulatory enforcement and inspection offers valuable guidance that is relevant to transport policy. One chapter, for example, considers co-ordination and consolidation. It offers advice on how to improve the efficiency of inspections, reduce their costs and ease the burden they represent by restructuring regulatory enforcement agencies to consolidate their functions and eliminate duplication and overlaps.

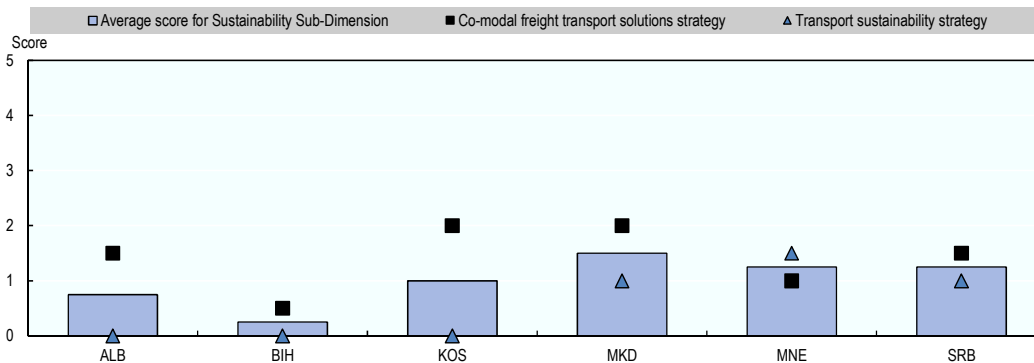
One specific recommendation is for a “lead agency” which would inform others of the results observed on the ground, for instance. Such an approach could be taken by agencies working in different regulatory areas, such as transportation safety, occupational safety and health, and environmental inspections.

Another issue addressed in *Regulatory enforcement and inspection* is one that causes considerable confusion, duplicates resources and controls, and generates enforcement gaps because of unclear mandates and communication breakdowns. It occurs when agencies at national and local levels share enforcement duties in a given field. Governments should be very careful to clearly delineate agencies’ mandates, inform bodies and businesses, and support the introduction of information systems that link the players in the enforcement “chain” so that they share critical information efficiently and effectively.

Source: OECD (2014), *Regulatory Enforcement and Inspections*, <http://dx.doi.org/10.1787/9789264208117-en>.

The section assesses the Sustainability Sub-Dimension through two quantitative indicators and two qualitative indicators – **co-modal freight solutions strategy** and **transport sustainability strategy** (Figure 7.15). They measure progress towards resource efficiency, environmental protection, reduced health impacts and greater transport safety.

Figure 7.15. Sustainability: Sub-Dimension average scores and indicator scores



Source: OECD assessment conducted in SEE economies (2015); see methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

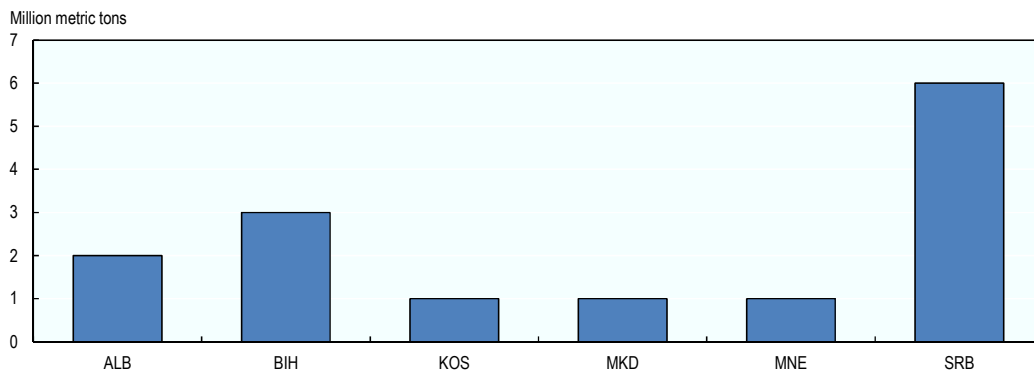
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The SEE economies have considerable scope for improvement in the Sustainability Sub-Dimension – none scores over 2 against either indicator. In the transport sustainability strategy indicator, half the economies score zero and the other half score below 2, which suggests that sustainable transport strategies are not yet common SEE practice (Figure 7.15).

CO₂ emissions from transport in the SEE (Figure 7.16) are still lower than in the EU. However, vehicles are considerably older and as demand for transport from both passengers and freight has been growing there is a need for a comprehensive approach to tackle transport sustainability. According to Eurostat, more than 70% of passenger cars were over 10 years old in the Former Yugoslav Republic of Macedonia in 2012.

Figure 7.16. CO₂ emissions from transport, 2011

Million metric tons



Source: World Bank (2015c), *World Development Indicators* (database), <http://data.worldbank.org/data-catalog/world-development-indicators>.

StatLink  <http://dx.doi.org/10.1787/888933321979>

Not only are SEE CO₂ emissions from road traffic much lower than the average OECD level, they have been constant for the last few years. Total CO₂ emissions in the six economies were just over 13 million metric tons in 2011, comparable to half of Belgium's in the same year. Although the SEE region's environmental footprint is reasonable, the SEE 2020 Strategy seeks to further reduce it.

A number of other measures could also contribute to improved transport sustainability – e.g. introducing natural gas in commercial road and waterborne transport, increasing the share of electrical transport with electricity recuperation, increasing the share of public transport in urban areas and facilitating cycling. Other measures could be to carry larger volumes of freight and people jointly to their destination, then use individual transport to cover the “last mile”. Sustainable transport policies have their greatest impact in cities where it is easiest to persuade passengers to use public transport or even switch to cycling.

As demand for both passenger and freight transport rises, there is a growing need for a comprehensive approach to transport sustainability. Although all the components in such an approach contribute to greener transport, one essential element is intermodal solutions.

Sustainable, intermodal transport solutions remain little developed in the SEE region

Although increasing road transport initially produces considerable productivity gains, the resultant negative externalities are, in the long run, high. They include local pollution, noise and fumes. The SEE 2020 Strategy's Transport Dimension considers as key strategic action the optimisation of individual modes of transport to create co-modal solutions.

Co-modality is a term which relates to finding the right complementary combination between one or more modes transport (short sea shipping, rail, inland waterways and road) in a particular transport corridor. The purpose is to maximise efficiency and the use of resources for most sustainable journey possible.

Co-modal solutions optimise use and minimise environmental impacts. However, they are also reliable, limit congestion and lower operating and administrative costs (EC, 2015). Co-modality could thus help boost the SEE region's competitiveness and the sustainability of transport.

On the regional level, SEETO, assisted by the RCC, has commissioned a Study on Intermodal Transport for SEE. It will assess the intermodal potential in the SEETO region and identify the most promising main intermodal corridors and freight logistics centres. The study will examine how optimising the existing infrastructure may improve intermodal transport and efficiently combining different modes of transport will yield an integrated transport system. A coherent network of effective transfer points and terminals throughout SEE is vital to effective South East European intermodal transport. The study, it is hoped, will lay the regional foundations and propose a comprehensive action plan for developing intermodal transport in the region.

Transport sustainability strategies are not yet common and several economies do not specifically address the transport sustainability issue in their national strategies. Nevertheless, sustainability-related questions are increasingly becoming part of infrastructure development plans and all the economies have individual projects promoting transport sustainability.

Table 7.6. Sustainability Sub-Dimension: Indicator scores

	ALB	BIH	KOS	MKD	MNE	SRB
Co-modal freight transport solutions strategy	1.5	0.5	2.0	2.0	1.0	1.5
Transport sustainability strategy	0.0	0.0	0.0	1.0	1.5	1.0

Source: OECD assessment conducted in SEE economies (2015); see methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

StatLink  <http://dx.doi.org/10.1787/888933323310>

Policy frameworks for promoting co-modal freight solutions and transport sustainability strategies are still low priority for SEE governments. Indeed, the share of alternative transport modes – inland rail and waterways, in particular – is still very low and sustainable transport measures are few. There has been little progress in implementation despite all national transport programmes referring to them. However, building co-modal infrastructure is a resource-intensive process, which may explain delays in implementation. Clear action plans and funding are challenges common to all the economies.

Four economies have developed or are developing concrete proposals to set up co-modal nodes in major transport corridors. The largest projects to date are:

- Trubarevo in the Former Yugoslav Republic of Macedonia
- The sea port of Durres in Albania
- Belgrade in Serbia
- Sarajevo and Tuzla in Bosnia and Herzegovina.

The Former Yugoslav Republic of Macedonia has addressed co-modality as a strategic priority in its National Transport Strategy (2007-17). It commissioned a feasibility study into strategic multimodal transport nodes which addressed multi- and inter-modality. Analysing costs and benefits, it identified at least four locations – Trobarevo, Jurumleri, Bunardzik and Kichevo – where road and rail transport corridors could link.

Albania has advanced co-modal solutions in its National Transport Programme and, in the short term, is developing logistics around the port of Durres. As part of Pan-European Transport Corridor VIII, it has also drawn up an action plan to build a major railway connection linking the port of Durres to the airport. And it is currently negotiating an EBRD loan to start work on implementation.

Serbia, in its National Strategy for Development of Rail, Road, Water, Air and Intermodal Transport (2008-15), has provisions for co-modal transport solutions and sustainability measures in transport. The General Master Plan for 2009-27 includes a chapter on projects in intermodal terminals. Serbia's most advanced action plan is the first modern intermodal transport terminal in Belgrade. Work has not yet started, however.

Kosovo has adopted a Multimodal Transport Strategy (2012-21) where there is a chapter on the multi-modal transport strategy and measures to promote complementary combinations between transport modes.

Montenegro addresses the issue of co-modality in general strategic documents, but has drawn up no action plan or strategy – all of which explains its lower scores in the Sustainability Sub-Dimension. Its transport development strategy does, however, refer to

sustainability, as do the Spatial Plan for Montenegro and local development plans. The Podgorica Plan, for example, promotes measures to reduce car usage and lay down cycling corridors.

As for Bosnia and Herzegovina, recent strategic documents consider sustainability, but neither government nor parliament has approved them yet. A study on co-modal transport solutions in 2008 proposed a physical plan for two inland terminals in Sarajevo and Tuzla. Little, however, has been done.

The way forward in making transport more sustainable

As the SEE economies look to the future, their policy makers could consider ways ahead in developing and approving sustainable transport policies and action. All SEE economies could integrate outcome indicators into policies in order to reduce energy consumption, greenhouse gas emissions, and to promote the use of renewable energies and modal shifts from road to rail and waterways.

Box 7.5. Promotion of sustainable transport solutions, case of Copenhagen

By 2025, Copenhagen will be the first capital city in the world to become carbon neutral. To reach this ambitious goal, the city council has adopted a comprehensive, targeted carbon reduction master plan that aims to take the city's CO₂ consumption from its current level of around 2.5 million metric ton to under 1.2 in less than two decades.

Carbon-free transportation solutions include pedestrian city zones, miles of cycling lanes and routes, support for public transportation, and plans for EV charging stations and free car parks. Public transport will be driven by electricity only, not fossil fuels.

The first “bicycle superhighway” – designed to connect outer districts and suburbs to the city centre, with 26 more set to be developed over the coming years. To improve traffic conditions and encourage cycling, the city is carrying out work in nine focus areas:

- more cycle tracks and reinforced cycle lanes
- green cycle routes
- improved cycling conditions in the city centre
- combining cycling and public transport
- bicycle parking
- improved signal intersections
- better cycle track maintenance
- better cycle track cleaning
- campaigns and information.

In Copenhagen, 34% of commuters use their bicycles for going to and from work (OECD, 2012c). The proportion of all journeys made by bicycles is among the highest in major European cities and makes an important contribution to the city's relatively favourable traffic and environmental situation. An analysis of the socio-economic consequences of investing in cycling showed cost-benefit ratios much higher than normally expected from transport projects. Concerning health benefits, studies have shown that people who bike to work have a 28% lower mortality rate than the population average.

Source: C40 Cities (n.d.), *Copenhagen CPH climate plan 2025* (webpage), www.c40.org/profiles/2013-copenhagen; OECD (2012c) *OECD Better Life Index* (webpage), www.oecdbetterlifeindex.org.

Albania, Kosovo, the Former Yugoslav Republic of Macedonia and Serbia could further advance the implementation of projects to promote co-modal freight and monitor their implementation. Bosnia and Herzegovina could intensify the focus on addressing co-modality in its strategic documents. Serbia could start work on the action plan and its implementation for the intermodal transport terminal in Belgrade. Montenegro could draw up a strategy with action plan to address the issue of co-modality in general.

Conclusions

The SEE region has taken action to improve physical infrastructure and produce relevant transport regulations and strategies. Yet policy makers could consider placing a greater focus on modernisation, maintenance and the improved efficiency of existing infrastructure.

Efficient inland waterways, rail freight and a modern multi-modal transportation provision would make regional transport networks more attractive propositions for flows of goods and passengers.

The economies could further promote the provision of high-quality logistics services, seek to facilitate international goods shipments, and improve access to the SEETO comprehensive network and the priority corridors of the Trans-European Transport Networks (TEN-T).

Finally, SEE policy makers could seek to embed sustainability more deeply in national transport strategies.

Note

1. A score of 0 denotes minimal policy development while a 5 indicates alignment with good practices. Each level of scoring is updated for the individual indicator under consideration, but they all follow the same score scale: a score of 1 denotes a draft or pilot framework, 2 means the framework has been adopted, 3 that it is operational and that the budget is available accordingly, 4 that some monitoring and adjustment has been carried out, and 5 that monitoring and improvement practices are systematic. For more information, please refer to the methodology and assessment process section in this *Competitiveness Outlook 2016* (p. 33).

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